Social finance and human capital: the case for social investment in higher education.

Abstract

The markets for both education and retirement planning are characterised by market failure and hence are dependent on state intervention. However, an aging population and a commitment to make university the norm for most young people have led the state to withdraw wholesale funding. This paper discusses the potential for social capital to be used as a funding mechanism for university tuition. A solution is outlined in which investor's pension contributions are used to fund university tuition. Graduates pay a higher marginal rate of tax over their working lives and contributions are drawn down by retirees from these repayments. Wage growth over time, motived by induced investment in human capital, means that each successive generation is able to recoup more than it put in. The external benefits outlined allow the facilitating institution to be classified as a social enterprise and hence investment is motived by tax incentives as well as the promise of high private returns.

1. Introduction

1.1   The English higher education budget from central government for 2014/15 totals over £9billion and the overall contribution of taxpayers to English undergraduates' amounts to around 60 percent of this cost (Hillman, 2014). The Public Accounts Committee estimate that once the full impact of the 2012 increase in tuition fees is borne, the government will hold student debt worth £200billionn. Repayment failure rates, although subject to much debate, are estimated to become as high as 40 percent and if this figure is allowed to increase by any more than eight percentage points, the cost of the recent higher education reforms will be greater than the unaffordable system they replaced. Furthermore, the UK's 2014 Budget included a commitment to 'investigate options to support increasing participation in postgraduate studies' (HM Treasury Budget, 2014). This may require spending increases towards higher education and hence the need for discussion on alternative funding methods is clear.

1.2   Political appetite for discussion was recently evidenced by the comments of David Willetts, the former Minister for universities and science. Mr Willetts suggested that universities should be allowed to take on some of the risk of default by buying their own students' loan debts. Universities could then make money if their graduates went on to have higher earnings than expected and this would simultaneously remove government held risk whilst placing an incentive on universities to get their graduates into well-paying jobs. The suggestion has however proven to be controversial due to concerns that it will incentivise universities to take on low-risk students from wealthy backgrounds rather than those from non-traditional backgrounds or students of the humanities or social services.

1.3   There are clear social benefits associated with fair and across-the-board access to education and this suggests opportunities for social investment in education as opposed to privatisation of the student loan book or future tuition fee rises. Social investment is any financial activity which generates both public and private returns. There is no widely accepted definition of financial activity - which could include loans, grants or bonds - however in all cases financial returns are accrued by the investor

whilst a positive benefit is borne by society. Big Society Capital (2014) predict that high net worth individuals are set to become the next most important social investor class and this paper suggests a way of linking the retirement planning needs of this demographic group with the capital requirements of the higher education system.

2. The public economics of education

2.1   A countries educative system is of critical importance at both the micro and macro level. At the micro level education affects a child's life chances and thus has important implications for equity, human capital and productivity. At the macro level, knowledge creation is an essential component of competitiveness, national prosperity and economic growth.

2.2   The critical importance of education for economic growth is outlined in the context of standard growth models by Weir and Knight (2000). Growth models focus on intergenerational transfers of knowledge whereby each generation benefits from the stock of knowledge left by the last. This leaves a positive externality: there is no market in which knowledge can be bought or sold between generations. Furthermore, knowledge-capital is non-excludable within generations and thus *"my"* personal private investment in education will benefit both my contemporaries and future generations but in a free market neither will be required to contribute to the high cost of my education. Furthermore, Grossman and Helpman (1991) show that knowledge is not only an output but also an input to the innovation and production process; knowledge creation becomes a self-perpetuating process and is thus highly socially valuable.

2.3   Whilst knowledge-capital is non-excludable and non-rivalrous[1] and is therefore a public good, the provision of education is both excludable and rivalrous and therefore not a public good. Nonetheless, market failures lead to a significant under-provision relative to the social optimum. This is uncontroversial and widely recognised by both academics and policy makers; education typically accounts for 20% of a government budget.

2.4   Positive externalities provide the most direct argument for state subsidisation and these come in many forms. (i) Improvements in communication and understanding: education provides not only functional literacy and numeracy skills but improves financial and later career-oriented decision making; (ii) improved productivity and innovation, not only through laboratory style R&D innovation but better innovation and improvement in management practices and technological processes; (iii) increased policy effectiveness; an educated policy maker makes better decisions whilst an educated electorate demands and offers greater accountability. Less direct but equally important is that education can be classified as a merit good and so far from not pricing in the benefit their education offers to others, individuals are not even aware of the true private benefit they will derive from a good education.

2.5   Secondary market failures in the capital and insurance markets lead to under-consumption. This is conceptually intuitive; unlike, for example, the physical role which a house plays in a mortgage agreement, the output associated with investment in education is intangible (human capital) and so lenders or insurers hold no security in the face of default. This generates moral hazard as graduates have limited incentive not to default on their loan repayments.

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[1] On the contrary, my consumption of your knowledge doesn't detract from your experience but could feasibly add to it, given the self-perpetuating nature of knowledge.

2.6 The arguments for state involvement vary according to the level of education and the conventional wisdom is that social benefit of education suffers from diminishing marginal returns. Since primary education is often non-universal in the developing world, researchers are able to compare the social benefits of investment in education at the primary, secondary and tertiary level for these countries. Psacharopoulos (2004) finds that the social returns[2] to education for a large group of African countries is 25% for a primary education, 18% for a secondary education and 11% for a tertiary education. Despite the diminishing returns this still represents a highly significant social benefit. Arguably, the benefit moves from social to private rather than diminishing as the level increases and so given the merit good argument discussed above, state investment in higher education can be seen as a worthy investment across all levels.

2.7 Having made the case for state subsidisation of education as a social cause, I next turn to funding mechanisms for education in a private market. Recent changes to repayment systems in England, following a tripling of undergraduate tuition fees, have led to a significant increase in the proportion of students which the government estimates to default on loans. The Public Accounts Committee estimate that once the full impact of tuition fee rises is borne, the government will hold approximately £200 billion of student loan debt. The government assumes that 35-40% of this total, debt worth £70-80 billion, will never be repaid[3]. If the repayment failure rate reaches 48.6% 'the economic cost of higher education reforms will exceed the 2010-11 system that it replaced' (London Economics, 2014). Given that the former was deemed unaffordable and that there is significant scepticism and uncertainty around the 35-40% assumption, the relevance of discussion and requirement for consideration of alternative funding mechanisms is clear.

2.8 The proposal given in section four is for a private sector solution which uses retirement planning savings to fund tuition fees; the organisation could be classified as a social enterprise given the aforementioned social benefits. In the next section I briefly review the economics of pensions and their social benefit before turning to the key proposal of this paper.

3. The public economics of pensions

3.1 A pension system has two broad components: it offers (a) a mechanism for consumption smoothing and (b) a means of insurance. Under perfect information, a consumption smoothing mechanism (a savings account, for example) would be enough to guarantee income security in old age. Investors could calculate the level of current consumption which needs to be forgone to achieve this goal and could then save exactly this amount. There is however significant uncertainty associated with this calculation – not least because life expectancy is unknown. Pension schemes provide the insurance component, overcoming this uncertainty by pooling the savings of a large group. Since the average life expectancy of a large enough group is (approximately) known, investors are able to pool their savings and make withdrawals based on (a) the groups life expectancy and (b) the individuals contribution. Thus a

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[2] These are calculated as the difference between the micro-return (efficiency frontier estimates, e.g. cereal crop production) and the macro effect (e.g. estimates of the outward shift in production possibility frontier)
[3] http://www.parliament.uk/business/committees/committees-a-z/commons-select/public-accounts-committee/news/student--report-publication/

pension scheme insures an investor against the possibility of outliving his or her savings.

3.2 As with education, pensions are not a public good. State involvement is however required due to other market and government failures: (i) there is asymmetric information, (ii) there are missing markets, (iii) there is risk as well as uncertainty, (iv) there are distortions, such as progressive taxation and (v) pensions are arguably a merit good [See e.g. Barr and Diamond (2006) for clarifications on all of these failures]. Governments may also have further motives for involvement in terms of poverty reduction or redistribution of income. Given that unlike with student loans, contributions are made upfront, the government bears no risk of default and so affordability is not as questionable as for student financing however I next offer an outline of the workings of various pension saving mechanisms in order to shed clarity on the forthcoming proposal.

3.3 Retirement planning arrangements vary according to both the way schemes are organised and the relationship between contributions and benefits. The polar cases are 'Fully Funded', in which pensions are paid out of a pot which was built up over time by members; and 'Pay-As-You-Go' (PAYG) schemes which are paid out of current income and usually organised by the state. In practice pension schemes are run using a blend of the two.

3.4 A Fully Funded scheme is conceptually uncomplicated. It is based on savings which are invested in (typically) financial assets, with the return being credited to the savings pot. Inter-generational redistribution notwithstanding, each generation's pension pot is constrained by past savings and a generation cannot derive a return greater than the level of its own saving. In principle however a fully funded scheme always has sufficient reserves to honour outstanding liabilities.

3.5 Contrastingly, PAYG schemes are paid out of current earnings. At the aggregate level it is a redistribution of income from young to old whilst at the individual level it is based on a promise from the state that "if I pay a contribution now to the elder generation, the state will offer me income security in retirement." The key implication of this difference is that each generation is no longer constrained by past savings; Samuelsson (1958) shows that it is possible for every generation to receive more than it paid in, provided that the rate of growth of earnings continuously grows faster than the interest rate. Ongoing population growth and/or technological progress could allow this to happen (Aaron, 1966).

3.6 A key drawback of a PAYG scheme is that whilst it is theoretically possible for it to be run by a private firm there is significant moral hazard associated with doing so and the practice is banned in many countries; whilst a government can reasonably rely on the presence of a future tax base to fund its liabilities, a corporation can easily lose its future income and with it, its ability to honour liabilities. The purpose of this paper is to argue that a social sector solution exists which does not suffer from this drawback.

4. The proposal

4.1 The proposal of this paper is based on the concept that a savings pension pot could be used to fund university tuition fees and the mechanism is drawn-out as follows:

- Under a Fully Funded Scheme, savings put aside for retirement by investors could be used to fund university tuition fees rather than being invested in financial assets.

- Graduates repay their tuition by accepting to pay a higher rate of marginal income tax over a fixed number of years (henceforth referred to as a 'graduate tax') rather than repay a fixed amount. As with pension contributions, this approach offers students (a) a consumption smoothing mechanism and (b) an insurance against low future earnings. Since the expected future income of a large group is approximately known a social enterprise recoups its investment without risk of default or loss of future income.

- The 'graduate tax' offers benefits equivalent to those of a PAYG scheme. If the rate of growth of participating students earnings continuously outgrows interest rates, each generation can take out more than it puts in. Since it relies on investment in the education of students, the scheme promotes the possibility of continuous real wage growth driven by ongoing increases in factor productivity following investment in human capital.

4.2   The expectation of long term real wage growth over generations is difficult or impossible to predict and falls outside the scope of this paper however the benefit of the Fully Funded nature of the scheme is that, since students cannot default on a tax in the way that they can a loan, and expected future incomes of a large group are approximately known, investor return is highly likely (although not certain) to be greater or equal to investment.

4.3   The scheme would offer potential benefits to students, investors and the state. For students, it offers practical benefits in that they do not finish studies with the burden of a large capital debt; this could help graduates secure mortgages or other loan facilities near the start of their working lives. Given that investment is motivated by private rather than social return, funding could also be extended to the postgraduate level – this is currently self-funded given that benefits are seen as largely accruing to firms or individuals – but is an answer to the governments call for the investigation of 'options to support increasing participation in postgraduate studies' (HM Treasury Budget, 2014). There would be further equity benefits as students from disadvantaged backgrounds would not face the psychological barriers imposed by large capital debts.

4.4   The benefit to the state would also be part practical and part intangible. The reduced burden on the state would free-up resources for use in other areas whilst easier access to higher education would generate the extensive positive external benefits outlined in section two; improved productivity and hence increasing economic performance at the macroeconomic level.

5. Incentives for investment

5.1   The incentives to invest in the scheme would be threefold: private benefits; altruistic motivations, and; tax incentives. It is clear that to allow success the primary motivator must be of financial reward equal at least to market rates of return. Alternative altruistic motivations could act as an aside however would not motivate large scale investment. A third incentive may however be made possible by government initiatives such as Social Investment Tax Relief (SITR) and these are discussed in more detail below.

5.2 SITR currently allows investors to reduce tax liability by an amount equal to 30% of a social investment valued at up to £1million: investors can therefore claim tax relief of up to £300,000 per year. Furthermore, if shares are held for three or more years, there is no capital gains tax associated with the sale of these shares. Social investment is defined as an investment in a social enterprise with the expectation of dual, private and social, returns. There is no legal definition of a social enterprise; it is simply any business or organisation with a social purpose (SIS, 2014).

5.3 Although the scheme proposed above would have very clear social benefits, there are conditions currently attached to SITR which mean that it would not qualify as it stands. However, with necessary changes implemented, social investment tax relief has potential to significantly increase investment incentives.

6. Barriers to the Scheme

6.1   Over payment and adverse selection.

- A key difference between the current loan system and the proposal of this paper is in repayment amounts. Graduates would switch from paying a certain amount which is decided up-front to a commitment to pay a proportion of their unknown future income; this proposal therefore breaks the link between repayment amounts and the cost of education and this breakage would mean that whilst low earners repay less than the cost of their education, high earners would repay more. The NUS (2010) has argued for a graduate tax, suggesting student appetite for a progressive system of this nature however the risk of overpayment generates problems of adverse selection. Graduates who expect high future earnings would have an incentive to either study abroad, move abroad after the completion of studies or pay tution fees up-front. Students graduating or moving abroad would lead to potential "brain drain" whilst the loss of high future tax receipts associated with up-front payment would have severe consequences for the mechanisms of the scheme: the highest earners – those who motivate the growth of the pension pot – would avoid the scheme entirely.

- A theoretic solution to the adverse selection problem is to link loan repayments and future retirement planning needs. The 'graduate tax' could be levied over the course of a graduates working life, such that overpayment would be the norm but graduates would then in turn become investors into the scheme. Given that the size of the receivable pension would be linked to contributions made, high earning graduates would receive a higher payout in retirement and hence have no incentive to bypass the scheme; the adverse selection problem associated with overpayment is avoided.

6.2   SITR and its limitations

- A more practical but short term issue is that whilst the tax benefits available to social investors would be a primary motivator for investment in the scheme, changes to SITR as it currently stands would be required. For an investor to benefit from available tax receipts, the recipient social enterprise must: (i) have gross assets of less that £15million and (ii) meet qualifying business use conditions whereby money lending and other financial activities are not allowed. Furthermore, a social enterprise is only eligible for £290,000 over a

three year period. All three barriers would need to be lifted by legislation before investment could become motivated by tax incentives.

7. Concluding remarks

7.1 Clearly there is a requirement for a far more in depth study on the feasibility of this proposition before practical changes could be considered. There would be requirement for answers to the barriers raised in section six as well as consideration of the far reaching legislative changes required for an HMRC solution to recover student debt through tax receipts. Further research on student, investor and political appetite for a change of this nature would also be required.

7.2 Broadly, the purpose of this paper has been to argue that higher education offers the opportunity for private investment and hence that human capital can be viably classed as an investible proposition. Secondly, it was argued that the social benefits to investment in education, both tangible and intangible, are high. This is widely accepted in the academic literature. Together, these two key arguments suggest strong scope for social finance investment in higher education given that it would offer potential for both high private and social return. Tax incentives would further encourage investment into pension funds, reducing pressure on the state, and wage growth over time would make successive generations better off.

8. References

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