Hypothetical Insurance and Higher Education

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ABSTRACT

What level of government subsidy of higher education is justified, in what form, and for what reasons? We answer these questions by applying the hypothetical insurance approach, originally developed by Ronald Dworkin in his work on distributive justice. On this approach, when asking how to fund and deliver public services in a particular domain, we should seek to model what would be the outcome of a hypothetical insurance market: we stipulate that participants lack knowledge about their specific resources and risks, and ask what insurance contracts they would take out to secure different types of benefit and protection in the domain in question. The great benefit of the hypothetical insurance approach is that it allows us to take apparently intractable questions about interpersonal distribution and transform them into questions about intrapersonal distributions: that is, questions about how an individual would choose to distribute risks and resources across the various lives that they might end up living, in light of their individual ambitions and preferences. Applying this approach to higher education, we argue that the UK model of higher education funding in which the costs of an individual's higher education are shared between general taxation and the individual herself, with the latter element to be paid retrospectively through an income-contingent state-backed loan, is vindicated as just. In particular, we argue that it is more just than alternatives such as a graduate tax, full funding through general taxation, and full privatisation.

INTRODUCTION

In 2012, the UK's coalition government raised the maximum level of university tuition fees to £9,000 per annum. This led to the average loan issued per student over the life of their course rising to £40,286, including fees and maintenance support (Crawford *et al.*, 2014, p. 2). The increase was met with widespread protest, with concern expressed both that the extra burden on students was unjust and that many students would be discouraged from attending. However, despite the rise in tuition costs, the average level of subsidy per student remains significant at £24,592 (Crawford *et al.*, 2014, p. 2); in spite of an initial dip, university attendance continues to rise (Bolton, 2014; US Dept of Education, 2013, chapter 3; and Riddell *et al.*, 2015); and individuals who attend university can still expect significantly higher incomes over a lifetime than those who do not attend (Walker and Zhu, 2013, p. 5). In light of this, it is an open and difficult question whether the current distribution of benefits and costs from higher education is just.[2] More broadly, we might ask what level of government subsidy of higher education is justified, in what form and for what reasons? How can we answer such questions in a coherent and principled way?

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1. We thank Paul Bou-Habib, Robert Cowan, Tim Fowler, Fiona Macpherson, Isabel Nisbet and Adam Rieger for discussion on this topic. We also thank participants at a workshop on higher education funding we ran in April 2014; the workshop was funded by the Royal Society of Edinburgh, whose support we gratefully acknowledge.

2. By 'higher education' we generally mean university education. We recognise that there are various forms of degree-level education which might take place outside a university context; our model can in principle be extended to such instances, but the additional practical complexities mean that we have limited ourselves to the university case for present purposes.

We propose to answer these questions by applying the hypothetical insurance approach, originally developed by Ronald Dworkin in his work on distributive justice (Dworkin, 1981, 2000 and 2011). In this approach, when asking how to fund and deliver public services in a particular domain, we should seek to model the outcome of a hypothetical insurance market. We stipulate a veil of ignorance behind which people lack knowledge about their specific resources and risks, and we ask what insurance contracts individuals would take out, and at what cost, to secure different types of benefit and protection in the domain in question. The great advantage of the hypothetical insurance approach is that it allows us to take apparently intractable questions about interpersonal distribution and transform them into questions about intrapersonal distributions: that is, questions about how individuals would choose to distribute risks and resources across the various lives that they might end up living, in light of their particular ambitions and preferences.

We argue that Dworkin's approach vindicates the UK model of higher education funding in which the costs of an individual's higher education are shared between general taxation and the individual herself, with the latter element to be paid retrospectively through an income-contingent state-backed loan.[3] In particular, we argue that it is more just than alternatives such as a graduate tax, full funding through general taxation, and full privatisation. This endorsement doesn't extend to the precise level of tuition fees the UK government charges or the exact proportion of private to state resources that should be provided to universities—settling those issues requires more information than we have—but we are able to endorse the current level of fees as not unjustly high.

Few have paid much attention to higher education funding in the recent political philosophical literature. One exception is Paul Bou-Habib, who has recently (2010) considered what principles of distributive justice are implied for higher education if we accept John Rawls's theory of justice as fairness, with its insistence that (subject to a constraint of fair equality of opportunity) inequalities must be arranged so as to be to the advantage of the worst-off (Rawls, 1971 and 2001). Bou-Habib's conclusions are similar to ours. He argues that Rawls's approach is consistent with shifting at least part of the funding burden of higher education from taxpayers to graduates (Bou-Habib, 2010, p. 480), and notes various weaknesses in arguments that are offered for either a fully private or a fully tax-funded system (Bou-Habib, 2010, pp. 482–487). In what follows we sometimes draw on Bou-Habib's paper, but we don't engage with his central argument. The reason for that has to do with the conditionality of his thesis: if we accept Rawls's broad framework, then certain conclusions follow. We don't disagree with that conditional claim. We do dispute the antecedent, but settling *that* disagreement would require that we discuss the extent to which Rawls and Dworkin's general theories are compatible, and adjudicate between them where they aren't. Those tasks are beyond the scope of the paper, though we briefly discuss reasons why adopting Dworkin's approach is attractive, and note that it is compatible with at least some parts of Rawls's theory.

The paper has five sections. In the next two sections we explain the hypothetical insurance approach and its role in Dworkin's theory of resource egalitarianism, then show how it can be deployed independently of that wider theory. In the third section we apply the approach to higher education and derive our proposed funding model before, before going on to defend our proposal against objections.

EQUALITY OF RESOURCES

3. Though this is the general model for funding throughout the UK, the precise balance varies, because higher education funding is devolved in Wales and Scotland. Welsh students (whether they study in Wales or the rest of the UK) receive a grant from the Welsh government to help cover their tuition fees; Scottish students who study in Scotland pay no tuition fees at all, and have a slightly different regime for maintenance loans.

Dworkin defended an egalitarian theory of distributive justice, in which the same resources should be devoted to each citizen's life taken as a whole (originally Dworkin, 1981, but more canonically Dworkin, 2000, pp. 65–119, and 2011, pp. 356–363). The central component of his view is the *Envy Test*. Put very crudely, two citizens possess equal resources when neither envies the other's holdings, in the technical sense that neither prefers the other's bundle of resources (taken as a whole) to their own (taken as a whole). That's not to say that they mightn't prefer to have some or all elements of the other's resources *in addition* to their own; just that, if they could swap holdings *in toto*, they wouldn't prefer it. Equality of resources is achieved in a whole society when this holds true of all pairwise comparisons between citizens.

Dworkin (2000, 65–119) illustrated this ideal—and elaborated it to head off some potentially problematic complications—by asking us to imagine a hypothetical auction of resources. A group of people is washed up on an island, full of resources (by which Dworkin meant putative objects of private ownership) to which none of them have any antecedent claim. To determine how the resources should be distributed, we give everyone equal bidding power, in the form of an equal quantity of valueless tokens: clam shells, in Dworkin's fable. We then conduct an auction, wherein an auctioneer divides resources into lots and then auctions each lot off to the individual who bids the highest number of clam shells. The arbitrary effects of the ordering and composition of lots would be negated by allowing any participant to request a re-run, with resources broken down into smaller lots. What we end up with is a distribution which is ambition-sensitive (because people's evaluation of resources and their bidding decisions are based on their ambitions and how far those resources will help them successfully to pursue those ambitions), and endowment-insensitive (because we stipulate that everyone starts the auction with equal bidding power).

The hypothetical auction guarantees that the Envy Test is satisfied at the moment that the auction ends. The element of Dworkin's view that is crucial to our discussion here is the mechanism he imports to deal with the unequal effects of different talents, and bad luck over time. These are accommodated by allowing people to buy insurance contracts alongside resources. We now specify that the auction takes place behind a thin veil of ignorance, in which the participants must make decisions while lacking certain information about themselves. They know about their preferences and ambitions, and about the average probability of pieces of bad luck befalling people in their society. They don't know the specific probabilities of them suffering those pieces of bad luck, and they don't know about the personal resources they possess (i.e. how talented they are, to use Dworkin's phrase). They are then given the opportunity to pay a premium (that is, forego some resources they might otherwise possess) which will secure compensation in the event of some specified piece of bad luck befalling them, such as an unfortunate chance event (like getting cancer or being struck by lightning), or their turning out to have impoverished personal resources (because of a lack of important skills).

The opportunity to buy insurance is important because it ensures that what happens to people in the case of bad luck is ambition-sensitive, just as the auction does for their initial holdings of resources. Whether or not they get compensated, in what manner and to what extent, will all depend on whether they prefer a bigger holding in resources (combined with the risk of uncompensated disaster) or being protected in the event of their suffering bad luck (at the cost of having fewer resources for pursuing their ambitions in other respects). Once the risks are actualised and we see what really happens to people, they may end up envying each other. However, as long as they had the same opportunity to buy insurance, then the differential consequences of bad luck won't be ones they can complain about. The aim is not completely to eliminate the *ex post* effect of differential bad luck on people's lives, but to make sure that what

happens to them in the event of that bad luck is appropriately ambition-sensitive in light of their *ex-ante* judgements about how to spread their bets in the face of risks.[4]

Equality of resources, Dworkin said, is defined as the distribution that would result from the auction of resources modified by allowing the hypothetical insurance market. We would not (and could not) actually undertake such a laborious process in reality, but we should design our economic and social institutions so that distributions track, as far as possible, such an outcome.

THE HYPOTHETICAL INSURANCE APPROACH

As explained in the preceding section, hypothetical insurance is, for Dworkin, part of the wider procedure which settles what equality of resources requires, taken as an ideal instantiated by the distribution of resources in a society as a whole. However, the usefulness of framing questions in terms of hypothetical insurance decisions is not limited to this role. We can also apply it to specific policy areas where a question arises about how to respond to the differential effects of luck on people's skills, talents, and the mischances they face in their lives. In this approach, a government considering whether and how to fund and deliver services in a particular domain should seek to model what would be the outcome of a hypothetical insurance market. We stipulate a veil of ignorance behind which people lack knowledge about their specific resources and risks, and we ask what insurance contracts individuals would take out, and at what cost, to secure different types of benefit and protection in the domain in question. We then try to implement the patterns of redistribution and compensation which would arise. This might involve implementing an actual insurance scheme, but it needn't: other mechanisms may turn out to be better, in practice, at tracking people's idealised insurance decisions.

Dworkin himself applied the hypothetical insurance approach to three such domains: support for those whose level of skill leaves them unable to secure a good income (Dworkin, 2000, pp. 92–109), a public healthcare system (Dworkin, 2000, pp. 307–319, 320–350), and the regulation of inheritance and gifts (Dworkin, 2000, pp. 346–349, and *cf.* Otsuka, 2002, pp. 51–54). Others have applied it elsewhere. For example, Bou-Habib (2013) and Matthew Clayton (2006, pp. 61–75) argue that this is how we should settle the scope and strength of childrearing rights, and the correct way to distribute childrearing resources (although they come to different conclusions on what the approach implies).

This variegated usage reveals something important about the hypothetical insurance approach. It is a central component of Dworkin's theory of Equality of Resources, as explained above, but the hypothetical insurance approach itself doesn't depend on that broader theory, in the sense that deploying the former presupposes (or tacitly commits one to) the latter. One might remain agnostic on that point and still think the approach helps us to think about the fair funding and distribution of public services. Dworkin himself treated the hypothetical insurance approach as free-standing when he applied it to public healthcare, in the sense that he recommended it as intuitively plausible on its own merits rather than just by dint of its being a part of his general theory of equality of resources as a whole (Dworkin, 2000, pp. 320–350). Indeed, one might go further and think that the approach is justified at the same time as rejecting other elements of Dworkin's theory.[5]

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4. This marks Dworkin's position out from that of the closely-related *luck egalitarians*; many of whom think we should eliminate any comparative disadvantages that are the result of bad luck. See, for example, Arneson, 1989, Cohen, 1989, Rakowski, 1991, Roemer, 1993 and Temkin, 1993, p. 13.

5. That is the case with Clayton (2006, chapter 1), for example. He uses the approach to answer questions about parental rights in upbringing in the context of an argument which accepts very stringent neutrality constraints on legitimate state and parental action, on grounds which owe

It seems to us that deploying the hypothetical insurance approach requires accepting only one component of Dworkin's view, which is that we must think it important that someone's resource holding is sensitive to their own ambitions, at least to some degree.[6] Hypothetical facts about insurance contracts are revealing only if we think that, when trying to identify what distributive justice requires for an individual, we think it matters how she assesses the comparative value of the resources she might possess and the risks she might face, in light of the ambitions she has. Without that assumption it's hard to see why the fact that one would buy a particular type of insurance contract would have any salience.[7] Nevertheless, this assumption doesn't commit one to full-fledged Equality of Resources; and as a matter of fact it is accepted in some form by various philosophers who either refrain from endorsing or actively reject other parts of Dworkin's view, e.g. Clayton (2006, and 2000, pp. 79–80) and one of the present authors (Colburn, 2014).

To summarise, although the concept of hypothetical insurance originates in the role it plays in Dworkin's argument for Equality of Resources, it turns out that it is quite coherent to deploy it as a free-standing approach to answering questions about the funding and delivery of public services even if we refrain from endorsing Dworkin's general view. In what follows, we apply the hypothetical insurance approach to the question of higher education funding while remaining as neutral on more general questions on distributive justice as possible.

HIGHER EDUCATION FUNDING

Imagine that there exists a fair distribution of wealth and income. Imagine also that you have the best available knowledge of how different university funding systems work, the role of the university within society, including the kinds of goods it produces, and other relevant facts.[8]

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much more to Rawls (1993) than to Dworkin, and which (though this is perhaps controversial) are inconsistent with many other elements of the latter's theory.

6. Clayton (2006, pp. 31–35, 62–64) thinks that we must, in addition, stipulate that people's hypothetical insurance decisions take place against the background of a fair distribution of resources. We disagree. When the hypothetical insurance approach is used as a tool in a particular applied domain like healthcare or education we need stipulate only that, in non-ideal circumstances, we should imagine people making their insurance decisions without knowledge of any special unjust advantages or disadvantages they suffer from.

7. It would, for example, be vulnerable to an objection analogous to one which Dworkin himself famously made against hypothetical contract theories of political obligation, viz. that 'A hypothetical contract is not simply a pale form of an actual contract; it is no contract at all' (Dworkin, 1975, p. 18). The objection would presumably be this: actual insurance contracts are promises, which is to say illocutionary acts that generate obligations. This is why we are bound by the terms of such contracts even if they turn out to be disadvantageous (e.g. because we pay forty years worth of fire insurance premiums and never suffer a house fire). However, this obligation depends on us actually having performed the relevant act. The hypothetical fact that under other circumstances one would have made such a promise does not generate obligations if, as a matter of fact, we do not. The hypothetical insurance approach is not vulnerable to this objection. Hypothetical facts about what insurance contracts we would buy against a fair (and thinly veiled) background are important because they track our *actual* ambitions and attitudes towards risk.

8. We focus on the economic goods which are produced for individuals as a result of higher education. This is because the economic goods are, in our view, most salient for settling the questions of distributive justice concerning who pays for a given individual's educational opportunities. It isn't because we think that these positive economic effects for the individual

Third, imagine you are behind a thin veil of ignorance, which—in the present case—occludes knowledge about whether you will have either the ability or the desire to undertake higher education. In this situation, you have the opportunity to take some of your fair share of resources and use them to insure against certain possible outcomes that might befall you when the veil is lifted. The insurance decisions you make will structure the social system you find yourself in. For example, should you decide to insure heavily the option of undertaking higher education, you will find that the university places are heavily subsidised by some kind of government scheme paid for out of general taxation—a boon if you happen to be the person who attends university, a burden if you do not. What kind of insurance scheme, and so which model of higher education funding, would you choose? We will compare four candidate models: full funding through general taxation, full privatisation, a graduate tax and an income-contingent state-backed loan.

Full Funding through General Taxation

A first option would be to take out a high level of insurance in the form of all university places being fully funded through general taxation. We can assume that the insurance you take out is sufficient to cover not only the full cost of tuition but also to provide a substantial living grant such that it is possible for any person, whatever their background and financial circumstances, to attend university without accruing debt.

There are a number of points that speak in favour of choosing this option. First, you have an interest in keeping open the options that will be available to you. University is expensive. You know that it is possible that you will be a person with talents such that you will want to develop them at university and you have an interest in ensuring that the possibility of attending university is not dependent on the will of those around you, such as your parents. A system fully funded through general taxation will make sure that familial income does not represent a barrier to entering university.

Second, higher education has many positive externalities including higher growth, better health outcomes, a better quality of democracy with higher levels of participation, and even lower crime. A recent study (Walker and Zhu, 2013, p. 5) estimates the average social benefit of a degree to be 'in the order of £264k for male and £318k for female graduates'. These externalities provide a case for taking out some level of insurance. In terms of the thought experiment, these externalities make insurance appear better value. You know that by taking out insurance you will make your circumstance better if you happen to go into higher education because it will be provided at no cost, but you also know that even if you do not go into higher education the incentive the insurance provides ensures that others do attend and some of the externalities that they produce will rebound to you.

Two points need to be made explicit here. The incentive you have to subsidise higher education for the sake of producing positive externalities is dependent on whether the market will produce these externalities if left unadjusted. If it is true that people will go into higher education without subsidy, then you do not have a reason to provide subsidy to ensure that they go, a point also made by Bou-Habib (2010, pp. 482–484). Further, it is not true that you will select that level of insurance which creates the maximum possible quantity of positive externality. Different schemes may produce different quantities and different kinds of externality and some will be more expensive to fund than others. You will select a level of insurance that is rational given the uncertainty about your particular circumstances and the facts about how this insurance will play out in terms of the externalities it will produce.

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exhaust the value of a university education in other respects. We recognise that there are many other intrinsic and instrumental goods that such an education embodies or produces.

Third, you know that university is a kind of participatory good. It is the kind of good that you need others to partake in for you to get any benefit. This is true in a number of respects, some more controversial than others. For one thing, there must be a critical mass of people able to go to university for a university education to be possible for anyone at all. Moreover, with respect to academic development, students represent a valuable resource for one another: the process of sharing ideas through discussion, both inside and outside of the classroom, is central to student learning. More contentiously (though we also think this true, and a consideration that would feed into people's insurance decisions) university represents an opportunity for many people to begin socialising with those from different backgrounds. This point has been discussed extensively by Elizabeth Anderson (2010), but the gist is this: you know that even if you happen to be fortunate enough to have particularly prosperous parents that can afford to pay your tuition, a university experience which is small in the numbers that can attend and narrow in the backgrounds of those members will be a much diminished university experience. You may also begin to worry that such a university system will not achieve many of the positive externalities that you hope university will provide, such as improved democracy. For all these reasons you have good reason to provide some subsidy to ensure that the university environment is sufficient populous and diverse. This will be in your interest even if you happen to be someone who could have attended university without the subsidy.

The three reasons we have given so far all speak in favour of taking out some kind of insurance to ensure that you have the option to attend university if you have the desire and talent. However, it is also important to remember that when the time comes you may not have the desire or the talent to attend university. You will therefore want the option of not attending university to remain a good option. If you insure very heavily you risk blighting the option of not attending. Indeed, we know that over a lifetime attending university typically has a significant impact on your lifetime earnings: Walker and Zhu (2013) estimate that 'the impact on discounted lifecycle net earnings of having a degree, relative to not having a degree, is 28% for men (approximately £168k) and 53% for women (approximately £252k) on average'. With this in mind, the choice to insure suddenly appears peculiar. To insure is, in effect, to take from your less financially attractive option (not attending) to subsidise your more financially attractive option (attending). This is the opposite of how insurance is usually employed. For the individual it would represent an irrational intrapersonal distribution of resources across their possible lives; and implemented interpersonally it would mean a regressive redistribution of resources away from those who are already in some respect disadvantaged.

Full Privatisation

The preceding remarks might make it seem that there is no case for subsidy at all. Should we then conclude that graduates, who can be expected to be comparatively prosperous anyway, should pay for themselves? To answer this question, we should turn to examining the second option we would possess behind the veil, namely to take out no insurance at all. This would mean that the funding of higher education would be left entirely to the market. Institutions of higher education would have to find funds from fees and charitable donations. Prospective students would also have to find funding from private sources, whether they are loans provided by banks, scholarships or parental donation.

As was mentioned, the fact that university graduates have on average higher incomes than those that have never attended university might suggest that this is the best option. We should not be subsidising our financially attractive option at the expense of our financially unattractive option. But what then about the other reasons we discussed in favour of taking out insurance? As it happens, the fact that higher education improves your financial prospects might also be thought to allay those worries, depending on a certain amount of faith in the free market.

First, consider again the worry that under a completely privatised system many students, particularly those from low-income backgrounds, will not be able to afford to attend university. If average lifetime returns are greater than the costs of university it seems plausible that a significant market for student loans covering both tuition and expenses would appear under a privatised system. This would (on the free-market reasoning being entertained here) presumably include loans to those from less favourable backgrounds, keeping the option of attending university open to all with the requisite ability, and bearing in mind the assumption that it would always be a sensible investment to offer (and indeed accept) such loans.

Second, consider the worry that a fully privatised system would under produce higher education and the positive externalities it brings. The fact that university represents a good financial investment for those with the talents and inclination to take it suggests that we should still expect a high rate of university attendance and a high level of externality without any subsidy. Indeed, as we have seen in the UK, the introduction of fees has had only a small and apparently temporary affect on student participation either in aggregate or for specific groups, while in the US a high level of participation still exists even with relatively little state subsidy (Bolton, 2014; US Dept of Education, 2013, chapter 3; and Riddell *et al.*, 2015). Insurance may not be necessary to induce a high level of higher education consumption.

The point that graduates have on average higher incomes over a lifetime than those that have not attended university is important, but it is also important to remember another fact: it is only true on average that graduates have higher incomes. Many people who attend university will not achieve higher incomes or more rewarding work. For many, university will represent an investment of time and money that does not pay off. Yet under a privatised system, the debt accrued in higher education may be crippling and will sometimes literally take a lifetime to pay off, if it is ever paid off. When we realise this, it becomes clear that while the option to go to university may have a higher expected value, it also represents a risky choice.

With the above point in mind it is possible to see a different sort of reason why some level of insurance may be justified. You will have a reason to insure to smooth the risk profile of your choice to go to university; you will want to ensure that the risk of that option is in some sense spread. In effect, it is the possibility of going to university and failing to find well-paid work afterwards that one insures against, not the possibility of going to university *per se*. The fully privatised model does no such intrapersonal spreading of risks between the educational lives one might lead. This speaks against it as the best available option when applied to the interpersonal context too.

Moreover, when we see that the option to go to university represents a risky choice we also see that the two previous objections to the fully privatised model reappear. First, given the risk of default, banks may begin to demand securities for loans, again disadvantaging those from families who are unwilling or unable to provide support. Second, the additional risk may put off many students from attending university (and the effect may be worse for those from less affluent backgrounds).[9] This may lead to the under production of higher education. In short, some level of insurance will seem like a good bet. It will smooth the risk profile of the option to go to university, it may be necessary to secure a wide range of options whatever section of society you happen to come from, and it will be cheap, producing more higher education and the positive externalities that come with it.

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9. Some commentators on higher education policy (e.g. Pennell and West, 2005) have argued that people from low-income backgrounds are more financially risk averse, *inter alia* with regard to the costs of higher education. We remain agnostic on this question. For one thing, the evidence is not strong either way. For another, we worry that there is something troubling about the assumption that students from low-income backgrounds are incapable of making the calculations about long-term expected benefits which, on the reasoning presented here, make a university education a prudent economic investment.

At this point someone may object that higher education is often not a risky choice. Rather, investing in one's education is a safe choice because it acts to secure a decent standard of living. This objection misunderstands the perspective we are taking when we ask ourselves the question about hypothetical insurance. That is, it may well be true that in the world as it currently exists, with substantial levels of university subsidy, the option to go into higher education is less risky than the option not to. But the question we are asking is not what is less risky at present, with a system of subsidy, it is how we should distribute risk of an individual's investment in education when it is up to us to purchase insurance and so design the system.[10]

Two points need to be drawn from the discussion of the full funding through general taxation and full privatisation models. On the one hand, university graduates have on average higher incomes over a lifetime than those that have not attended university. On the other hand, not all graduates will achieve higher incomes, making attendance at university a risky choice. These points suggest that we want to take out a system of insurance that does not improve the option of going to university at the expense of the option of not going to university, while at the same time smoothing the risk profile of the option to attend university. We want a system of insurance that pools the risk of university attendance with others who also attend university, rather than the population as a whole. In what follows we will explore two such systems.

Graduate Tax

An alternative insurance option would be a graduate tax. On this model, a tax is levied on graduate income. The tax may be progressive, with graduates on higher incomes paying a higher proportion of their incomes. The tax may also not come into effect until graduates reach certain income thresholds. The revenue from the tax is used to fund higher education and provide grants for living expenses. It may be used to pay for all of the costs associated with higher education or it may be used to pay for part of them, with the remainder funded by another means, most obviously the market.

A graduate tax offers to solve the key problems identified with both the full subsidy through general taxation and fully privatised models. It pools the risk of higher education among graduates, thereby smoothing the risk of higher education, but not at the expense of those that do not partake in higher education. As the tax can be structured so that graduates do not have to pay until they start to earn above a certain income, a system of graduate taxation can also make sure that graduates would not find their incomes below the national average. This means that the threat of heavy, unmanageable debt is no longer a disincentive on university attendance. It ensures, in other words, both that university could be free at the point of access and that a high level of university participation would take place.

The graduate tax is, we believe, an improvement on both of the previous options. However, there are also features of the graduate tax as an insurance policy that make it doubtful whether it is the best available system. As we have said, in this model, those who go to university are in effect sharing the risk of university attendance together. Those who do not earn an income, or those who do not earn an income above a specified level, do not need to contribute to the tax and so the risk of attending university and then being crippled by the costs is ameliorated. But this feature, while good if you choose a degree with poor employment prospects, also has a drawback: it creates the wrong kinds of incentives within the market for higher education. Under a graduate tax, the costs associated with doing degrees that have poor financial returns are borne by others members of the graduate community who do degrees with higher financial returns: it is only those on sufficiently high incomes that pay the tax. In effect, the graduate tax system incentivises the choice to do degrees with poor financial returns (you

10. If it were true that attending university were the less risky option, the case for subsidy would be weakened.

won't have to pay the tax anyway) and disincentivises the choice to do degrees with good financial returns (you'll have to pay the tax to cover your own fees and the fees of all those who didn't earn enough to pay the tax).

It is doubtful that you would choose an insurance contract with this structure in the hypothetical choice situation. You know that if you happen to be someone who wants to do a degree with poor financial returns it will be a good system for you, but you also know that if you want to do a degree with good financial returns it will be a bad system for you. Further, you know that a system set up in this way will produce less tax revenue as a whole, since it reduces the disincentive for graduates to take low paying jobs. The system is therefore bad for two reasons. It is not properly ambition-sensitive. It results in some bearing the costs of the choices of others. It is also likely bring about a society with a lower total level of income. In the language of the thought experiment, this is represented by the fact that it will take a greater percentage of your resources to provide the insurance.

What you want, then, is a system of higher education funding that does not subsidise university at the expense of people who do not go, that smooths the risk profile of the choice to go to university, and which is properly ambition-sensitive, creating the correct incentives for the choice between different kinds of degrees.

Income-contingent State-backed Loan

A final insurance option is the income-contingent state-backed loan (hereafter, state-backed loan). Under this model, the state lends students money to cover tuition and living expenses. The loan is, we shall assume, sufficient for students to attend university whatever their financial background. The student then has to begin paying back the loan when they begin earning over a certain level of income.

The state-backed loan shares virtues with the graduate tax in so far as it smooths the risk profile of attending university by making repayments contingent on earning a sufficient amount of income, while still not subsidising the choice of attending higher education from the less income-rich alternative of not attending. But, unlike the graduate tax, the state-backed loan does not provide disincentives to undertake financially rewarding degrees. Under the state-backed loan, you know that when you have completed your repayments there will be no more additional financial burden to bear. You know that you will not have to subsidise the choices of others who choose less financially rewarding subjects. For these reasons (and the earlier arguments given against the fully publically- or privately-funded models) we believe that an insurance scheme of this sort is what would be chosen in the hypothetical insurance situation, and hence that the state-backed loan is the appropriate model for higher education funding.

We have been painting in broad brushstrokes. These have pointed us to the state-backed loan. But there are many details and potential objections that need to be met to justify that choice, and to specify which version of the state-backed loan is likely to be chosen. For example, as it has been described so far, the state-backed loan system could be implemented with a uniform fee for taking a degree, as has in practice arisen in the UK with tuition fees capped at £9,000, or it could be implemented with fees set by the universities themselves, as is the case in the US. To begin with the case against the cap, one worry is that it will fail to provide the right sorts of incentives in the market place for higher education: individuals will have no incentive to consider the full expense of their degrees and this will make the insurance more expensive overall. However, at the same time, it may be that certain subjects are both particularly expensive to run and, most importantly, have very significant quantities of positive externalities attached. For example, it might be that certain STEM subjects (ie science, technology, engineering and mathematics) are of particular importance to the growth of the economy and for other strategic reasons. This type of argument is relevant. Cases can be made for particular subjects based on the externalities they produce. In the thought experiment, it will make sense for you to insure

those subjects particularly heavily, not because you think they are in any thick sense more valuable than other subjects, but because for those subjects the insurance will be cheaper in the sense that it comes with additional externality benefits. Taken together, then, these points suggest that a uniform cap may not be advisable—it will create the wrong sorts of incentives—but, equally, some additional subsidy and possibly capping may be appropriate for some subjects if they have particularly high externalities.[11]

Two further issues are the level of income at which repayment should begin and whether or not the government loans should track inflation or a reasonable market rate. With respect to the first point, we believe you would choose to structure your debt so that repayments only began after you earned an income that was higher than the average. This is to smooth the risk of university. By placing repayments at this level, prospective students can be confident that university will not leave them very badly off with unmanageable debts. However, we should note that this judgement is contingent and could be revised in light of facts that we do not have access to, such as how risk-averse potential university applicants are and, correspondingly, how the different systems will work in practice. Second, we believe that there is a case for pegging the interest rate of the loan to inflation rather than the market rate. Pegging the interest rate to the rate of inflation represents a kind of subsidy because the true market value of the loan is not realised: the money could be earning interest elsewhere. But this subsidy is likely to be justified for two reasons. First, it's likely that long-term commercial interest rates are going to be more volatile and unpredictable than rates of inflation. So, there's a reason for a rational individual (who wants to spread the risks of future income) to buy slightly more expensive insurance to peg her repayments to the latter, rather than the former, given the length of the repayment term. Second, a system that pegs to the market rate will have certain regressive implications. In particular, those just above the repayment threshold will end up paying much more over a lifetime in interest than those far above it. By insuring you can shift your risk profile, improving your position should you end up on a middle income.

A final issue relates to what is to be done regarding people who do not manage to pay off their loans. Who should bear their costs and how? We believe, given the aforementioned facts about income, that the costs should be borne by other graduates. This is simply another part of what it means for graduates to share risk together. The second question is whether this risk should be shared throughout the graduate community or whether it should in some sense be shared relative to subject choice. We believe that it should be shared relative to subject choice. That is, we believe that if particular subjects have high rates of default then this should in turn be reflected in the overall price of the degree. One obvious way to do this is by reducing the level of subsidy for a particular subject in proportion to the level of default occurring within that subject. This will ensure that students undertaking particular subjects share the risk together, with those successful in the job market picking up the costs of those who default. This is the best way to reflect the true cost of one's choices to others without resorting to a fully privatised model. It provides a system of funding that is appropriately ambition-sensitive.

OBJECTIONS

We have made two main claims in this paper. The first is that Dworkin's hypothetical insurance gives us a useful device for thinking about what justice demands in terms of higher education funding. The second is that the model implied by this approach is a shared-funding approach, on which university students receive state-backed loans to cover the tuition and maintenance costs

11. To be clear, we are neutral on which subjects provide the most externalities. It is important that the externalities produced by the arts, which may be hard to measure, are not underrepresented.

of their studies. In this section we conclude by considering some objections that might be made to these claims.

First, there might be worries about the hypothetical insurance model itself. For example, some might not want to commit themselves to Dworkin's distinctive and controversial theory of distributive justice. Others might complain that the epistemic costs of the insurance approach are too high: it's too difficult to know, with the relevant degree of certainty, what decisions we would make under the idealised conditions required for the thought experiment to work (see, for example, Gough, 2006, p. 297 for worries about this specifically in the educational sphere).

These objections become less compelling when we bear in mind the two different roles the hypothetical insurance market plays in Dworkin's writings. To recap, it was originally proposed as a component of the thought experiment giving content to Dworkin's favoured conception of distributive justice. As we explained above, adding insurance to the imaginary auction of resources allows Dworkin's theory to deal with the differential effects of luck and talent over time. We also noted that Dworkin and others deployed the idea of hypothetical insurance as a freestanding device for deciding on funding models for particular policy areas. It is possible to reject the first (that is, reject Dworkin's version of resource egalitarianism) while still thinking that there are other grounds to think hypothetical insurance useful in the second way. This also allows us to avoid various other objections that might be raised. The epistemic costs alluded to above, for example, are much less formidable when we realise that we don't need to imagine people's hypothetical insurance decisions against the background of the envy-test-eliminating auction of resources. We need do nothing more than reflect, as we have in this paper, on what gambles it would be rational to make in the absence of some easily specified pieces of information. In general, the modest and free-standing character of the hypothetical insurance approach (at least as we propose it) allows it to side-step many of the usual objections that might be made to Dworkin's political philosophy.

Second, and more importantly for present purposes, someone might object to the model of higher education funding that this approach entails. We have, after all, reached a rather surprising conclusion. Tuition fees and student loans (as opposed to full funding from general taxation) are usually opposed on the grounds that they are inegalitarian, and yet we argue here that exactly the opposite is true: granted certain background conditions they are the fairest and most egalitarian way of funding higher education. A suspicious reader might worry that this conclusion is too paradoxical, and that our view merely lends a deceptive appearance of progressiveness to some deeply inegalitarian policies. To dispel this appearance of paradox, we consider an inexhaustive list of the more unpalatable implications that our view might seem to have. In each case, we argue either that our view does not in fact have the implications in question, or that the implication concerned is in fact not so unpalatable on closer inspection. This will head off some of the more obvious worries we might face, as well as fleshing out some of our theory's practical implications.

In the UK, the initial introduction of tuition fees, and each subsequent rise in their level, was opposed on the grounds that it would exclude students from low-income backgrounds. Our critic might ask: won't your proposal penalise the worst-off in society and make it less likely that they will attend university?

We think not. As discussed earlier, there is reason to think that raising the level of tuition fees does not as a matter of fact particularly affect application rates or university attendance from students from low income families (Bolton, 2014; US Dept of Education, 2013, chapter 3; and Riddell *et al.*, 2015). Of course, there are other factors which impede applications from such students. They might suffer adaptive preferences as a result of low parental or teacher expectations, and hence not apply at all (Bridges, 2006; Watts, 2009). Or, they might apply, but suffer discrimination at the hands of university admissions procedures, either directly on the basis of socio-economic class or indirectly on the basis of other characteristics which often

intersect with low parental income, like ethnicity.[12] Our theory is quite consistent with putting in place measures to tackle those problems. Indeed, on the plausible assumption that (absent knowledge of one's socio-economic class or ethnicity) one would not want to buy an insurance scheme which gave differential rewards depending on these morally arbitrary features, our theory requires robust measures to tackle these access problems.[13] Our point here is just that the mere fact of funding higher education through a state-backed loan is not itself one of these problems, as long (as in our proposal) as tuition fees aren't paid up front and the total loan is sufficient for an individual to maintain herself without parental support.

Our critic might raise a related point about fairness. Is it fair, she might ask, that people from low-income backgrounds pay the same as people from high-income backgrounds? Should we not have a system of non-repayable bursaries for those from lower-income backgrounds?

Our answer to this question depends on whether the background distribution is just. We have said that it is possible to separate, at least to a significant degree, questions about what justice in higher education requires from questions about what background distributive justice requires more broadly. But we have not said that in circumstances where there is substantial background injustice that the higher education system could not be used as one lever to ameliorate some of that injustice. If, for example, levels of inequality are unjustly high, one way of tackling this is to adjust the university fees system, providing bursaries to people coming from the lowest income groups. This will not represent perfect justice, but it may still represent an improvement in justice all things considered. Therefore, while we would recommend that background injustice was dealt with by other mechanisms, such as inheritance and income tax, we would also consider bursaries as potentially justice improving in certain conditions.[14] What we would not consider just is a system of bursaries against an otherwise just background.

CONCLUSION

We have defended an income-contingent state-backed loan, the repayments on which should begin after some national average income threshold. We believe this is the insurance scheme you would select in the aforementioned thought experiment. A number of reasons have informed this decision. First, we have argued that you will be concerned not to make the option of not attending university worse for the sake of the option of attending, given their comparative financial prospects. Second, we have recognised that you will have an interest in keeping the option of going to university open, whatever your background, while also making sure that the risk of that option is moderated. Third, we have argued that you will have extra reason to insure those subjects that create a high level of externalities and that you will insure in such a way as to pool together the risk of particular subjects, or subject areas, thereby creating an education system with the correct sort of incentives.

It is important to be clear that our policy conclusions are contingent on practice. If it turns out that the system we advocate fails to satisfy the reasons that we have identified, a different form of system should be chosen. For example, if it turned out that the loan system we propose leads to a significant decline in applications from those with poorer socio-economic backgrounds, this would be evidence that the system did not effectively keep open the option of

12. Vikki Boliver, 2013, and 2015 has recently presented data which give strong reasons to think both types of discrimination in admissions are endemic in prestigious UK universities.

13. The compatibility of positive discrimination with the demands of fairness is further discussed in Clayton, 2012.

14. It is for this reason that our position does not straightforwardly support the abolition of student maintenance grants in the UK's 2015 Budget, despite the fact that this reform superficially brings the English system somewhat closer to the model we propose. See HM Treasury, 2015, pp. 58–59.

attending university irrespective of one's background, providing reason to select a different system when undertaking the thought experiment. Our claim is only that the hypothetical insurance approach is the right way to approach the question of how to fund higher education, and (given the current understanding of the facts) the income-contingent state-backed loan system is the answer that we should give.

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