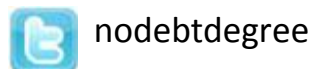


AN EQUITABLE APPROACH TO THE PRIVATE SECTOR FUNDING OF UNIVERSITY TUITION FEES

A FINANCIAL INNOVATION TO SUPPORT THE
GROWING DEMAND FOR HIGHER EDUCATION
THAT WILL ASSIST IN THE REBALANCING OF THE
UK ECONOMY

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PETER AINSWORTH
MANAGING DIRECTOR
EM APPLICATIONS
JUNE 2013

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FUNDING with AFFORDABLE INCOME based REPAYMENTS

A FAIR AND EFFICIENT SYSTEM THAT ALIGNS RISKS WITH RETURNS FOR
STUDENTS, UNIVERSITIES AND INVESTORS

ACKNOWLEDGEMENTS

I would like to thank Jason Hathorn, previously of Concordia Advisors LLP, Derek Pretty, previously Registrar and Secretary, University of Bristol, and Cameron Stevens, Chief Executive of Prodigy Finance for their help in developing this proposal. David Mendoza-Wolfson, a student at Southampton University, deserves a special mention for his enthusiastic commitment to the job of communicating the benefits of the FAIR scheme to UK students.

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AGENDA

FAIR – for “Funding with Affordable Income base Repayments” - is a progressive and innovative scheme designed to make first degree studies affordable for all, while reducing the burden on the taxpayer and aligning the interests of students and Universities.

There are precedents for the underlying economic theory in Milton Friedman's work and for the key practical matters in small scale schemes operating in the UK, Germany, the US, Mexico and parts of South America.

This paper and associated website, facebook page and twitter feed are aimed at stimulating debate and winning converts to the FAIR scheme's merits so that it is implemented in the UK, gaining a head start against global competitors and boosting our higher education sector.

It is hoped that, on reading this paper, you will give the scheme your support.

RECENT DEVELOPMENTS

The first version of this paper was written and published in July 2010. It was prepared at the request of the Russell Group of Universities. They were investigating new approaches to funding the cost of providing a first degree education following the indication from Mandelson in late

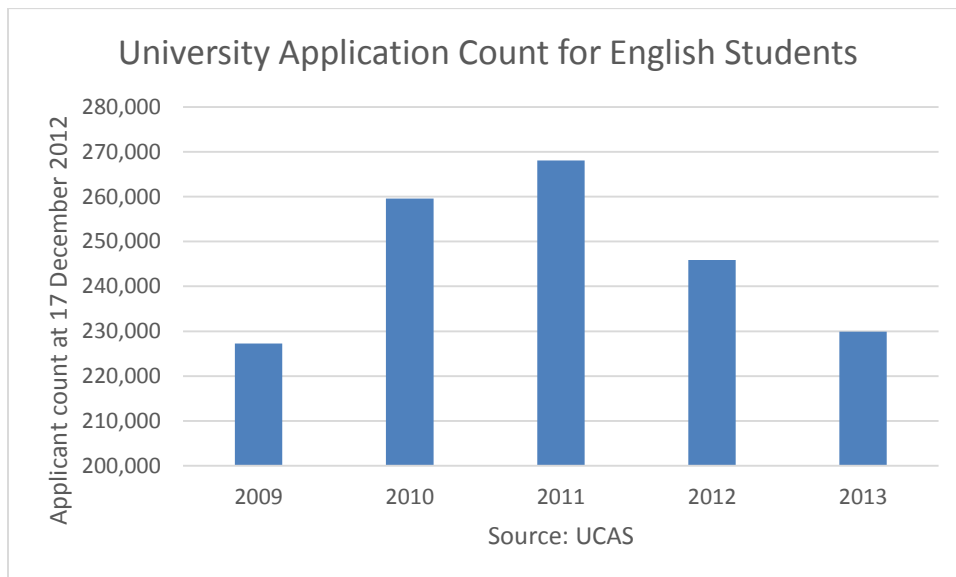
2009 that, at the conclusion of the Browne review, state financial support for the higher education sector would be reduced.

The FAIR proposal was reviewed by Government at the time of the Browne Review but the decision was made, instead, to increase the level of tuition fees from around £3,000 p.a. to around £9,000 per annum. If the logic behind FAIR is correct, that was a gross error, and the consequences will be a weakening of the higher education sector. The high fees would be expected to lead to a decline in admissions, insufficient funding for Universities to enable them to maintain their currently strong international reputation and poor returns for students on a very significant investment.

The first anticipated effect is already in evidence. While the Browne Review commented that: "there is "clear agreement" that the introduction of top-up fees has not led to a fall in full-time participation.", that view was in conflict with research carried out in the US that concluded: "a \$100 increase in tuition and fees (in 2006 dollars) would lead to a decline in enrollment of a little more than 0.25 percent, with larger effects at Research I universities"ⁱ

The US pattern is being copied here in the UK as we see in Figure 1 below. The increase in tuition fees for students applying for 2012 and 2013 admission, the first to experience the higher fee levels, has led to a material downturn in applicants. Over two years numbers (measured at mid-December each year) have fallen by 14% with 38,000 fewer candidates aspiring to a higher education.

Figure 1 - Declining Applications



In a report, Universities UK warned that institutions could face "significant financial pressures" as a result and claimed that Britain could struggle "to retain its hard-won global competitive advantage" (<http://soa.li/MQpvZdl>).

Consequently, the paper has been re-written with a broader remit. Rather than focus on the specific needs of the Russell Group, it shows how the FAIR scheme can be applied to all students

studying for first degrees and how it can mitigate maintenance costs as well as tuition fees, and why it can help to reverse the fall in student numbers.

EXECUTIVE SUMMARY

This paper proposes a new scheme for funding students through a first degree that is affordable for students, rewards teaching excellence and relieves the public purse of a growing burden.

The Browne Review focused on the choice between a Graduate Tax and high tuition fees funded by debt. Both approaches have some advantages but also many significant shortcomings. FAIR is designed to exhibit their best characteristics, without their disadvantages.

FAIR has four key characteristics:

1. The repayment terms are identical for all students, regardless of their age, academic background, personal circumstances, the course they will study or the University they will attend.
2. Students only pay after they leave University and payments are proportional to earnings.
3. Universities' income is independent of Government and is tied to graduate earnings to align their economic interest with that of their students. They are free to offer places to as many students as they see fit.
4. At launch, all existing students, and graduates still repaying tuition fee debt, would have the option to convert their debt obligations to the FAIR scheme, adjusted where the debt has been partly repaid.

While a FAIR arrangement is available to all, students have the option to pay their fees upfront and Universities can set upfront fees at whatever level they wish. A FAIR contract is an agreement by the student to pay a proportion of their income for a period of time to the University they attend. The contract terms are set by Government statute and are the same for all Universities and courses.

In order to finance themselves in the near term Universities could either borrow money or the contracts could be bundled up and invested in by pension funds who would pay the University according to their expectations of the future earnings of graduates of that institution. The state is relieved of all costs, students' liabilities are affordable and proportionate, Universities' receipts are a function of their success in adding value to their charges earnings prospects over the long term, and pension investors have an asset that is a perfect match for their earnings linked liabilities.

The scheme is not designed to solve all aspects of University funding. There are many social goods and policy objectives associated with higher education. By arranging an economically efficient intergenerational transfer of assets and liabilities, FAIR relieves the state of a large financial burden so that it is then able to use its limited resources to achieve its social and policy objectives.

The scheme is preferable to an income-contingent loan based scheme (“ICLS”), as in place in the UK today, because it is progressive across all incomes, whereas the present scheme places the greatest burden, as a proportion of income, on middle income earners; because it rewards Universities in accordance with the value they add to their students earnings potential; and because it can be funded by private sector investment.

The scheme is preferable to a graduate tax because it creates a nexus between a University and the future success of its graduates and because non-nationals can participate.

The paper reviews the evidence and useful precedents in Germany, the Americas and the UK and outlines a detailed scheme which has won support from students, and from both the academic and financial community.

VALUE FOR MONEY

A University education is one of the largest financial commitments people make. Even putting to one side the cost of tuition and living costs, just the sacrifice of, typically, three years away from full-time employment is a significant opportunity and money cost. For such a significant investment it is natural that students will want to be sure that they get value for money.

For them to be confident of that it is a requirement that the Universities be rewarded if they offer value for money, and penalised if they do not. That is surely just; the alternative is to have students make a very large commitment to a University while the University has no matching commitment to the student.

Yet that is how the current debt based scheme works. The University typically seeks to attract students based on its reputation, the “experience” offered and statistics about the very short term employment success of prior graduates. Once a student has accepted a place, the University has no direct interest in the value that student gets from its time at that University.

By analogy, it is as though a car company sold a car based on its looks and that company’s past reputation, but this new model turned out to have serious flaws. Consumer Protection legislation would entitle the buyer to a refund or repair. Appearance and brand are sufficient to win custom, but they are not the product themselves and, if the product does not meet the reasonable expectations of it, the consumer can recover what they have lost. Conversely, if the product is better than expected, consumers will be pleasantly surprised and that company’s brand will be enhanced, helping it win further business.

A University education costs far more than the typical car, yet the consumers of that education, students, do not have equivalent protections to those afforded buyers of cars. This cannot be right. Consumer Protection principles should be extended to such a significant purchase. The challenge is how to do this.

A fundamental problem in applying consumer protection principles to a university education is that it might seem difficult to establish whether or not the university had fulfilled those reasonable expectations of it. Is it the number of hours of lectures and tutorials that count? Or the quality of the academics and teachers? Or the output of quoted research? Or extra-curricular

activities and careers guidance? Trying to assess these factors would be subjective in the extreme; it would create a large bureaucracy and would always be open to endless challenge.

However, there is a simple quantitative test that can be applied and that would not be open to challenge. While a university education brings many benefits, both monetary and non-monetary, to the individual and to society at large, the justification for the charging of tuition fees is the fact that, on average, having a first degree will enhance a graduates earnings over their lifetime. As explained below, this is not a fair justification for a debt based scheme as this fact is true on average but not in all cases. However, it does mean that we can assess the value added of a university by taking an average of the earnings of all its graduates.

Hence, we address the consumer protection issue not by setting a price for a university education upfront, when its actual delivery of something valuable to its students is unknown, but rather by paying it in arrears, based on the value it adds to the future earnings of its charges.

This is the radical innovation in the FAIR scheme. The University is paid directly from the future earnings over 20 or more years of its graduates. Each graduate only pays according to the benefit gained, so all are assured of value for money and the interests of students and universities are aligned.

WHO SHOULD PAY? STUDENT OR STATE

Some have argued that the social gain to higher education is so significant that a first degree course should be “free”. It is certainly the case that a society where a greater proportion of its populace has benefited from a higher education should have greater economic potential and it may also improve its score on a large number of social outcomes: life expectancy, human rights; political stability; equality; the environment, and crime.

These effects should make it desirable that, as far as possible, a first degree education be accessible for a high proportion of society. The optimal level of participation is not known, but it is clear that the UK’s level has been falling by comparison with similarly developed countries. An analysis by the Organisation for Economic Co-operation and Development (OECD) showed the UK had gone from having the third-highest graduation rate among industrialised countries in 2000 to 15th place in 2008.

However, desirable as higher education might be, its provision cannot be costless – academics and support staff need an income and buildings and facilities must be built, serviced and paid for.

Consequently, it is not possible for the provision of a University education to be free to society as a whole, if students, the personal beneficiaries of the service, are not responsible for paying, the burden must fall on taxpayers as a whole.

As graduates, on average, have higher incomes than non-graduates, the effect of shifting the costs of higher education from graduates to taxpayers as a whole has the broad effect of making taxpayers with below average incomes subsidise the education of those with above average incomes and, regardless of income, of making those who did not go to University pay for those that did. Unless it can be argued that non-graduates obtain a greater gain from the social gains of higher education than do graduates, these facts militate against norms of social justice.

It may be that the notion that higher education should be free is based on nostalgia for the system that prevailed until 1998, when tuition fees were introduced. However, in practice, graduates did pay for their education via the progressive tax system. In effect, an implicit graduate tax was operated whereby, as graduates at that time tended to dominate the higher income brackets, they were more likely to pay at higher rates of tax. While the proportion of graduates in the population is low and their incomes predominantly substantially higher than non-graduates, this system is fair and reasonably effective. However, the big expansion in student numbers over the last three decades, where once only 1 in 7 attended University against about 3 in 7 now, has made the burden on the taxpayer much greater and meant that graduate incomes are more evenly spread so undermining the logic of the implicit graduate tax approach.

Consequently it has been broadly accepted by successive governments of all stripes that the main burden of the cost of higher education should fall on those who are its direct beneficiaries.

STATE OF THE DEBATE

With a political consensus that students must bear the bulk of the cost of an undergraduate education, the debate, prior to the implementation of the Browne Review, then focused on the conventional alternatives of a discrete explicit graduate tax or increased tuition fees funded by debt. Unfortunately, both approaches have significant shortcomings.

Increased tuition fees will reduce the burden on government and may increase University income but will make higher education prohibitively expensive for those whose subsequent careers pay low to middling incomes. A graduate tax will make a higher education affordable for all but it will not reduce (and may increase) the burden on Government as the revenue will not be collectable for many years and it will leave University funding subject to government whim. Neither approach addresses the globalization of the workforce; with an ever increasing proportion of graduates likely to spend some or all of their career abroad both schemes will suffer losses as they will not be enforceable outside the UK.

A summary of the limited strengths and multiple failings of these two suggested approaches is shown in table 1 below, contrasted with the FAIR scheme:

Table 1. Current options and their shortcomings

Issue	Graduate Tax	High Tuition Fees funded by debt	FAIR
Shift funding burden from taxpayers to graduates	✓	✓	✓
Don't discourage less well-off students	✓	✗	✓
Autonomy – reduce Government control of HE funds	✗	✓	✓
Get costs wholly off Government balance sheet	✗	✗	✓
Align interests between University and Students	✗	✗	✓

Grow the foreign (export) market	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Clearly both of the standard approaches are suboptimal.

The FAIR scheme, proposed in this paper, aims to square the circle of reducing the burden on government while making a higher education affordable to all by combining the best features of increased tuition fees and a graduate tax, while eliminating their flaws.

To achieve this it is necessary to find a way by which students and Universities can jointly raise the money needed to pay for a higher education from private investors. The key challenge is that the financing is needed at the point of the student entering University, when the students' prospects are so very uncertain. To solve this problem we rely on portfolio theory and asset-liability modeling and show the advantages of equity over debt financing.

PORTFOLIO THEORY

The theory of portfolios is related to the adage that "one should not have all one's eggs in the same basket". It is based on the observation that taking a single big bet is riskier than taking a number of small bets. Even though it is reasonable to expect a proportion of bets to have a successful outcome, any individual bet has an uncertain outcome. Taking a single bet risks total loss, whereas the taking of a number of smaller bets reduces that risk. As the portfolio size grows, the risk of a nil return can, in practice, be eliminated altogether.

Applied to university education the lesson is that each student represents just a single bet.

For the individual student they cannot avail themselves of portfolio theory. Their life and career outcome will be principally determined by what happens to themselves alone. If they are fortunate they will be successful. If they are unfortunate they will fail. They may choose to work hard and take many qualifications but luck in their choice of career and employer can overwhelm their best efforts. Investment Banking was not always the route to riches that it recently appeared to be and, with the current re-structuring of the banking sector, no doubt it will not be in the future. There was a time when a religious education guaranteed status and a high income; today it is associated with penury and possibly even ridicule. Times change.

On the other hand, a University has a relationship with a broad spectrum of students studying a range of subjects. Clearly it is in a position to benefit from portfolio theory. Although the success and future earnings of a given student cannot be known, if the University is doing a good job then, on average, its graduates should have a high level of earnings.

Many academic papers have been published to demonstrate that there is a "graduate premium" whereby graduate earnings are higher than those of non-graduates. The established fact that such a graduate premium exists is often mis-used to imply that all graduates benefit to the same amount. The premium can be captured at an aggregate level, but cannot be relied on for any given individual.

The implication of portfolio theory is that the risk that a higher education may not result in high earnings for a given student should be taken by the University, not by the individual student.

ASSET-LIABILITY MODELING

Considering one individual's financial position, they will have assets – things they possess – and liabilities – representing their financial needs.

Asset-liability modeling seeks to measure such assets and liabilities and to acquire or trade financial assets which help to bring one's aggregate assets and liabilities into line with one another, reducing the risk of a mis-match between the two.

For example, it is safer to take out a mortgage in the currency in which one earns an income. Having the asset (your earnings) and the liability (mortgage payments) in the same currency means that whether that currency rises or falls in value, there is no impact on your ability to pay the mortgage. If they are in different currencies a risk is being taken. If the currency in which the mortgage is denominated rises relative to the currency in which your earnings are paid, the cost of the mortgage will rise.

At the point of entering University students' liability is the need to cover the cost of tuition fees until graduation, at a time when the student will typically have no assets and no earnings. However, on the asset side, by attending University they have a reasonable expectation (with a degree of uncertainty) of a long term stream of above average earnings from employment.

The student position is exactly the opposite of that in which pension investors find themselves. The latter have accumulated capital – their asset – and their liability is that they have many years living costs to meet, where such living costs will rise with inflation. The best match for their liability would be something akin to an income from employment.

Typically pension investors will invest in a mix of bonds and equities to seek to match (hedge) their liabilities. However, these assets are not well suited to the purpose. The returns on bonds are nominal and reduced in value by inflation so are inadequate for providing a long-term inflation protected income. Equities are considered a "real" (inflation proof) asset but can be highly volatile and can exhibit negative returns for extended periods of time. The Japanese equity market, for example, is still a long way below its levels of twenty years ago.

The conclusion from a consideration of the asset-liability positions of students and pensioners is that the asset of one matches the liabilities of the other so a transaction where they swapped a share of their assets should be mutually advantageous.

EQUITY VS DEBT FINANCE

UNDERSTANDING EQUITIES

"Equities" or "Equity" refers to a type of investment that represents an equal share – the root of the word - in the success or failure of a venture. The contrast with loans or debt is that, while debt represents a fixed obligation on the part of the borrower to repay some nominal amount, equity represents a variable obligation.

A Company might use debt finance to enable it buy stock (e.g. a clothing retailer will buy clothes). This is efficient and appropriate because against the fixed cost of the debt the company has an asset (the clothes) that it should be able to sell for a reasonably predictable amount, enabling repayment. On the other hand, if the Company is making a major new investment – a new factory or store, for example – it will often seek to raise the finance to pay for that by selling equity to investors. If the factory or new store is a success, it will have to share the earnings from that success with the investors; but this is balanced by the fact that, if the new venture is a failure, then the equity investors will share in that failure and may get paid little or nothing.

Equity is designed to fairly share the risk of starting a major new project, where its success is uncertain, between the company and a multitude of investors. By spreading the risk of new ventures, it is possible for more new ventures to be begun.

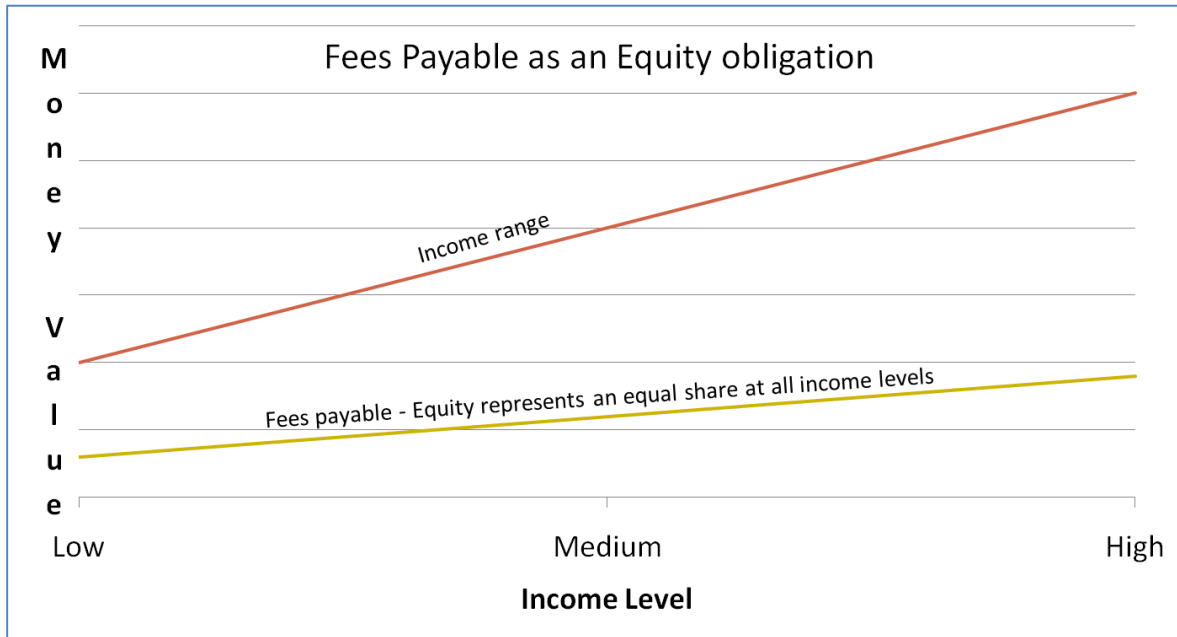
Debt finance, on the other hand, is best suited to expenditures where the outcome is certain, or fairly certain. There is no reason for the borrower to pay an equity “success fee” to the lender if they are confident the expenditure will have an adequate payback.

Despite this, in the West, many companies use debt finance to pay for expenditures that have an uncertain outcome. It is possible that the favourable tax treatment of debt vs equity finance is the cause for this. Islamic finance, in contrast, is clear that where the outcome of an investment is uncertain, the risk of failure should be shared between lender and borrower, as in equity finance. However, the effect of the dominance of debt finance in the western world is that equity finance is often overlooked. The general public, acquainted with debt in the form of credit cards and house and car loans, certainly are more familiar with debt than equity.

But, as was explained earlier, the “success” of a higher education is not guaranteed and will partly be a function of luck, or God’s will. If we now treat a graduate’s income as the measure of the “success” of the “venture” of entering into higher education we can consider the impact of using debt or equity finance to fund the student’s access to that opportunity.

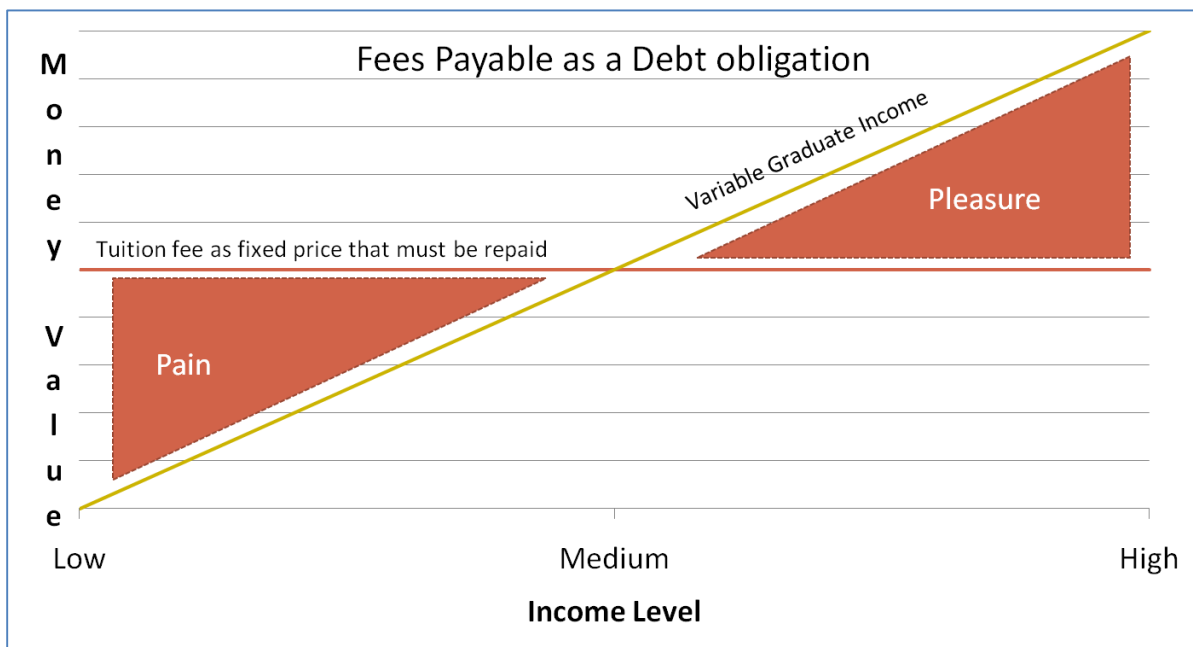
Figure 2 1 shows the cost of tuition fees on an equity basis. As earnings rise so does the amount repaid as it is always an “equal share” of the “success” (earnings).

Figure 2: Relationship between fees and earnings with an Equity based obligation



On the other hand, in Figure 3 we see the situation with debt based finance. Here the repayment obligation is unrelated to future earnings and the Chart highlights two segments, one where graduates with low earnings suffer “pain” because the debt obligation is large relative to their earnings and the other “pleasure” where the obligation is comparatively small.

Figure 3: Relationship between fees and earnings in a Debt/Loan based obligation



As the outcome of an investment in higher education is unknown and highly variable – some graduates will have high incomes, some middling and some low - if students have to finance their tuition fees with loan obligations it will lead to some experiencing repayment difficulties while others will find the obligation easily affordable.

Before putting forward the FAIR scheme we will consider in more detail why debt finance is problematical.

MILTON FRIEDMAN – CAPITALISM AND FREEDOM, 1962

Let's turn to Friedman's pathbreaking book, "Capitalism and Freedom", first published in 1962, where, in relation to paying for higher education, he stated that:

"The average expected return [to higher education] may be high, but there is wide variation about the average"

This is an unarguable observation yet it is often missed in the discussion about a "graduate premium" – the established truth that, on average, going to University will lead to higher lifetime earnings. The fact that such a premium exists is the justification for higher education *in general* but it cannot be used in relation to any given individual for whom the benefits of a higher education are highly uncertain. It simply cannot be denied that many graduates do not have successful careers, and some do not have careers at all. This dispersion of outcomes must be taken account of in the economics of paying for a University education. Friedman did so by referring to:

"the inappropriateness of fixed money loans to finance investment in training"

Recognising that training (education) has a variable return, so that tying such a return to a fixed cost, as in Chart 2 above, will lead to (financial) pain for many. He went on to suggest a different model for financing higher education:

"The device adopted to meet the corresponding problem for other risky investments is equity investment... The counterpart for education would be to 'buy' a share in an individual's earning prospects; to advance him the funds needed to finance his training on condition that he agree to pay [] a specified fraction of his future earnings"

DISPERSION OF OUTCOMES

While the existence of a "graduate premium" is well documented, so is the wide dispersion of outcomes. A University education shifts the mean expected lifetime earnings in an upward direction, but the distribution of lifetime earnings remains wide. Evidence shows that there is variation in future earnings between subjects studied, within subjects and over time. Students' careers are subject both to macro-economic changes and personal good and bad fortune.

Figure 4 illustrates this dispersion by subject. It demonstrates that the dispersion of returns is such that, for certain measurement periods and subjects, the returns to a University education may even be negative. Figure 5 shows the difference in returns for subjects between their best and worst years, proving that subject choice is no guarantee of success. Given that, within a given

subject cohort, there will be a distribution of outcomes by individual, it is unarguable that a given individual cannot be certain of the value to them of a University education.

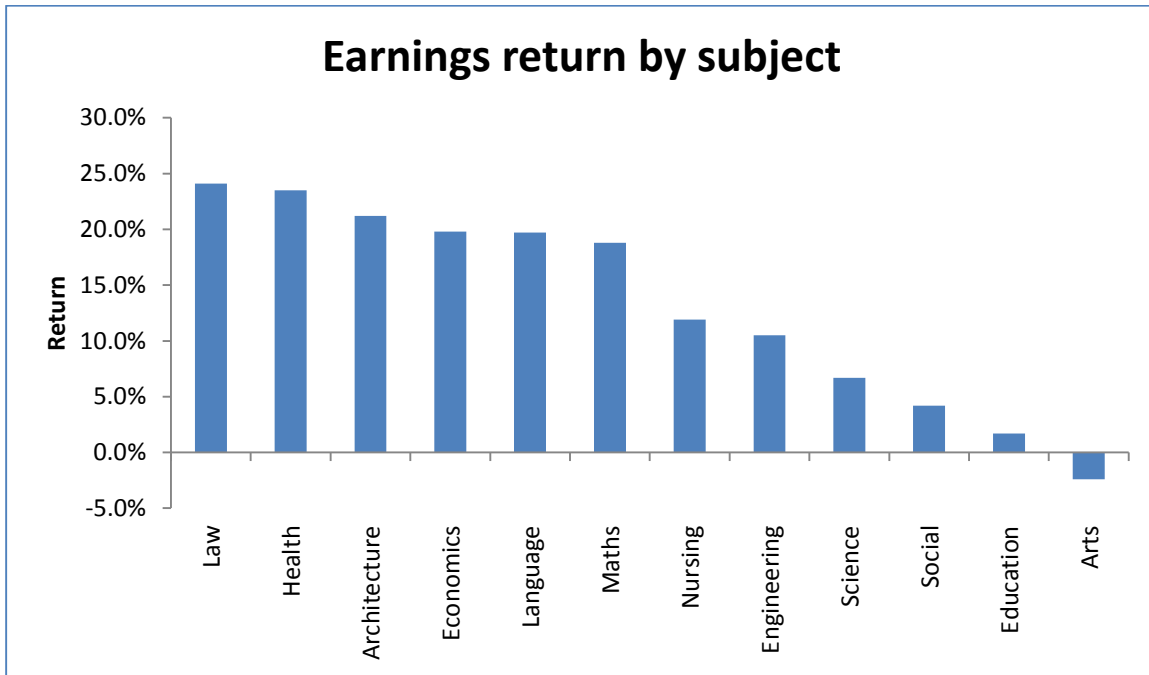


Figure 4: The Returns to Education, Walker and Zhu, 2001 (Table 15, Men)

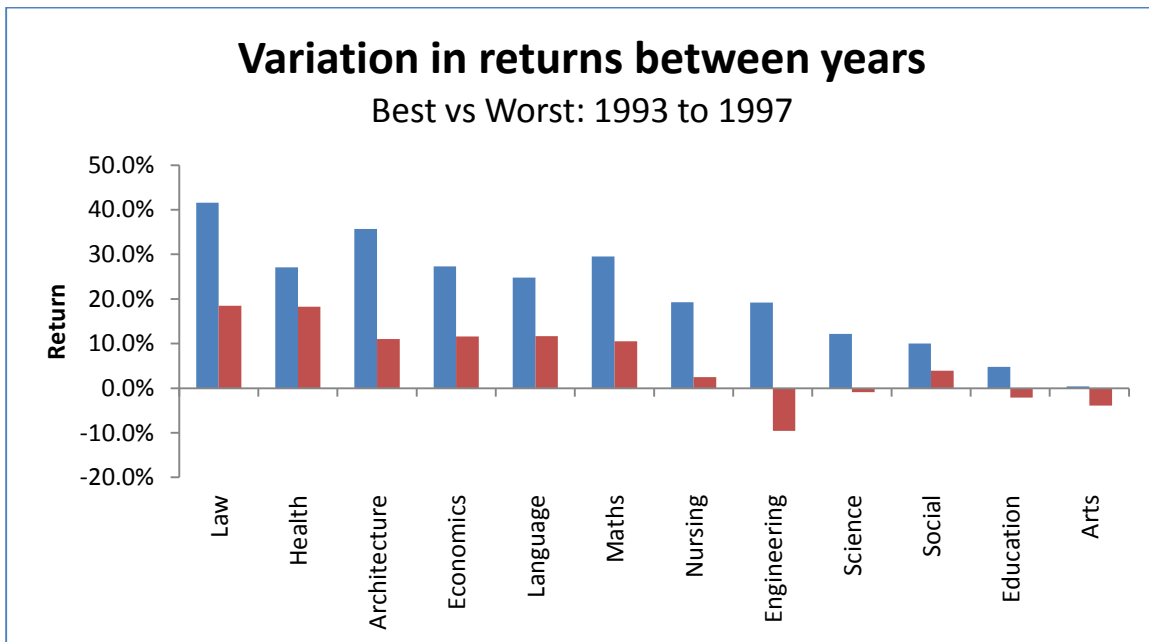


Figure 5: The Returns to Education, Walker and Zhu, 2001 (Table 15, Men)

The consequence of this uncertainty is that the taking on, at the point of purchase, of an obligation to repay a fixed amount of money in exchange for an education, when the value of the education is unknown, will result in some students being obliged to pay far more than the education was

worth to them while some others will pay far less. Such a mis-alignment between the cost of education and its value is untenable, politically and economically.

There will be prospective students, especially those from less wealthy, less financially confident, backgrounds, who will be aware of the risk they are taking and will be price sensitive. Applications from this group will fall as tuition fees rise, denying a University education to many who would have significantly benefited from it. There will be others who will not be aware of the risk and will take on the debt and will subsequently find themselves overburdened and will complain that they were induced to enter into an unfair arrangement. Given that the earnings payoff is lower for graduates living in certain regions, high fixed costs to education would likely have an effect on participation by region. The fact that many graduates will not earn enough to repay the debt in full will lead to a continuing large burden on the taxpayer that will inhibit other expenditure.

Given the uncertain earnings future a given student faces, charging for higher education on a fixed obligation debt basis is likely to discourage participation and lead to credit impairment for many graduates and losses for lenders. An equity based scheme matches cost to ability to pay without these problems and appears more appropriate for financing higher education.

EDUCATION – FIXED vs SUCCESS BASED FEES

Eighteen year olds are free to borrow money and may do so to enable them to purchase a car and even, in a few cases, property. Many will use debt (in the form of credit cards) to finance their lifestyle – paying for food, alcohol, mobile phones etc. Nobody argues that there is anything wrong with students using debt finance to pay for such things, so why did Friedman state that debt finance as a means of paying for an education was “inappropriate”?

The reason is that, in the case of education, the value of the “purchase” is not known to the “buyer” at the point that they enter into the transaction. Furthermore, once a particular educational option is chosen, there are considerable transaction costs to switching to an alternative option should the student decide that they are not getting what they expected. It is hard to switch course and there is the risk that the new course will be no better than the old. Students are faced with making a major life choice that they will generally be stuck with once the choice is made with no personally relevant reliable information about what they will gain from the decision.

This is not at all like buying a physical good such as a car. A car has well defined technical specifications which can be considered and relied upon. It is possible to see exactly what a car looks like. It can even be test driven and, if not liked, one simply walks away. The University choice would be like a situation where one can only buy one car in one’s whole life. The car must be bought blind and a fixed price is paid. Only after committing to the cost does the buyer find out what they have bought. For some it will be a Rolls Royce, but for others a second-hand Lada. To find yourself with a large debt when the car you receive is an old Lada is, in Friedman’s delicate terms, “inappropriate”.

Another analogy is the estate agent, whose fee is a proportion of the value at which your house is sold, so the agent’s income is directly tied to their success in marketing your house. The present approach to buying a University Education would be like asking the agent what your house (your gain from taking a University Education) is worth; the agent then quotes you the average price

(the “graduate premium”) at which they have sold houses in your area and charges you an upfront fee based on that figure. It then turns out that your house is smaller, or unfavourably located, by comparison with the average (you earn less than the average) and you have paid a fee that is out of all proportion to the true value of your house. An estate agent who operated this way would not last long as all those who overpaid would complain. It is why Friedman said debt-based financing of fixed fees was inappropriate - yet this is the official policy in relation to University tuition fees.

INCOME CONTINGENT LOAN SCHEMES

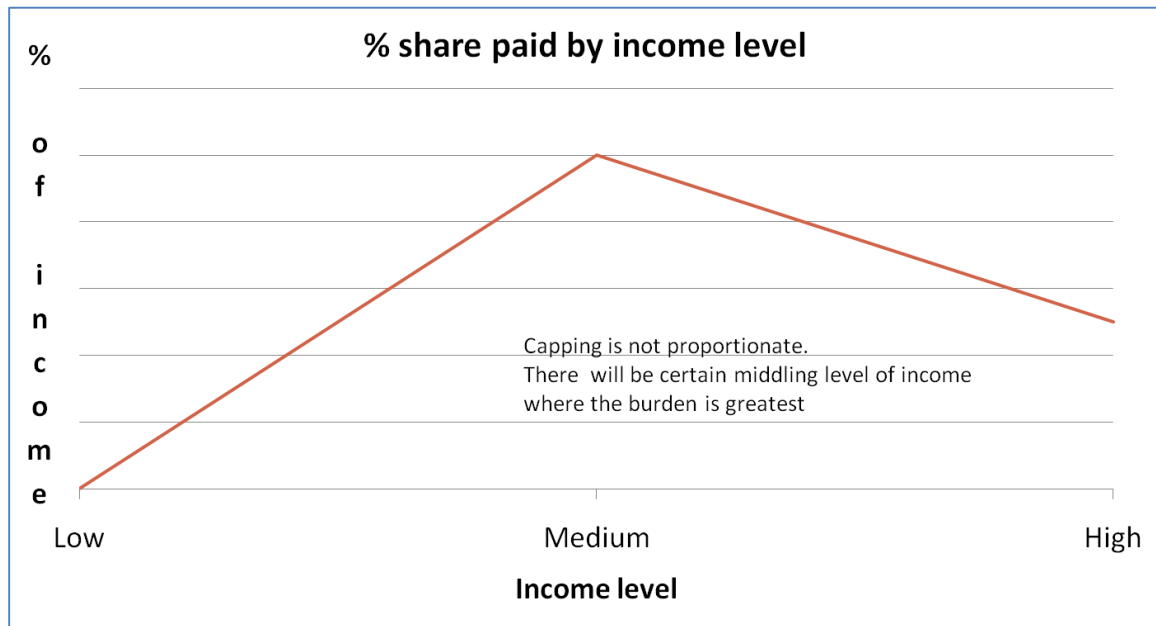
To address the fundamental problem that Friedman identified: that some graduate’s earnings will be low so a fixed debt obligation will be unaffordable, a number of countries, the UK among them, have created loan schemes whereby the repayment obligation is tied to the graduate’s earnings.

In such “Income contingent” arrangements there is a fixed debt that is due to be repaid, but the amount to be repaid in any one year is based on the graduate’s income. If income is low, less needs to be repaid. Typically there is also a date by when, if repayment of the debt has not been made by that point, it is nevertheless forgiven.

Looking again at Figure 3, such schemes mitigate the pain felt at the lower end of the income spectrum but do not capture the excess return shown by the “Pleasure” triangle. This represents the excess of what higher earning graduates would be capable of paying over what they are asked to pay in a fixed loan obligation scheme.

The effect of income contingency in a loan environment is extremely unfair to middle income earners as shown by Figure 6 below. It means that, at some point in the middle income spectrum, there is a level of income where those individuals are paying out the highest share of income. Lower earning graduates get part or all of the debt forgiven, while higher earning graduates only face the same nominal repayment obligation as the middle earning graduates.

Figure 6: Income Contingent Loan Scheme / Capped Tax



In addition, such schemes create an unhealthy incentive to delay earnings, and to earn less than the minimum on which repayment is based, as the liability is reduced by these strategies.

Further, government sponsored income contingent loan schemes may be open to legal challenge. Although the government communicates to the prospective student that the nature of the scheme is a loan, in practice it is a tax.

The level at which repayments start is a matter of policy and not set by contract. For new students in England they are advised that repayments start at 9% of their income over £21,000. That may seem very attractive. However, the loan has a life of 30 years. Over that time £21,000 will look very different. For example, if inflation over the next 30 years is the same as it was over the last 30, today's £21,000 will fall to an equivalent of around £7,250, below the level at which tax is payable. If that is allowed to happen there will be squeals of pain from the graduates who assumed the £21,000 would be adjusted for inflation. But if it is adjusted for inflation it becomes a political issue as to which rate of inflation to apply and when to make changes.

There is even the risk that the hurdle level of income will be lowered when government finances are tight. As reported by The Telegraph (soa.li/md3s1DF) the Treasury has already been floating the idea of cutting the hurdle to £18,000 because of the "need" for graduates to pay back loans faster – i.e. proposing to change the terms of the so-called "loan".

Something similar applies with the rate of interest charged. It is between RPI at earnings of £21,000 and RPI + 3% for earnings over £41,000. Both these levels, the selection of RPI as the benchmark, and any premium to be applied can be varied by Government. Clearly, this degree of discretion on the part of the Government makes the scheme nothing like a loan and, should the terms become sufficiently painful for a large enough number of graduates, the potential for a legal dispute on the basis that they were "mis-sold" is obvious.

Income contingent loan schemes are also uneconomic as they cap the liability of those who benefit most from their education, and can afford to overpay, but do not recover the full cost from those who benefit least or who cannot afford to pay. For example, even in the £3,000 p.a. fee environment, it is estimated that the UK government is carrying a £7bn loss on the student loan book, with issued loans of £27bn worth no more than £20bn. With fees rising to £9,000 per annum there is every likelihood that the proportion of defaults will increase even further.

Clearly, any such scheme would not be attractive to private investors, and may become prohibitively expensive for government.

Government sponsored income contingent loan schemes also encourage a brain drain as the UK government cannot enforce repayment upon those who emigrate. With a 9% additional rate of tax for up to 30 years there could be many graduates for whom working abroad becomes financially compelling as a consequence, depriving England of a disproportionate share of its highly educated youth.

In order to reduce the government's losses, one possible approach is to add a high default premium to the level of the debt so that the higher earners subsidise the fail-to-payers. Adding such a "default premium" to the loan level is even more unfair to middle income earners as they would be obliged to bear the same burden of premium as much higher earning graduates.

A debt based scheme is therefore not a viable private sector solution; and it is questionable whether it is feasible as a Government-sponsored scheme as the levels of fees increases.

Whether with debt funded tuition fees the obligation is fixed or income contingent, it creates a number of winners and losers. Those who suffer most are middle income earners and the provider of funds – typically the taxpayer. With losses on monies advanced running at 34% to 40% no private entity would be in a position to fund such a scheme.

THE FAIR PROPOSAL

The conclusion is that the most efficient solution for the private sector financing of higher education is an equity based scheme where the University takes the risk that individual graduate's earnings are highly uncertain and where pension investors will be keen buyers of an asset that delivers returns tied to graduate earnings. The next step is to design the specific features of such a scheme so that it meets a broader range of needs and is politically feasible.

This paper will now set out a proposal for a scheme which, as explained earlier, the author has labelled "FAIR" for "Funding with Affordable Income based Repayments". Further explanations of the specific features of the scheme along with a discussion of the various issues that it needs to satisfy or address will then be discussed in turn.

THE FAIR SCHEME

1. Applies to all Registered Institutions offering approved first degree courses.
2. The existing £9,000 annual fee and loan scheme is abolished. Current participants in the loan scheme have the option to convert to FAIR.

3. On accepting a place at University, students have a choice in relation to how they pay the fees:

- i. they can take on an obligation to pay a fixed percentage, X%, of their total earnings (capital, earned income and unearned income) for the first Y years that they pay either income or capital gains tax in any jurisdiction.

– This obligation, the “FAIR contract”, is in the form of a private contract with the University.

Alternatively, the student could opt:

- ii. to pay an unregulated tuition fee either from their own means or by obtaining funding from a third party.

4. The Government sets the terms of the FAIR contract

- i. The terms would be the same for all (EU) students regardless of age, course, institution or personal circumstances. The only commonality is that the fee is in full payment of the costs and benefits accruing from a first (undergraduate) degree at a recognised institution.
- ii. In the contract the Government would specify the provisions for special cases. For example, should a student not complete their course a reduced or nil fee could be charged. Given there is a benefit to partial completion of a course it is suggested that there be no charge where the ungraduated student discontinues before the end of the first year and otherwise is charged at half the standard rate.
- iii. A contract could also be designed for non-EU students, possibly with the same terms or with higher values or X and/or Y.

5. The FAIR contract would be designed to be effective in all jurisdictions.ⁱⁱ

- i. The terms of the FAIR scheme remain under Government control. It is thus a government sponsored and controlled scheme, where the private sector simply acts as the provider of the education and funding.
- ii. The Government would indemnify the Universities against any claim that the terms of the FAIR agreement were unfair or that the student had been mis-sold.

6. The Universities can then raise cash to fund their activities, either by borrowing against the security of the future revenue they are due from their FAIR contracts, or by selling their FAIR contracts to Pension Fund Investors.

7. Universities may decide to pool their FAIR contracts and proceeds with other Universities at their discretion on the grounds that larger pools of contracts lead to more stable returns and higher average prices from investors.

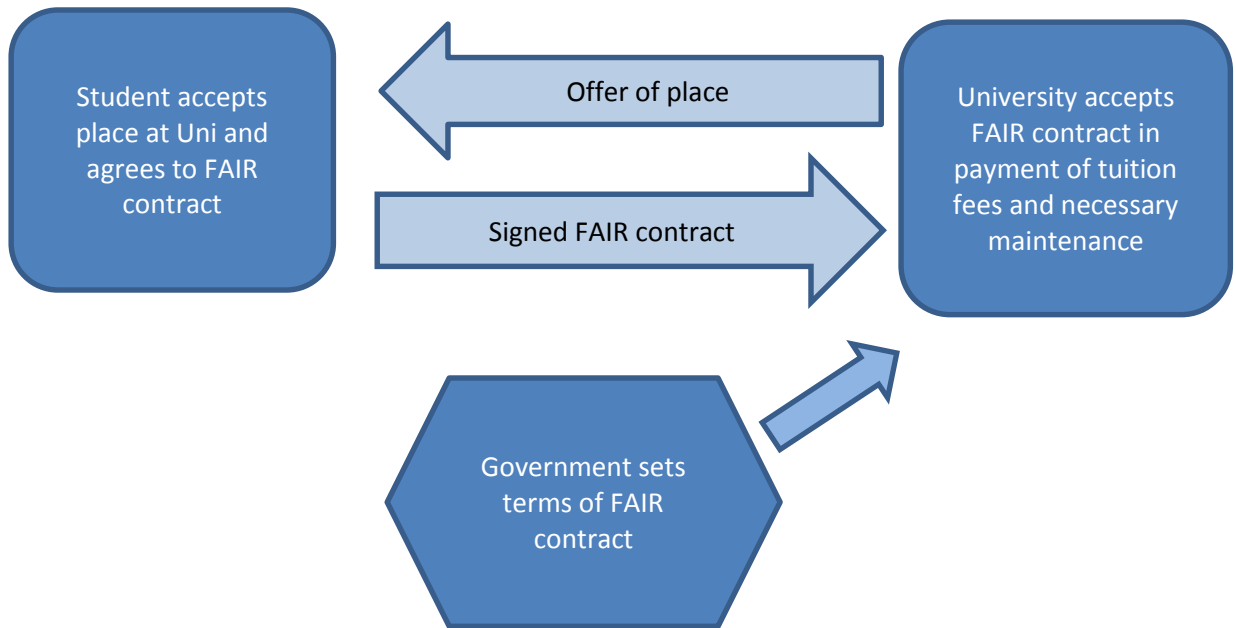
8. Where a University chooses to finance itself with debt, it will benefit over time should its graduates prosper so its FAIR proceeds exceed the level needed to repay the debt.

9. Where a University chooses to sell its FAIR contracts to investors, it will obtain higher prices the better the market's perception of the future earnings potential of its graduates.
 - i. A key feature of FAIR is that, although students will contract on identical terms, universities will receive different amounts of money based on their value added. The better the job a University does or is expected to do, the more it will receive in remuneration for the education it provides. It is then up to the University to decide at which level of the market it wishes to operate – high cost and high return or low cost and low return, for example.
 - ii. If a University decides to sell its FAIR contracts it will know its income for the duration of the student's course shortly after the student has accepted their place and will have no further financial risk in relation to the student fulfilling the terms of the agreement, which risk passes to investors
 - iii. Universities can choose to finance themselves through a mix of debt and sales of FAIR contracts as they judge best.
10. After graduation each graduate makes an annual declaration as to their income and pays the requisite share, if any, to their University.
 - i. The government should allow such payments to be made from pre-tax income, in the way that they do in relation to the current loan scheme.
 - ii. Graduates would agree to be audited should their income appear too low in relation to their peers. If their report of low earnings is genuine, the University would have an incentive to provide additional training or career support.

SCHEMATIC DIAGRAM

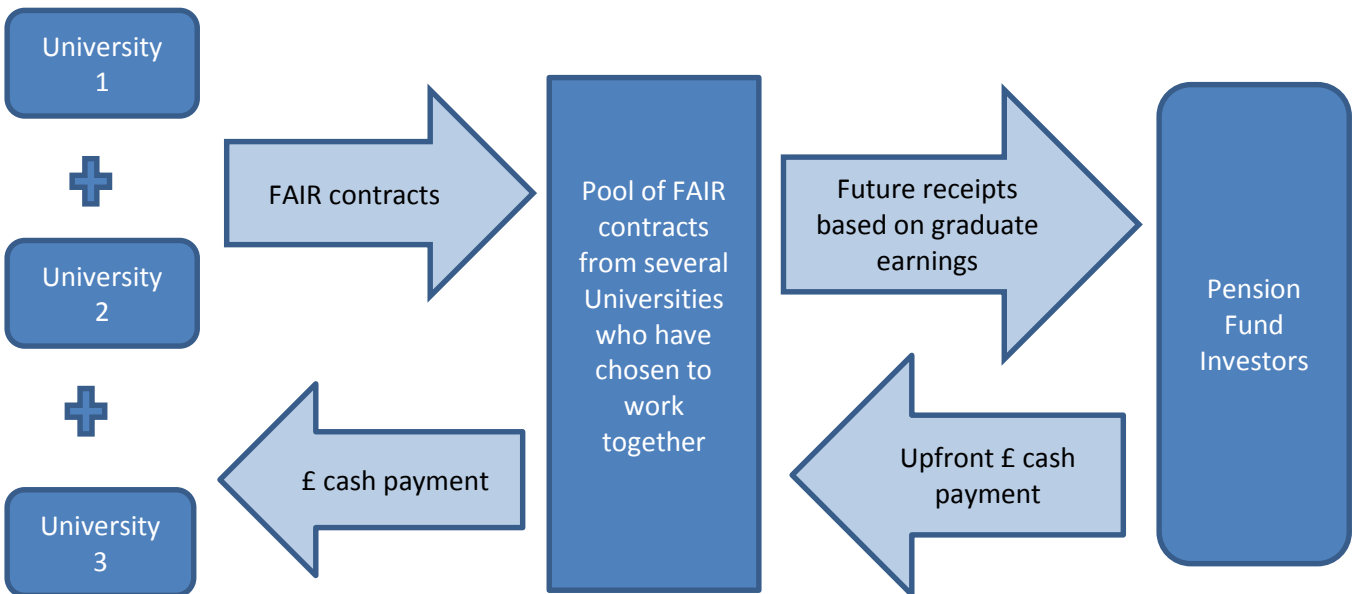
The following diagrams are designed to illustrating the workings of FAIR:

Figure 7: The process at the point of accepting a place



This diagram shows how a student has the option to “pay” their University fees by entering into a FAIR contract with their University. The Government writes the FAIR contract so that it is standardized nationally and Universities are not subject to financial regulation.

Figure 8 : How Universities raise cash upon receipt of FAIR contracts



This diagram shows how Universities can sell their FAIR contracts, and the future earnings that are due on them, to pension investors in exchange for cash up front. Universities may decide to pool their contracts with other Universities to produce more diversified pools of assets that should attract better prices. Investors take the risk that graduates earnings are not as high as anticipated.

Figure 9: Post graduation repayment



This diagram shows what happens after graduation when graduates start earning. If the University sold their FAIR contract when the student started their studies then at this stage the University simply passes the money received from the student directly to the pension investors. If the University pooled its FAIR contracts with other Universities it would probably be arranged so that the Pool (a special purpose company) would take over the job of collecting the payments from graduates and paying them over to investors.

REPAYMENT TERMS

As explained above the key terms of the FAIR contract are that the graduate must pay X% of their income for Y number of years that they are in employment. The Government would set X and Y and they would be constant for all students. Here we assess what values of X and Y might be required to raise sufficient finance for the Universities to operate efficiently and able to meet international competition.

Comparison with Government's Income Contingent Loan Scheme

First we will analyse the FAIR scheme by comparison with the current loan scheme. To simplify the calculations, we shall take Y, the number of years, to be 20. Preliminary calculations have suggested that this is adequate to ensure satisfactory returns without the amounts to be paid becoming excessive. The Government's current income contingent scheme has a life of 30 years, so if one's earnings are inadequate one has to face the prospect of repaying student debt well into middle age. A 20 year horizon has the advantage that a young graduate who enters the workforce soon after leaving university knows that their liability will expire in their early 40's, freeing up income to support a family or to prepare for retirement. It also means the scheme can readily accommodate mature students as even a 47 year old would potentially have 20 working years ahead of them before retirement.

The first calculation we do is to estimate the proportion of income that would need to be paid to raise as much revenue for the higher education sector as the current scheme. To do this, we make some simplifying assumptions:

1. We treat graduates as being evenly distributed between a defined set of eight income levels from £25,000 to £60,000 per annum at £5,000 intervals. We assume that any graduate has a stable level of income at the given level. In practice, over the 20 or 30 year

period, incomes will vary greatly, so each level should be considered to be an average over that period.

2. We assume RPI of 3%, but do not apply any inflation adjustment to earnings.
3. We assume a debt of 3 years at £9,000, a total of £27,000

Table 5 below shows our results.

Table 2: Income Contingent Loan Scheme Payments

Income	£25,000	£30,000	£35,000	£40,000	£45,000	£50,000	£55,000	£60,000
Years of payment	30	30	30	21	22	16	12	10
Annual payment	£360	£810	£1,260	£1,710	£2,160	£2,610	£3,060	£3,510
Total paid	£10,800	£24,300	£37,800	£35,910	£47,520	£41,760	£36,720	£35,100

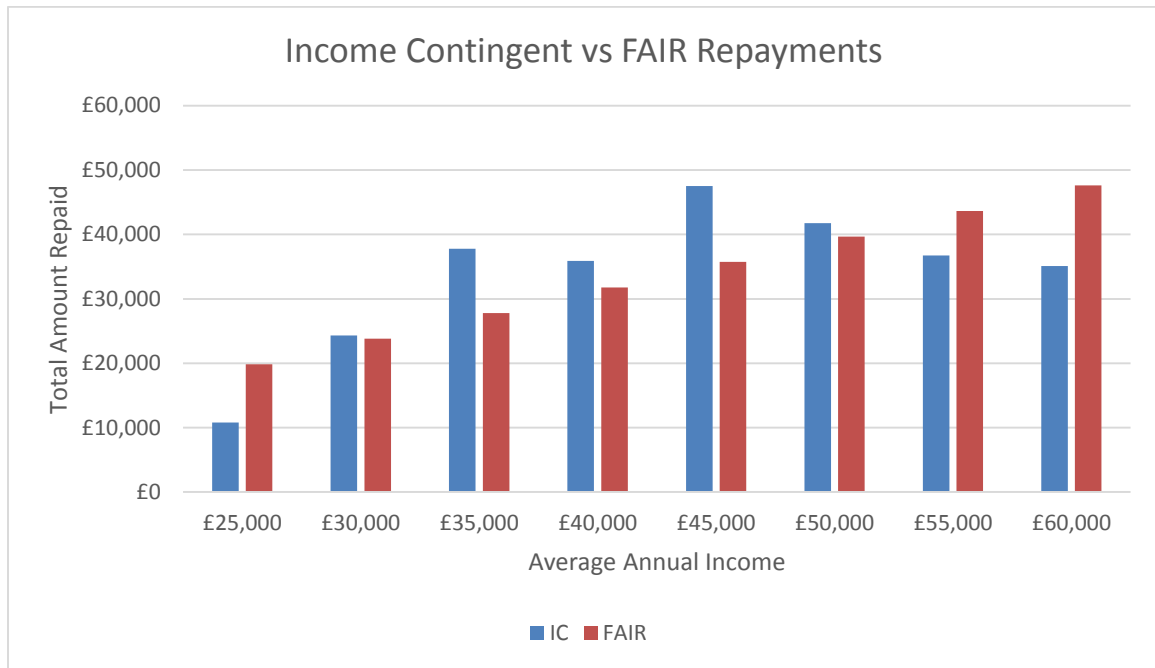
As discussed earlier, the effect of the premium rate of interest (RPI + 3%) charged on graduates earning over £41,000 is to penalize graduates earning at that level so that they pay a greater total amount than any other income group.

We find that the total revenue from these eight sample graduates under the Government Scheme is £269,910. This compares with an initial total cost of 8 x £27,000 or £216,000, the difference accounted for by the interest charged. To generate the same level of income from the FAIR scheme over 20 years X, the proportion of income that must be paid back, is 4%.

Given that the contractual nature of FAIR means that it should be more enforceable than the current loan-cum-tax scheme, and that losses on the current scheme are running at between 34% and 40% (<http://soa.li/md3s1DF>) it is possible that FAIR could match the government scheme at a rate of just 3%.

Applying, for now, a 4% annual charge to the same income bands and comparing with the figures above for the ICLS, gives us a comparison of the schemes as shown in figure 10 below:

Figure 10 - ICLS vs FAIR repayments



It can clearly be seen that FAIR is progressive across all incomes whereas the ICLS hits hardest at middle income levels.

FAIR proceeds based on national earnings data

Secondly we turn to the Office for National Statistics (ONS) for data on average earnings to assess what the FAIR parameters should be to meet anticipated expenses, as opposed to simply matching the government ICLS scheme. We experiment with X and Y set at 5% and 20 years.

In practice a graduate's income will fluctuate over time, but for this analysis we will consider the data by where in the income distribution a particular level of income sits. For example, for 30 to 39 year olds the 60th percentile earns £28,413 p.a. The data allows us to consider changes in earnings as the individual ages, but when considering the payments by income percentile we assume they remain at a given percentile point. In any case, our focus is on the aggregate to assess a suitable level for the FAIR parameters and at that level movement between percentiles has no impact.

Table 3 below is an extract from the ONS data set on earnings showing earnings by age group and by percentile. It is instructive first to look at the mean and median earnings figures for each age group. In all cases we see that the mean is substantially higher than the median, with an average premium of 22%. This is because, especially with the highest incomes, the extra amount earned for each percentile rises exponentially. The ramification of this is that the estimates of FAIR receipts shown below are underestimates.

Table 3: National Earnings Data

Age Group/Income Point	Median Income	Mean Income	10th Percentile	20th Percentile	30th Percentile	40th Percentile	60th Percentile	70th Percentile	80th Percentile	90th Percentile
22-29	£18,242	£20,012	£6,804	£11,174	£14,010	£16,177	£20,798	£23,842	£27,444	£32,800
30-39	£24,416	£29,271	£8,142	£13,520	£17,500	£20,868	£28,413	£32,822	£38,326	£48,448
40-49	£24,438	£31,328	£7,580	£12,541	£16,724	£20,397	£28,980	£34,336	£41,292	£54,533
50-59	£22,398	£28,874	£7,200	£11,765	£15,444	£18,863	£26,738	£31,918	£38,742	£50,244

To assess the potential FAIR proceeds at 5% over 20 years we made the following assumptions:

1. We ignored inflation as it is easiest to consider all figures in present day money terms.
2. We did not discount by a rate of interest. This is reasonable as earnings should grow faster than inflation.
3. We made our calculations for graduates leaving University at age 22 and constantly in employment. This means they would be repaying their FAIR contracts for 8 years in the 22-29 age band, 10 years in the 30-39 year age band, and 2 years in the 40-49 age band. This should not bias the results as the FAIR obligation only arises for years in employment and applies for 20 years in employment, so years out of the workforce have little impact on the calculation.

Table 4 below, on the row entitled "Sum" shows the FAIR proceeds by percentile. Averaging the 30th to 90th percentile, on the assumption that not all graduates will have above average earnings, but that will be the case in general, delivers proceeds of £27,807. Taking account of the premium of average over median earnings of 22%, proceeds could be as high as £34,000, easily enough to cover fees, and more, at the average University.

Table 4 - FAIR returns at 5%

Age Group/Income Point Years	Mean	10th Percentile	20th Percentile	30th Percentile	40th Percentile	60th Percentile	70th Percentile	80th Percentile	90th Percentile
22-29	8	£8,005	£2,722	£4,470	£5,604	£6,471	£8,319	£9,537	£13,120
30-39	10	£14,636	£4,071	£6,760	£8,750	£10,434	£14,207	£16,411	£24,224
40-49	2	£3,133	£758	£1,254	£1,672	£2,040	£2,898	£3,434	£5,453
Sum			£7,551	£12,484	£16,026	£18,945	£25,424	£29,381	£42,797
Average 30 to 90									£27,807

Source: Office for National Statistics 2011 Annual Survey of Hours and Earnings (SOC 2000) Table 6.7a Gross Annual pay
<<http://bit.ly/UJpmiP>>

In neither case have we made any allowances for default or extended unemployment. However, in all cases FAIR will perform better than the Government's scheme because it would be enforceable when graduates work abroad, which the Government's scheme is not, and it does not create incentives to avoid working which the Government scheme does. On a comparative basis then, it is fair to assume that FAIR parameters of 5% of earnings over 20 years of work would return at least as much income for the higher education sector as the Government's current Income Contingent Loan Scheme, and in all likelihood significantly more.

It can be concluded that an obligation to pay 5% of a graduates income over 20 years that they are in work should provide sufficient income to more than replace the current £9,000 per annum loan scheme.

SPECIFIC FEATURES

The FAIR scheme has a number of specific features which need explanation:

REGISTERED INSTITUTIONS

It would be advantageous to allow new entrants into the higher education sector to expand the range of courses on offer and encourage competition. Since FAIR, although a regulated contract, allows Universities to raise funds independent of the government, if an institution is economically viable on FAIR receipts alone, it should not need government approval to operate. The fact that it will only be viable if it is supplying an education that has economic value to the students and investors means that viability and educational added-value go hand in hand.

FAIR could make it viable, for example, for a foreign University such as Harvard to set up in the UK. Since they would only need to persuade students and investors, and not the government, of the value of their venture, the barrier to entry is significantly lowered. Although a share of the profits would return to the US, the employment and most of the income attributable to such a venture would remain in the UK. Facilitating the foundation of branches of prestigious foreign Universities in the UK would have the potential to make the UK an “Education Cluster” and the leading global destination for undergraduate education.

However, any course offered, to qualify for the FAIR scheme, must be approved as being of first degree standard.

ALL COURSES

Subject to the course being approved as of first degree standard it would be up to the University to decide what range of subjects in which to offer courses, how long any course should take to complete, whether the student must take up residence close to the University and the extent to which teaching is by lecture or tutorial, in person or online.

Essentially FAIR encourages the University to consider the cost of any course in relation to its value. If two-on one tutorials at Oxbridge add significant value then it will make sense to continue offering them. The advantage of the FAIR approach is that it is the University, the entity which makes the decision about how and what to teach, that takes the risk that their methods may not work, and not the student, their customer. That is surely how it should be. Of course, this risk is not just a risk of loss – if they do a good job they will earn additional income and be able to expand. This is far preferable to the present system where the student takes all the risk that the University to which they have paid £27,000 is competent, and good Universities have no means to raise additional income to grow other than through the recruitment of overseas students.

STUDENT AGES

As the University, not the government, takes the risk that a student may not repay enough to cover the cost of their course, it can be left to the Universities to decide what age applicants to

accept. As FAIR only requires 20 years in work for repayment even a graduate of 47 would be in a position to repay in full. Given that older students typically earn more and may learn quicker due to greater life experience, some Universities may decide to offer quicker, less expensive courses to mature students who are even closer to retirement age.

APPLICABLE EARNINGS

To avoid the incentive that arises out of different rates of tax being charged on different types of income it is proposed that the FAIR charge apply to all forms of income – earned, unearned and realised capital gains. As the rate of FAIR charge is low and known at time of taking out the contract it is hard to see how a graduate could argue there is anything unfair about the charge being levied regardless of the characterisation of income.

TIME LIMIT

The number of years that FAIR repayments must be made refers to years in employment. Years of part-time employment may count as part years. This means that graduates can take sabbaticals – to travel or raise a family, perhaps - with no worry of a debt growing in the background. To maintain the “needs blind” appeal of FAIR it is important that those who, for whatever reason, choose to take long career breaks, are as likely as all others to make a full contribution.

FOREIGNERS

As the FAIR contract is a private sector contract under English Law it will be enforceable in most countries of the world. Not only does this improve the financial returns of FAIR as graduates who emigrate will still make a contribution, whereas the Government’s loan scheme is not enforceable abroad, it also means there is no reason not to include foreigners in the FAIR scheme. Hence our Universities could offer their services to the best and brightest around the world regardless of the ability of the foreign student to pay tuition fees. This internationalization of our higher education sector would support the growth of the sector and expand its contribution to national wealth and income.

TAX FREE

The 5% charge should be tax deductible in exactly the same way that current loan repayments are. The UK government could, of course, only offer this to graduates who work in the UK and so pay UK tax. However, this has a favourable consequence as it in effect lowers the tax rate by international comparison for graduates of English Universities and so encourages them to contribute to the UK economy whereas the ICLS scheme creates incentives to emigrate.

MAINTENANCE

The discussion has so far focused on tuition fees as it is they which have recently been increased so dramatically. However, a student also has to cover living costs. To the extent that living costs are no different to what they would incur if they did not attend University it is hard to argue such costs should be incorporated in the FAIR scheme. There is no “investment” aspect to paying basic living costs. However, where a University requires that the student stay in residence at or close to the University it is likely that the student will incur unavoidable costs – rent, for example – that they would not face if they had not attended University. Such integral costs are clearly part of the whole investment that the student is making and should, therefore, be provided for no upfront

charge by the University, to be recovered by the University out of the FAIR proceeds. Given the earlier analysis which indicated that a 5% contribution over 20 years could return an average of £34,000 there is clearly capacity for the FAIR scheme to cover what might be termed “unavoidable, essential incremental living costs”.

FINANCIAL REGULATION

Under FAIR the Universities are acting as financial intermediaries, exchanging a service for a financial contract. It would be burdensome and risky if they had to register with the FCA (Financial Conduct Authority) and comply with its rules. It is also unnecessary as the FAIR contract is written by Government and the Universities have no control over its terms. Consequently, the Government, in its implementation of FAIR, should provide an exemption from financial regulation for Universities operating the FAIR scheme and should indemnify them against any claim by students that the terms of the FAIR contract are unfair or that they were mis-sold.

IMPLEMENTATION

The standard tuition fee charge and loan scheme should be scrapped immediately. It is inefficient and unjust and its continuation serves no useful purpose. All Universities would be obliged to accept a FAIR contract in payment for the tuition necessary to achieve a first degree at the given institution, including some provision, where applicable, for living costs that are unavoidable as a consequence of attending that institution.

All students and graduates currently enrolled in the income contingent loan scheme would have the option to switch to a FAIR contract. The percentage of income to be paid and the number of years of payment would be adjusted to take account of the level of debt outstanding by comparison with the average debt of a new student. For example, if a graduate has £13,500 debt outstanding, as that is half the £27,000 a new student might face, their FAIR terms would be halved to, say, 2 ½% over 20 years or 5% over 10.

However, while the above discussion suggested that each University would then be free to borrow against future expected proceeds, or to sell the FAIR contracts to investors, that is a long term goal and not an efficient initial step. To begin with the appropriate amount to pay for the FAIR contracts of a given University will be highly uncertain. While potentially a very attractive asset for pension funds, its novelty will attract a discount to fair value due to the uncertainty surrounding the future returns. To address this start up issue and obtain the best returns for the higher education sector, in the first few years the FAIR contracts of all Universities should be pooled, with the proceeds shared between them according to their historic fee levels. Over time, as Universities are able to demonstrate to investors that they are doing a good job of supporting their graduates into and through the world of work, they may, individually or in groups, break out and stand apart from the national scheme.

To encourage improved performance by Universities in the meantime, it should be possible to pay bonuses to those Universities whose graduates exhibit evidence that they have been well educated, while in the near term protecting those institutions whose graduates are less successful.

This would mean that those institutions that were adding sufficient value to earn more from FAIR than the current standard tuition fee rate provided for would be free to use the additional income to enhance their teaching provision and international competitiveness, while those that were adding insufficient value would have sufficient time to adjust their programmes to improve their value add and earn sufficient income for them to thrive.

As the pool of FAIR contracts would be immediately marketable to private investors, the government's funding burden will fall, and it will be possible to remove the restrictions on student numbers that currently hamper the growth of the sector.

PRECEDENTS

There are several private sector companies which have been identified as creating useful precedents for the FAIR scheme.

CareerConcept AG, a German Company which was set up in 2002 has, as of 31.10.2009, offered equity-style (wholly income dependent) educational finance to German undergraduate students studying in 20 countries, attending over 300 Universities, generating returns of EUR 2.8 million. The financing has been raised mainly by means of closed ended funds sold to private individuals. CareerConcept agree student-specific fees as a percentage of their monthly gross income, normally between 4% and 10% over 4-8 years. They claim to have a greater demand for provision of funds than they are able to meet.

Prodigy Finance is a U.K. company, founded in 2006, which is in the business of providing funding for MBA studies. Although Prodigy offers loan based finance it offers useful legal and operational precedents. It has created a contract that is enforceable in over 100 countries, has set up a global payments network, has developed means of using social media to track graduates and maintain compliance with debt obligations and has sold pooled debt securities in the financial markets.

In the United States, as reported in the Economist (15th June 2013, "Crowdfunding Students – Start Me Up") two new firms, Pave and Upstart, have recently launched to provide equity based (proportion of income) finance to students

The United States also illustrates the problems that arise when Universities are free to set their own fee levels with no reference to the value of their courses in terms of future earnings power. In summer 2010, the Obama Administration proposed restricting - and in extreme cases, cutting off entirely - programs whose graduates end up with the highest debts relative to their salaries and have the most trouble repaying their student loans.ⁱⁱⁱ It is unfortunate that the UK is following the US down the road of ever higher tuition fees not linked to earnings power just at the time when the US is questioning such an approach.

FAIRNESS

The FAIR scheme is explicitly designed to be fair to all students by relating payment to income with a simple formula so that tuition fees are affordable for all.

In particular, it is hoped that the FAIR scheme will facilitate and encourage participation in higher education by those from less wealthy backgrounds, since their repayment obligation will be small if they are unable to achieve high earnings on graduation. It is surely “fair” that as wide a cross-section of society as possible has access to a University education.

CROSS-SUBSIDY?

More of the charges of “unfairness” are likely to be made in response to the fact that, under an equity style scheme, high earning graduates will pay back a larger sum of money than lower earning graduates.

There are two ways to look at this charge of “unfairness”; according to economic theory and by reference to popular perception.

Economic Theory of cross-subsidy

The economic test of fairness where one person pays more than another for a service considers whether or not one is subsidising the other. Just because one person is paying more than the other does not mean there is a cross subsidy.

To determine whether or not there is a cross-subsidy one considers whether or not the person paying the higher amount would be better off if the service was not offered to the person paying the lower amount at the price the latter pays.

Let’s consider an airline and the situation of the first class passenger who pays a multiple of what the economy passenger pays. If the first class passenger objected to sharing the plane with economy fliers, the test is whether or not, in that circumstance, they would have to pay more or less. Now, it is true that each economy passenger adds cost to the airline for that journey as the heavier the plane the more fuel needed, and additional staff are required the more passengers there are. But beyond those two factors, the cost of flying a given plane is fixed. So long as economy passengers more than cover the cost of fuel and (between them) additional staff, the airline is able to reduce the cost of first class tickets.

These principles are set out in Faulhaber, 1972 and 1975^{iv} as follows:

“A cross-subsidy is said to exist if a group of consumers would be better off seeking alternative provision. More specifically, a group cross-subsidizes all other consumers if it faces prices which exceed the costs to the group of going it alone, that is if it pays more than its standalone costs. If one group is cross-subsidizing, presumably another is being cross-subsidized. Consumers are identified as cross-subsidized if they do not cover their incremental costs, that is the costs of provision that arise solely and only due to their own consumption (a concept essentially the same as the economist’s marginal cost).”

When applying our analysis to a University Education, the question we ask is: Would a graduate who ends up, under FAIR, paying back a large multiple of what is paid by another graduate who attended the same institution, be cross subsidising them and so being treated unfairly?

The tests we apply are: (i) is the high payer paying more than if they were the University's only customer and (ii) is the low payer paying less than the marginal cost of their education.

Regarding the first test, under a FAIR contract, if a graduate earned millions they would still pay at (say) 5%. In an extreme case a graduate could, perhaps, earn as much as £100 million over a 20 year period. They would then pay £5 million for their education.

While that would be a very large multiple of what a lower earning graduate might pay, it is nowhere near enough to fund a University. So even this very high payer is paying less than it would cost if they were the only student at the University. Note that the test is not: "Could the high payer get the same education in another way" – perhaps with private tuition. If that is the case they are free to take that route. But if they choose to attend a University, it is the costs of that University that are relevant. In addition, attending University on one's own would be a much diminished experience. One needs peers to debate with and learn from, to play sport with and to romance. Even if the other students paid nothing, the high payer would probably still prefer to have them share the experience than to be alone.

The other test is whether or not the low earning graduate pays more than the marginal cost of their education. While the marginal cost is likely to be low – certainly one more student at a lecture is probably costless – it is unlikely to be zero. Any marking or feedback takes the time of the teaching staff which is not costless, and to the extent that FAIR covers maintenance costs such as rent these will represent incremental outlays by the University on behalf of the student. Given that it is theoretically possible for a graduate to earn nothing over their lifetime, there will be students who pay less than their marginal cost and, in pure economic terms, they will be subsidised by other students.

However, with any scheme whereby students pay for their education after they have received it, including the present scheme in the UK, or a graduate tax, some students may never pay anything back and will be subsidised, so this is not a feature that is specific to FAIR.

What is true is that Universities have large fixed costs and consequently the marginal cost of taking on an additional student will be low by comparison with the average per student income they require to continue to prosper. The implication is that, excluding the extreme case where a graduate has no earnings at all, it is likely that the vast majority of graduates will cover their marginal costs.

Consequently, the tests for existence of a cross-subsidy fail and the FAIR scheme is, in economic terms "fair".

Popular Perception

Regardless of what theory says, there is a natural feeling that if two people receive the same service and one pays much more than the other, it is not "fair".

In relation to this it is important to remember that the FAIR contract is optional, not compulsory. At the point of joining a University a student can, if they wish, pay the University's (unregulated) upfront tuition fee. If the student cannot pay from their own resources, yet is certain that they will be a very high earner and so will have to pay back

much more under FAIR, they may be able to raise the fees from a third party. For example, in Europe Prodigy Finance provide loan funds for MBA students while in the US Pave and Upstart^v are providing funding where repayments are based on income. Upstart caps the total amount to be repaid at five times the amount of funds provided. Of course, as the cap reduces the potential return to investors the percentage charge will be higher without the cap. But that is a choice that the student is free to make.

The decision by a student to take out a FAIR contract is like that of an entrepreneur selling a share in a start-up company. It's a free choice and the deal is done because, although it is possible that a large amount of money may in due course be given away, the entrepreneur enters into the transaction because they believe that if they do not the company will not grow as fast or at all and so they still benefit from a much bigger cake even if their share of the cake is smaller. The rationale behind equity finance is that nobody really knows what the earnings of the business might be, so debt finance is too risky. It is the same with students. If they really know they will make millions, they should pay the tuition fees upfront. If they don't really know that they will make a fortune, but simply are optimistic as an entrepreneur, it makes sense for them to offer to the University a share in their potential success in exchange for the University investing its time and expertise in them.

When a small company grows and makes its investors rich it is not usually argued that this is unfair on the founders as it is recognised that they had a free choice to take outside investment and must have concluded that they were better off with it. On the same basis, as FAIR is optional, it is hard to see how it can be argued that having to pay back a large sum to the University that the student chose to attend on the grounds that it would help them on the path to success, can be considered unfair.

The resentment that might be felt by some high earning graduates can be addressed by recognising their payments as benefactors. It is likely that many of the high earners are competitive types and the recognition of their earnings success by comparison with their peers will be valuable compensation.

It is also the case that FAIR is not punitive towards high earners in the way that the tax system is. Although they have an obligation to pay a higher nominal amount than low earners, the percentage they pay will be the same and, as a proportion of disposable income, the amount they pay will likely be lower.

BUYOUT

In the initial years of operation it is not envisaged that it would be possible to permit graduates who have signed up to the FAIR scheme, to buy themselves out of future obligations. The FAIR program operates like a private sector tax and it is not possible to buy ones way out of future tax obligations. If a graduate was keen to neutralize their future obligations with a capital payment they could, of course, behave like an investor and buy the appropriate security in the marketplace. If their earnings are in line with the average, apart from costs, owning the FAIR asset will be a perfect hedge for their liabilities. Once FAIR has been in operation for a number of years it may be possible to allow early exits at a premium, subject to it being possible to model the consequences of so allowing in such a way that the attractiveness of the asset to investors is not materially prejudiced.

NIL HURDLE REPAYMENT

The impact of the FAIR scheme on very low earning graduates does not follow the approach of most tax systems. The X% is a flat non-varying rate payable on total earnings, not on an excess over some figure. A graduate in employment would be liable for X% on their whole income. If the Government felt that graduates on very low incomes should be relieved of the burden of paying such a fee, it would be free to bear that cost itself. It could, for example, take into account FAIR repayments when calculating any working tax credits due. The principle is well established in relation to rental costs. Landlords are not expected to allow low income tenants to use their properties rent free, rents are set at market level and the state bears a proportion of the cost through housing benefit payments.

This flat, non-varying, approach is preferred because at the point of the parties (the student and the University) entering into the contract future values of inflation are not known so appropriate hurdles at which the rate might change cannot be set. Also, the FAIR scheme is designed to facilitate the growth of demand for a UK university education from non-EU nationals and setting globally appropriate hurdles would be impractical.

The contract could be written so that hurdles were related to future experienced inflation. But this would mean that investor returns and graduate costs would be subject to the relationship between the measure of inflation chosen and graduate earnings growth. This adds a level of complexity which would diminish the appeal of the FAIR asset to both students and the investor community.

If hurdles were related to future income tax bands it would mean that investor returns would be subject to government whim, which would be an unacceptable risk and the FAIR contracts would likely be unmarketable. Whenever hurdles are applied there is also a poverty trap effect, whereby earning more leaves one only marginally better off, or worse off. By eliminating the hurdle this problem is avoided.

The fact that avoiding working does not reduce the obligation to pay for a given number of years also has a positive incentive effect, discouraging intentional absence from the workplace. It is also fair between graduates who wish to take time out to, for example, bring up a family and those who do not. The obligation to pay for Y years survives that period. If Y is 20 years, given a working lifetime of approximately 45 years, there is sufficient time to bring up a family and also repay the FAIR obligation in full.

Although the effect of the life of the FAIR liability being 20 tax-paying years is that, for some, the liability will exist until retirement, in many cases that will be the individual's choice. Where, perhaps due to ill health, a delay in payment is not a free choice, a political decision could be made to compensate such unfortunates for their liability, in exactly the same way that the state pays other private sector costs, such as rent, for selected groups.

A charge of just 5% on earnings has the potential to replace the £27,000 tuition fee and some maintenance expense, while being unlikely to be regarded as an onerous obligation on the low paid or an unfair obligation on the highly paid.

PRICING STRATEGY

The debate between different possible schemes by which tuition fees may be paid often hinges on the fairness or otherwise of students paying “more” or “less” than their education “cost”.

This line of argument assumes that: (i) the “cost” of providing an education can be correctly measured and (ii) that it is appropriate for education to be priced on a “cost-plus” basis.

Given that higher education is a service business with high fixed costs and low marginal costs it is questionable whether either of these assumptions hold.

The true “cost” to any business of a given customer is the incremental staff and resources it needs to provide its service to that customer. Its fixed costs are – by definition – fixed. They cannot be attributed to any given customer; they exist because without them the business would not. There is no doubt that the incremental cost to a university of any one student is very small and, furthermore, quite immeasurable at the outset as some students will require a large amount of academic and/or pastoral support and others will not.

To explain the second point, it may be useful to consider the airline business which also offers a service that faces very high fixed costs and low marginal costs. Rather than charge on a cost-plus basis airlines segment the market of potential customers according to a number of dimensions to deliver essentially the same product – getting the customer from A to B – but for a very wide range of different prices. The segmentation is designed to categorise customers according to the benefit they receive. The airline is aiming to cover its overall costs with money to spare for future investment, and to reach that objective the airline industry has established that it is most efficient to charge each customer according to the value that customer attributes to the service provided.

Nobody questions the “fairness” of customers who book at the last minute paying more than those who book in advance – with both flying economy class. It is accepted that the person who booked at the last minute simply places a higher value on being able to fly at short notice and it is their free choice to pay the greater amount rather than waiting.

Hence the fact is that the cost of provision of a service is not an appropriate guide to a fair price – it is the benefit to the customer that is the relevant metric.

Nevertheless, and consistent with the “freedom” policy objective of the coalition government, students should be allowed to pay an amount of money at the start of their studies as an alternative to joining the FAIR scheme. To compute the charge for being excused from participation in FAIR the Universities should base their calculations on the benefit that a student will gain from avoiding the FAIR obligation.

Let us assume that the University needs to receive £30,000 per student to cover its average costs (not the cost for an additional student) and invest for the future. The estimate of the present value of the average student’s income over the period that FAIR would be charged is £600,000. If all students participated in FAIR, a charge of 5% would provide the required income. However, we estimate that 10% of students will choose to buy themselves out of FAIR by paying upfront. Based on survey data and experience of current students paying tuition fees up front we estimate that such students are likely to be well above average earners with relevant expected earnings of £1m.

That means that the other 90% of students must have average expected earnings of £550,000k. To generate the same income as when there is 100% participation in FAIR, the fee payable by the high earners to avoid FAIR should therefore be £52,500.

While the numbers above are very artificial, the example demonstrates that it is possible for the University to set the alternative upfront fee at a level that accounts for the risk that future high earners may be over-represented among those students willing and able to pay the upfront fee, and at a level that is proportionate to the benefit that the pre-payers will get from their education.

SUBJECT EFFECTS

It may seem that the FAIR scheme would encourage Universities to focus on teaching only those subjects that result in students achieving high earnings. Clearly one intent of the scheme is to encourage the expansion of courses that add value and contraction of those that detract value, but this will not mean that all universities will just teach, say, law and medicine.

The reason why this will not be the effect is simply that the future is unknown and the world changes. High earnings careers may not be so in the future – especially if there is an oversupply of new graduates of a particular discipline. It is also not true that purely academic subjects are better or worse in terms of earnings potential nor that more practical courses are necessarily better or worse. Some graduates with esoteric degrees do very well in the world of work, as do some with purely technical skills, and some of both do poorly. It may be that the course is not as relevant as the ability of the student to learn and communicate and these skills might become an essential element of all degrees. But this paper is emphatically not designed to tell Universities how to do their job. Its purpose is to set them free to experiment so that the whole sector learns and can advance. In practice, a varied market is likely to develop, with different institutions offering different courses, some will specialize, some will diversify, some will emphasise academic subjects, some technical.

FAIR facilitates such experimentation, though if it is the case that the future earnings of a Universities graduates did not justify their average cost per student they would need to find strategies to raise those future earnings or reduce their costs.

IMPACT ON DONATIONS

Earlier it was suggested that Universities could address the resentment that may be felt by some high earning graduates by recognising their contribution as though they were benefactors. If Universities, for example, provided different levels of recognition to the top 10%, 1% and 0.1% of payers it is not unimaginable that some graduates will overpay in order to be recognised among a higher earning group.

Indeed, many Universities already recognise benefactors in this way, so the principle is already accepted and operational. Assuming the repayments under the scheme do not continue too late into a working life it is possible that there will be no detrimental impact on gifted donations as they will typically be made later in a working life. It is also possible the number of benefactors will increase as graduates will acquire the habit of putting money aside for their University and will have seen the recognition benefits of so doing.

A prominent American financier commented that the FAIR Scheme was, in effect, aiming to create, by compulsion, the American model where higher earning graduates are voluntary benefactors. This may be a better way to present the high payments by higher earners than as them paying more than their education cost – they are giving back in recognition of the benefit they gained, as is common in America. Longer term it is to be hoped that habit learned by compulsion will continue voluntarily and tuition costs will be able to fall as endowments grow.

FAIR VS GRADUATE TAX

The idea that graduates should pay X% of their income for Y years is, in principle, a graduate tax. However, there are important differences when the transaction is a private contract between parties freely entering into the contract of their own choice as opposed to a government levied tax. The consequence of a private arrangement is that it has many positive and essential characteristics which a graduate tax is unable to offer:

1. The terms of a private contract are known by the student at the point of entering into the contract and cannot be varied unilaterally by the lender.
 - a. In contrast, there can be no confidence that a tax will stay at a given level. Parliamentary sovereignty means that one Government cannot tie the hands of a future Government. The implication is that, with a graduate tax, a student is exposing themselves to an uncertain future obligation, which will discourage participation.
2. The value of the contract can accrue directly to the University that the student attends.
 - a. A graduate tax system leaves Universities subject to government whim about the level and distribution of funding.
3. As the present value of the University's receipts on the FAIR assets are tied to market expectations of that University's graduates' future earnings, there is direct alignment between the University's revenues and the economic benefit that students gain from attendance.
 - a. With a graduate tax the University's revenue is not directly related to the value it adds to its students careers.
4. A private contract will be enforceable in most jurisdictions.
 - a. A UK tax will garner little revenue from non-UK students and will create an incentive for graduates to leave the UK, reducing the government's graduate and normal tax receipts.
5. As FAIR assets will be tradable a graduate can hedge their future liabilities by purchasing FAIR assets in proportion to the multiple of their expected income relative to the average, adjusted for tax.
 - a. It is not possible to hedge or otherwise avoid future tax obligations.
6. FAIR creates a new supply of private investment flows into the higher education sector, reducing the level of government funding required.

- a. A graduate tax worsens the government’s financial position in the short term, and it faces the risk that the long term take from the tax may not compensate it for the initial costs.
7. The FAIR contract can be made optional, with the alternative to pay an “upfront additional” tuition fee directly, consistent with the political objective of “freedom”.
 - a. It is hard to see how it would be politically feasible to allow certain graduates to buy their way out of a future tax liability, making a graduate tax inconsistent with “freedom”.
 8. The FAIR system would itself represent exportable expertise which could generate foreign earnings.
 - a. A graduate tax would not create any marketable expertise.

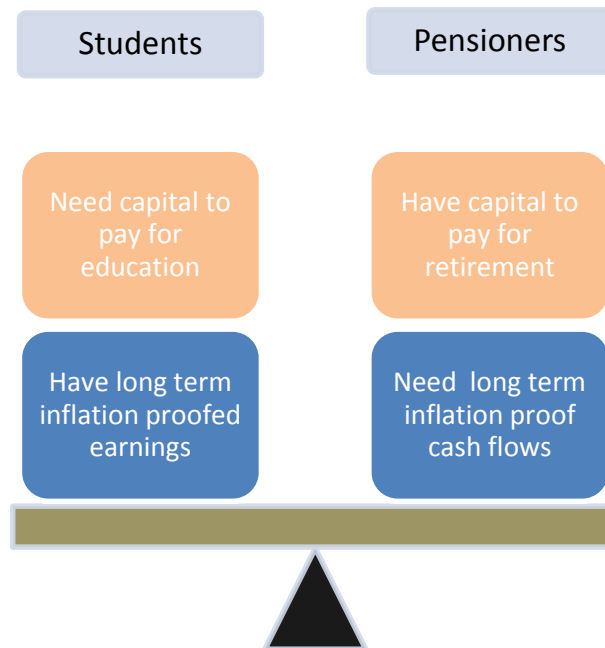
Consequently, FAIR has the positive attributes of a graduate tax, matching graduate payments to the benefit gained from education, while eliminating the arbitrariness that flows from government involvement. From the government’s point of view, FAIR also means the financing of higher education has the potential to move off its balance sheet altogether.

In response to the suggestion that a Graduate Tax is “unfair” because there is no cap on what a high earner might pay, some proposals suggest that “repayments” under a Graduate Tax should be capped. Such a scheme has the same effect as an Income Contingent Debt scheme (see Chart 3, above) in terms of creating some point in the middle income spectrum where the proportion of income demanded for repayment is at its highest. Given that the exact level of income at which the impact will be greatest is highly arbitrary, it is hard to see how a Capped Graduate Tax scheme can meet a “fairness” test. In addition, such a scheme is less economically efficient since it sacrifices revenue from those most able to pay.

INVESTMENT DEMAND

At the point of applying for University students are cash poor but have the potential for many years of strong inflation proof cash flows (earnings). At the point of retirement pensioners (excluding those who rely wholly on the state) are cash rich but in need of many years of inflation proof cash flows. Their positions offset each other perfectly and a market that facilitates transactions between the two parties should be economically efficient. This is illustrated in the diagram below:

Figure 11: Intergenerational Transfer



Pensioners, either as individuals or in the form of pension funds or insurance companies, typically seek to meet their long term inflation proof income needs with a balance of debt investments to provide high levels of nominal cash flow and equities for long term growth to provide protection against inflation. However, the poor long term performance of equities over the last decade has driven strong demand for inflation proof cash generating assets, such as index-linked gilts.

Assuming GDP per head growth continues earnings growth will exceed inflation; in which case an asset that generates reliable cash flows that grow with earnings should see significant demand from pension investors. Index linked gilts currently have negative yields so FAIR assets could trade at zero or negative yields given the repayments would be indexed to earnings rather than inflation.

Preliminary discussions with a number of financial intermediaries suggest a range of sources of demand for FAIR assets.

Pension funds, both in the UK and abroad, especially public or quasi-public sector schemes, were identified as a key source of demand. It was suggested that investing in FAIR assets would help pension funds to satisfy their “Socially Responsible Investing” obligations. For such schemes a total issuance of around £7.5bn of FAIR issues – assuming a quarter of a million students at approximately £30,000 per student - would be easily absorbed.

Mutual funds seeking to generate low risk high income returns, typically for pension related investors, would benefit from a new asset class that offered stable cash flows relatively uncorrelated to equity or bond market prices. A mutual fund could be offered by National Savings, possibly tied to the earnings of all students, so creating a national public scheme for intergenerational capital & income transfers.

University endowment plans currently invest in debt securities which are a poorer match for their salary linked liabilities than FAIR assets on which the returns would grow with the earnings of

cohorts of graduates. A given University's plan could choose to buy FAIR assets tied to the earnings of its own graduates to benefit from its success or it could reduce its risk by diversifying across the Universities sector as a whole.

Alumni at or close to retirement could well be an enthusiastic purchaser of a given University's FAIR assets. The positive association many alumni have with their University will raise the valuation of the FAIR assets.

The government could support selected institutions by purchasing their FAIR asset issues, using the assets as a hedge against its own pension liabilities.

The fact that FAIR assets will be pooled and securitised is not expected to have an impact on demand for them. Securitisation remains an attractive investment proposition so long as the underlying assets are of good quality and their nature transparent.

Finally, while FAIR assets, in effect "human equity", would generally be considered a wholly new asset class in current financial practice, they are not without precedent as CareerConcept is lending to students on an equity basis and financing itself in the market. The CareerConcept scheme is different in that, as it is not government ordained, it offers terms that differ by student, but its success supports the contention that there would be substantial investor demand for this new asset class.

The valuation of FAIR assets, in the first instance, has some similarity to the valuation of an equity investment in a new company, which is familiar territory for many investors. In the same way that new valuation approaches get developed for new business models (e.g. dot.com, green energy, bio-tech), so new analytical techniques will need to be developed in relation to FAIR assets for a wide universe of investors to be comfortable with their return characteristics and valuation. Taking a big picture view, for all graduates in one year, UK GNP should be a good proxy for their aggregate earnings. Consequently, simulations of possible UK GNP outcomes over 20 year time periods should be the basis for valuing FAIR assets as a whole. As mean GNP growth over 20 year intervals is high relative to the volatility of GNP around the mean (in booms and recessions) the expected returns to FAIR assets, in aggregate, should be quite stable. This means that a straightforward discounted cash flow methodology, less an adjustment for administration cost and defaults, should be a good estimate of how the market would price FAIR assets.

FAIR assets, generating earnings linked cash-flows, should be very attractive to pension investors seeking inflation proof income, subject to overcoming the lack of general precedent for this new asset class.

EXPORT POTENTIAL

It is recognised that higher education is a significant export earner for the United Kingdom and is an economic sector in which this country has a comparative advantage. It is also the case that the global demand for higher education is growing, while globalisation is encouraging more students to study abroad.

Rational students will compare the cost of a foreign education with the boost it will give to their likely future earnings. If the UK operates a scheme whereby the risk that their future earnings may

not meet their expectations is shared with investors it will lower the effective cost of a UK education and should lead to an expansion in the non-EU demand for higher education in the UK.

As the fees non-EU students pay are unregulated, it is possible that the FAIR scheme for non-EU students could operate with higher values of X and Y, and Universities would be free to create pools of non-EU FAIR assets separate to the EU FAIR assets.

There is a long tradition of Indian students attending British Universities and currently there are 34,000 Indians attending courses, an all time high. Non-EU FAIR assets could, for example, be pooled by nationality so creating an asset that should be attractive to pension funds in that country.

FAIR assets will represent an investment in human capital and could be considered human equity. They represent a wholly new asset class. Just as the UK invented the process of Privatisation in the 1980's and then was able to sell that expertise to the world, being the first to place a marketable value on human capital and developing the associated expertise will also be a marketable skill, supporting the continued leadership of the UK's financial services sector.

SOCIAL OBJECTIVES

Earlier we addressed the issue of the FAIR charge applying to gross income without a hurdle, explaining that the government could step in to mitigate the cost for low earners.

The government can also introduce specific subsidies to meet any other social objectives it has. For example, if the education of the elderly is a social priority, the government would simply agree to pay some amount where a University took them as a student. The University would then need less from the FAIR proceeds to compensate it for its efforts. If certain subjects are to be encouraged, the government would simply pay the University a sum for each student entered onto approved courses.

The FAIR scheme is designed to be fair and economically efficient. By removing the burden on government for the bulk of the cost of first degree education the government then has more resources free for explicitly meeting its social objectives.

POLITICS

For the coalition government to accept any new funding proposal it should be consistent with its stated principles of: "freedom, fairness and responsibility".

The FAIR scheme is consistent with freedom. On the one hand FAIR will make higher education less financially intimidating for students who are less confident of their future earnings potential, typically those from lower income backgrounds. Therefore FAIR extends the freedom to choose advancement through higher education to a wider section of society.

On the other hand, students who are confident of their (high) future earnings potential and who have the means, are free to opt out of FAIR by paying the alternative deregulated tuition fee.

Fairness has been discussed above and, while there are some issues in relation to the FAIR repayments being due on total gross earnings, it must surely be the case that a flat rate across the board is easier to defend as equitable than a system that charges middle earners the most.

FAIR is consistent with responsibility since students will be taking on a private contract from which they expect to benefit but for which they must, in due course, pay.

All loan based schemes are strongly objected to by the national student body. FAIR should address the students' legitimate concerns about taking on high levels of debt while, as a private sector scheme, addressing most of the Universities' justified concerns about a graduate tax.

Some commentators have expressed the view that there may be political implications of the potential for significant over-payment by wealthier graduates. This relies on the flawed "cost-plus" basis of pricing education and, in any case, the present perception will be that the most extreme earnings are likely to be made by high bonus earners in Banks and Hedge Funds. There is every likelihood that a greater burden on that community will be seen as a political positive.

ALIGNMENT OF INTERESTS

While a University education yields benefits for the individual that go beyond the purely economic it is difficult to design a scheme that will fairly capture those non-economic gains because they will vary between students in an unmeasurable way. Consequently, when considering the alignment of interests between students and universities it is necessary to focus on the purely economic.

Even that is problematic as the true economic gain to a student is their lifetime earnings as a graduate less their lifetime earnings had they not attended university, which cannot be known. However, their actual lifetime earnings should be a good proxy for this gain and a fee based on earnings therefore proportionate to the benefit gained.

With the FAIR assets being sold to investors with each new intake of undergraduates a given University (or group of universities should they choose to pool their students' FAIR contracts) will receive an income that is based on investors' views as to the present value of a stream of earnings related income from graduates of that university.

Not only will investors take account of the past history of earnings for graduates of that university, but they will also take account of the University's current plans and actions to make both new students and past graduates more financially successful. Since, in our example, FAIR assets have a life of 20 years, the University will therefore have an interest in the earnings of its students for 20 years after they graduate. To the extent that the University can help those graduates onto a higher earnings path, perhaps with refresher courses or careers advice, it will be reflected in investors' valuation models of new FAIR issues by that University and hence current receipts by that University.

This is exactly as is the case with companies seeking investor capital. The rating (e.g. the Price:Earnings ratio) assigned to a company's equity will be a function of its past record of achieving investment returns and the convincingness of its current plans for achieving future success. In the current age where intellectual capital is becoming increasingly important as the

key source of growth and competitive advantage, it is appropriate that universities, as “manufacturers” of intellectual capital, should be able to finance themselves in a manner analogous to that successfully used by conventional manufacturers.

Since FAIR receipts become a function of a University’s past success in adding economic value and its future plans there is a direct alignment between the economic interests of students and the University that they attend. This economic alignment is likely to be a far more powerful means of driving up standards and efficiency than targeted measures which may not align with students actual and ever changing needs, both while at and post University.

COMPETITION BETWEEN UNIVERSITIES AND VARIABLE FEES

The second Russell Group submission to the Browne Review suggested that it desired competition between Universities. The FAIR system allows such competition but offers students a flat charging scheme across all subjects and universities. Allowing explicit price competition without a common rate choice could be considered elitist and would have a number of adverse consequences.

FAIR would support “needs blind” admissions policies because the student’s present financial situation is irrelevant to the cost or benefit to the University of admitting that applicant. The incentive under FAIR is for the University to focus on students that are likely to be successful in the future, which potential will, in many cases, be uncorrelated with family wealth.

Allowing competition in tuition fees could severely damage the standing of the more prestigious and higher charging Universities. Talented students from less confident backgrounds will be more likely to prefer the lower tuition fees of less prestigious Universities than less talented students from wealthier backgrounds. Higher charging Universities would therefore suffer from a bias in their applications towards the less talented wealthy which would have a negative effect on the quality of the graduate output, in due course damaging their reputation. In the United States this is addressed by a comprehensive range of scholarships being made available to the talented students from less confident backgrounds. In the absence of such scholarships a scheme of high and variable tuition fees is problematic.

Instead of exclusively competing on price, FAIR encourages competition on value added. The fact that success in adding value will raise the “price” (in terms of FAIR receipts) received by the University means that price competition is delivered, but in a way which is equitable between students.

There are other problems with explicitly variable charges. There will be times when the costs of providing a given course are large relative to the expected earnings from graduates who read that subject. Whether such students are charged a fixed loan amount or equity based fee percentage, the payments will be prohibitively expensive. Setting a flat fee across all subjects should not be considered a cross-subsidy as that would only be true if the future earnings of all graduates, 20 years into the future, were known.

“FAILING” INSTITUTIONS

A number of Universities currently have high drop-out rates and they are considered by some to be “failing” and deserving of closure. However, high drop-out rates, from the point of view of the neutral observer, are not necessarily evidence of failure. This is because the current economic incentives structure dictates that Universities should seek to maximise the number of students *accepting places* at the institution, as opposed to the number *completing courses*, as that is how they are paid.

The incentive structure needs to change to reward Universities for the number of students completing courses rather than for the number accepting places. Although it is private investors, under FAIR, that take the risk that students may not complete courses and may have minimal earnings, to the extent that investors believe that a larger than average number of students at a given institution will not complete their course, they will reduce the amount of money they will pay for FAIR issues by that institution. Hence, Universities are incentivised to help students to complete their courses and it is probable that this shift in incentives will lead to a change in behavior by the Universities that some consider to be “failing” such that they justify their existence. This will avoid contraction of the higher education sector at a time when intellectual and human capital continues to grow in importance in the modern economy.

CONCLUSION

Loan based schemes cannot overcome the reality that for many students the cost of their education will exceed the economic benefit they gain from it. If the state is not willing to pay for the social benefits resulting from the extension of higher education opportunities to such students, loan based schemes will discourage many students, lead others into penury, while creating losses for lenders. The students’ representatives recognise the burden placed on students by fixed loan commitments, adding to the political difficulties of promoting loan based schemes.

As implied by Willetts in his June 2010 speech, Universities have just two options, either to find a way of offering education much less expensively, possibly by distance learning or shorter courses, or to be innovative.

Distance learning or shorter courses would be hard to implement quickly and would change the whole character of the English University experience.

The FAIR scheme, on the other hand, satisfies the main objectives of the key stakeholders:

- 1) Universities
 - a) Increase in autonomy
 - b) Receive differential fee income
 - c) Export growth opportunity
- 2) Students
 - a) No fixed obligation debt

- b) Equal terms for all students
 - c) Aligns universities' and students' economic interests
 - d) Ensures they get value for money
- 3) Financial sector
- a) New asset class attractive to pensioners
 - b) Opportunity to export the concept to other countries
- 4) Government
- a) Retains overall control of fee system
 - b) Moves cost of tuition fees off public sector balance sheet

The author therefore recommends that UK Universities and the UK body politic be bold and innovative and work to develop a world first: a scheme that ensures value for money for students while freeing them from the upfront cost of an education, the financial prerequisites for the growth and prosperity of the higher education sector.



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ⁱ IZA DP No. 3827, Rising Tuition and Enrollment in Public Higher Education, Steven W. Hemelt & Dave E. Marcotte, November 2008

ⁱⁱ Prodigy Finance run an MBA funding program and have developed a legal agreement which is enforceable in 100 countries.

ⁱⁱⁱ Reported on Bloomberg by John Hechinger, August 6 2010

^{iv} Faulhaber, G.R. (1972) On subsidization: Some observations and tentative conclusions, Conference on Communication Policy Resources (Washington DC: Office of Telecommunication Policy Resources). Faulhaber, G.R. (1975) Cross-subsidization: Pricing in public enterprises, American Economic Review, 65 (5) December 966-77.

^v See the Economist 15th June 2013, "Crowdfunding Students, Start me up"