

THE ECONOMICS OF THE UK UNIVERSITY SYSTEM IN THE TIME OF COVID-19

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Abstract

The UK University system faces its biggest challenge in 40 years as a direct result of the Covid-19 pandemic. What is the scale of the uncertainty facing universities and to what extent have the problems been exacerbated by the over-reliance on overseas student fee income to facilitate a declining central government investment in research? Is the 'marketization' of the Higher Education (HE) sector over the last 20 years partly to blame? We take stock of what universities contribute, why the present pandemic matters and who will be most affected. The potential consequences of Covid-19 for the UK HE sector are analysed along with mitigations, opportunities and possible solutions. It is suggested that the UK HE system cannot continue to be reliant on overseas fees to prop up research.

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1. Introduction

Nearly 40 years ago in 1981 Margaret Thatcher's government was responsible for a dramatic contraction of the UK Higher Education (HE) system by the withdrawal of around 18% of its funding. It has been variously suggested that as a result of Covid-19 the HE system in the UK could lose around £7bn of its funding – this constitutes around the same fraction of its size.¹ So UK universities have seen a contraction of this size before. Can we learn from the lessons of history or is it completely different this time? To answer this question, we need to explain how different the UK HE funding system now is and how the international market for students has changed.

The most immediate questions facing UK universities in the present pandemic are:

1. Will the overseas students come to the UK to study in the academic year 2020-21?
2. Can universities, or should universities, open up again in September 2020 after the lockdown?
3. If they can't open up in September how will they survive financially?
4. What are the consequences of universities terminating the temporary contracts of thousands of part-time and fixed term employees?
5. Can they justify a freeze on academic posts as many are now proposing?
6. How do universities ensure the safety of students and specifically older vulnerable staff if they do re-open?
7. How far do they go in shifting their teaching delivery to an on-line mode?

The main knock-on strategic issues for the whole HE sector are:

- Should the government bail universities out or not?
- How will the new re-introduced cap on student numbers by subject and university operate?
- Should some universities be allowed to go bust?
- Should there be mergers of neighbouring universities?
- What should happen with tuition fees – should the structure be revised as suggested by the Augar Review?
- Should teaching revenues in universities go on subsidising research?
- Is it time to re-evaluate the marketization of HE which has taken place over the last 20 years in the UK?

¹ According to the Universities UK the sector was worth around £37.2bn in 2017-18.

We will aim to address these questions by: assessing exactly how bad the Covid-19 epidemic is, or could be, for universities; taking a look at the lessons we can learn from the present situation; analysing which universities and which groups of individuals will be most affected by the present position; and exploring what universities should be doing right now. But first we need to put the present potential crisis in some sort of perspective and recap exactly how important universities are to the economy.

2. Some UK Context and History

British universities are independent autonomous institutions that receive partial funding from central government through the government regulator – the Office for Students (OfS). Despite this partial reliance on public funding, technically they are considered to be in the private sector with their own statutes and governing bodies (Councils). In 1980s there were only 47 universities in the UK and they were much more heavily reliant on central government for their income which depended on the number of students they taught and in what balance of subjects. Around 90% of their income in 1981 came from central government. This finance included a sizeable component for their research activities. As we shall see this has changed considerably. This has fallen to around 25%. Since 1981 the number of universities has increased dramatically. Now we have 141 universities² and most of them earn most of their income – around 75% – from student fees. The fraction of their income which universities can generate from research contracts and outside funding varies hugely with the more prestigious places getting a higher share of their income from the research councils, other contracts and endowments. The UK model is also quite unlike the HE funding model in the US, where in many universities, generous endowments from alumni play an important part in funding continuity.

When the Thatcher cuts came to universities in 1981 it was left up to the University Grants Committee (UGC) to distribute the pain. It chose to do this in a selective and uneven manner. Some universities had 30-40% of their funding cut at a stroke whilst others were barely cut at all. The pattern of these cuts was examined in Dolton and Makepeace (1983). We found that the older, more established institutions and those with medical schools fared better and the statistical analysis showed that those

² The precise number of universities the UK is subject to exactly what definition is used and depending on whether colleges affiliated to umbrella universities are counted separately and whether private universities are counted. For example, Universities UK reports there are 165 HE institutions in the UK that return data to HESA but Google suggests there are 'around 130' universities in the UK, but other rates websites list up to 141.

universities who had persons representing them in the decision-making process (the then University Grants Committee, UGC) fared better.

What we are facing now is quite different. Those universities with the larger fraction of their income coming from overseas student fees – who may not arrive – will likely fare much worse as a result of the current pandemic. Notwithstanding this – if there is to be a government bailout, with potentially more funding going to individual institutions who are financially failing, it is moot whether this financial support will be handed to those universities with the largest financial problems or not. Arguably, the 1981 logic of differential treatment might serve the purpose of better reshaping the system in the way central government wants. At present, there seems little appetite of central government to want to do this. Below, we shall describe how the functioning of UK HE has been largely left to the market over the last 20 years, and suggest by inference that the government may not wish to intervene too directly.

The other huge change in the landscape of HE in the UK is that there has been a large growth in the number of postgraduate students coming to the UK from abroad. In 2018/19 there were nearly half a million overseas students studying at UK universities. China is the most important source of these students, as around 120,000 came from there (House of Commons 2020). At this time, the total income from overseas student's fees was £7bn. This constitutes around 17.3% of total university funding. Of course, how reliant individual universities are on this source of income varies hugely. This crucial feature of the UK HE system will be examined further.

Hugely affected will be the elite 'Russell Group' of universities, as the fraction of their tuition fee income which comes from non-EU students is, on average, around 45%. On the strength of this income source, most of these universities have embarked on large scale capital and building projects to make them ever more attractive to the foreign students they are competing for. Up and down the country new student halls of residence have been erected in anticipation of this ever-growing market. This huge reliance on this income from Chinese students, both fees and accommodation rents, is a main contributory factor in the current financial demise of UK universities. A compounding factor has been the debts the universities undertook to fund their building projects based on the assumptions of the growing market. It is estimated that up to £3.5bn of capital projects were undertaken in the last year (AUDE Report 2019). One cannot help but to compare this figure with the sum of £2.7bn recently requested from the HM Treasury, to keep the sector afloat. Other countries in Europe do not have this over-reliance on overseas student income from fees to maintain their operation. The situation in the USA and Australia is much more similar to the UK as it is only these countries which have a larger share of foreign students than the UK.

Another major headache for UK university finances has been the problems of the Universities Superannuation Scheme (USS) pension scheme. This is the largest private sector pension scheme in the UK, with assets of over £68bn. Recently, it has variously been calculated that the USS scheme has a valuation shortfall of between £17.5bn³ and £6.6bn⁴. The cause of this problem arises from an unsatisfactory transition from a defined benefit (DB) final salary scheme to a form of DB career average scheme, as well as a portfolio hit by the crash of 2008 and some injudicious investments over the ensuing years. The controversially proposed solution is to raise the individual members contribution rate to 34.7% of salary by October 2021. The effect of this on university finances was already going to be huge in the next few years without the Covid-19 pandemic. This is the main reason why there was widespread strike action in universities just prior to the outbreak of the Covid-19 epidemic. So, UK universities already had a financial problem well before the Covid-19 lockdown, and it will not be any less of one after it. This pension crisis with the future of USS needs to be sorted out urgently, once and for all – otherwise it will continue to blight the financial future of the UK university system.

The main catalyst of the move to a market driven HE system began as a result of the Dearing Report (1997) which proposed the abolition of student maintenance grants and recommended the introduction of university fees. Reform to the system of student fees was ushered in by the Browne Report (2010) delivered to the Coalition Government in 2010. This report recommended the removal of the cap on fees of £3,290 per year, allowing universities to charge their own level of fees, and recommended the introduction of the present income contingent (IC) loan scheme (see Barr et, 2019 and Deardon, 2019) which would be paid back when students were earning more than £21,000 per year. This report resulted in nearly all universities charging the same £9,000 fee for all subjects. More minor adjustments have been made since to the IC payback thresholds.

The most recent review of UK HE funding was conducted by the Augar Review (2019). Strangely, the review did not look at the sector's huge overreliance on the Chinese postgraduate market or address the massive capital investment of universities. This may have been due to the belief that this income source would continue into the indefinite future. Instead, its recommendations focussed on the level of fees for undergraduates by subject and institution. It recommended that undergraduate fees should be reduced from their present level of £9,250 and capped at £7,500 per annum

³ See Borej (2017)

⁴ Reeve, N. (2019) 'USS deficit hits £6.6bn and chief exec warns on market outlook'. July 25th, 2019 Investment and Pensions Europe (IPE).

but also re-introduced the possibility that these fees could, and should be, different by institution and subject. The logic for this was set out many years ago in the aftermath of the Dearing Review (see Dolton et al., 1997) and still has a forceful logic. Surely, the fee each student pays should reflect the cost to the university of providing the course they study and the likely future earnings of graduates and hence their propensity to pay back their loans. We now have evidence from a DfE report from IFS (Belfield et al., 2018) exactly what these earnings differences by subject and institution are, and so we should actually use this, in our decision making over fees. Obviously, exceptions will always be needed to be made for degrees and training that supplies our country with what we now call 'key workers' – more of which later.

In addition, we should not be encouraging young people to incur, an average, of around £50-70k of personal debt, repaying it with an income contingent loan at a current annual rate of interest over 6%. This is clearly not rational and will result in a massive shift in the delicate balance of the pattern of intergenerational inequality. This is a topic which the Augar Review is more or less silent on.

A year on, since the publication of the Augar Review and Augar (2020) himself today seems to acknowledge that his report's recommendations have probably been shelved. The reality is that to seek to reduce university funding by a further 19% through cutting home undergraduate fees when they are likely to lose this much again – from the drop in overseas postgraduate recruitment – is not sensible. Where he is right though, is in his call for a reappraisal of the training and adult and further education system. He also calls for a radical review of university funding – but does not tell us how this should be achieved (Wolf, 2002, 2017). We will return to this prescriptive agenda later.

Fast forward to today⁵ and the latest word from the HM Treasury is that a potential financial handout to any institutions in financial trouble could be possible in exchange for restructuring reforms. This may mean 30 or more universities losing their research capabilities and there being forced mergers of many institutions. It is arguably the case that such reforms are too simplistic and a more comprehensive review of the failings of university funding is required. But, since we have only had a review of university funding (in the form of the Augar Review, 2019) last year there is much political appetite for a further reports or inquiries. Instead, the government have announced a 'University Research Sustainability Taskforce' to 'engage with university research and capability to support it to contribute effectively to UK society and the economy'.⁶ It

⁵ See *The Times* 26th April 'Mergers will be the price of university bailout'.

⁶ <https://www.gov.uk/government/publications/actions-for-he-providers-during-the-coronavirus-outbreak/actions-for-he-providers-during-the-coronavirus-outbreak>

is not clear yet whether it will have a wider ranging remit to look outside the issue of research.

3. What Do Universities Contribute?

Before considering the impact of the pandemic on the UK HE sector, we need briefly to remind ourselves why we have universities, how they add value, and what they do for the UK economy.

Training Doctors and Nurses

First, and most relevant to the present crisis we need to remember that it is the university system which trains doctors and nurses – although not enough of them. The report by Dolton et al. (2018) highlighted the potential shortfall of nurses in the NHS by 2021. The report suggested that this was due to the short-sighted removal of the bursary for trainee undergraduate nurses. We cannot go on being reliant on overseas and EU nurses and doctors to staff our NHS. In effect, we have tried to operate a ‘just in time’ answer to our supply of medical manpower by hiring from other countries whenever we fall short of the necessary supply. What the Covid-19 epidemic shows us is that we would do better to plan to train and grow our own supply and adopt a ‘just in case’ philosophy which would prepare us for eventualities like a worldwide pandemic.

Fastest Reacting Sector to the Covid-19 Crisis

As Muscatelli (2020) has pointed out, universities, in the present crisis, have been racing to develop vaccines, providing testing capacity, investigating measures to identify and limit the spread of the virus as well as modelling the course of the virus in a prescriptive way to guide and facilitate government policy. Universities will also be at the forefront of the post-mortem effort to explain and understand the pandemic in terms of its spread, effects and future suppression. In these functions universities serve the nation and UK economy extremely well as dynamic repositories of technical expertise that can be marshalled at short notice. The system has shown itself to be reactive, objective, informed, focussed and immensely hard working. The country needs this valuable research now and in the future and universities need their future research and development funding to be put on a more secure footing.

A Return on the Investment

The main output of the higher education system is the production of thousands of trained graduates in all subjects in each year. Many of these graduates go on to earn high incomes and pay taxes into the exchequer all their working lives. This not only

yields a private rate of return to the individual graduates, but also a high social rate of return in that the social benefits of this investment to society are huge. These individuals are less likely to be ill, commit less crime, make better parents, and contribute to society in a myriad of other ways (see Leslie and Brinkman, 1993, McMahon, 1999 and Bynner et al, 2002).

In the past, much has been made of the high level of the private rate of return to education. Some studies have even suggested that this return is as much as 15% per year (see Harmon and Walker, 1995). The most recent research (Dolton and Sandi, 2017 and Dolton and Skalli, 2019) has shown that this finding is not robust to the method of econometric estimation used. The reality is that this return is much more likely to be around 6% per year. Nonetheless, this is sizeable, although not large relative to the interest to servicing the debts associated with student loans. This means that we need to radically reduce the rate of interest that young people pay on their student loans.

Research Output, Innovation and Contribution to Productivity

Our universities are the powerhouse of our research and development activity in the UK. Many firms and industries in chemical engineering, biological sciences, medical science, aeronautical and automotive engineering, agriculture and many other fields rely on the research of our universities. Many of these research projects are funded in collaborative arrangements with industries in the private sector, but they would not be possible at all without the capital infrastructure of our universities. The recent Muscatelli Report (2019) pointed the way forward on the links between R&D in universities and the private sector and described the systematic under-investment in R&D in the UK in recent years. Investment in R&D in UK universities is vital for the future of innovation in the UK.

Britain, prior to Covid-19, was going through one of the longest periods of sustained low productivity. The prospects of a sustained recovery are tied to the hope for British research and innovation. We will need even more of this capacity if we are to recover from the worst effects of the current pandemic.

Training of Key Workers

Universities are also where most of our other 'key workers' are trained. Teachers, pharmacists, paramedics, laboratory workers are all trained initially at our universities. Without them we would not be able to keep the UK economy going. We will need our universities to continue to train these key workers into the future to service our economy in the most fundamental ways.

Facilitation of Economic Growth.

Every country's education system is the engine which drives economic growth and elevates living standards. Many authors (Krueger and Lindahl, 2001, Moretti, 2004 and Hanushek, and Woessmann, 2008, for example) have shown how the provision and expansion of education, or knowledge capital, contributes vitally to the functioning of a growing economy. There is no doubt that if the UK is to recover from the likely 30% drop in its annual GDP for 2020 due to the current pandemic, then the HE sector will play a vital role in this process.

In this short section, we are not able to provide a full catalogue of the contribution of higher education to the UK economy. There are major reports (see Bynner et al., 2002) and whole books (see for example, Leslie and Brinkman, 1993 and McMahon, 1999), devoted to the subject of how universities contribute to the functioning of a productive economy. Here we simply appreciate the ways in which universities are vital in the fight against Covid-19. This needs to be appreciated in discussing how the funding of HE is organised and what specific challenges it presents. To set out some basic principles we first revise what basic economic theory has to say about the funding of universities.

4. What Lessons are there to be Learnt from Economic Theory and Applied Econometric Work?

The central question here is how should UK universities be funded in their activities of teaching and research and what should the balance be in terms of private and public-sector funding? The answer to this question is complicated by the fact that the present system is funded by different sources: those who receive the teaching, students (and their parents); the government and society who benefit from the research; and private sector firms, charities and research funding organisations who commission specific projects. Complexity is added by the fact that universities are in direct competition for all these sources of funding. Fortunately, there is a considerable literature which has studied, at the level of the university, the metrics on the performance outcomes of different universities (Bee and Dolton 1985, Johnes and Taylor, 1990) and which universities are more and less efficient at the provision of these outputs (see for example, Johnes, 1990⁷). What is not so clear is that this knowledge about the

⁷ The work of Johnes, G and Johnes, J is extensive in this area. The reader is directed to a more complete list of papers by them and their co-authors in Johnes, G (1993) and Johnes and Johnes (2016).

efficiency of universities is used in future HE resource allocation. This could be a prescriptive goal of any future reorganisation of HE sector funding.

The microeconomic theory of the firm does offer a theory of multi product firms – which is what universities are (see Bear, 1974, Verry and Davies, 1975 and Wagner, 1982). This theory would suggest that it is usually inefficient to cross subsidise the production of one good with another when the costs of them, and the demand for them, are different. Universities produce both teaching and research for different markets with some of the same inputs – namely the labour input of their academic staff (but also the capital imbued in libraries, computers, laboratories etc). The same hours spent teaching by a professor cannot simultaneously also be spent on research. Teaching hours clearly have a direct opportunity cost. Notwithstanding this, it is possible that teaching and research can be complementary activities. For example, insightful questions from postgraduate students could refocus the mind and potentially give rise to different research questions being addressed. Equally, a new insight in researching a topic may also provide an externality in the clarity of a teaching that topic to students.

Some of the possible complementarity of teaching and research may arise through '*economies of scope*' which occur when the cost of producing the two outputs are less than the summed costs of producing them separately. However, although there is quite a large literature on the empirical evidence of the size of economies of scope and complementarity effects, this literature is not unanimous in its conclusions. Verry and Davies (1975) are not convinced of the existence of these effects. Knight (1987) suggests they exist, Cohn et al. (1989) agree and attempt to measure them but in a setting which is not really useful for the current UK context⁸. A more recent literature (see Johnes and Johnes, 2016) takes this analysis a step further by explicitly modelling efficiency in a joint product setting. This is an important area of necessary future research, in a post-Covid-19 world, as universities will need to be more rigorous in understanding what are the potential complementarities between teaching and research. More specifically, this literature can suggest which are the universities where postgraduate teaching and possibly research, can be provided with the greatest efficiency. The logical conclusion of this line of inquiry is that the whole HE system may need to be more critical in the kinds of universities it needs and what scope there is for specialisation. Should some be teaching only universities, or indeed, should some universities only specialise in research in a specific limited set of interconnected related

⁸ In the humanities and various social sciences, it is easier to argue that these complementarities exist, See Marsh and Hattie (2002). But from the perspective of the individual academic in social science, there is evidence, Fox (1992), to suggest that there may not be complementarity between teaching effectiveness and research publication productivity.

subjects? Again, there is only a scant literature on this (see Dolton and Makepeace, 1982).

In a multi-product firm, it is not efficient to cross subsidise one activity with an effective tax on a different activity (see Bear, 1974, Laitinen, 1980, Johnes, 1993). Specifically, we should not overcharge for teaching in order to cross subsidise research activity. Devoting a disproportionate amount of teaching resources to postgraduate training of overseas students to subsidise the research budget may not be rational or efficient. Charging fees of £9,250 a year to undergraduate students who have to take out loans which they repay at above the market rate of interest is not equitable, efficient or sensible. We will see in the next section that this is exactly what has been happening.

Some pundits have been arguing the case for a bailout of universities on the grounds that higher education is a public good. This is not actually formally correct – the output of universities is not a pure public good. A university education is a (partially) publically provided, private good. This is because the benefits of a higher education largely accrue to the individual. To the extent that the state subsidises universities through tax revenues then university teaching is partially publicly provided. One of the joint products that universities produce – namely research – is essentially a public good in the sense that it is non-excludable and non-rivalrous. This means we cannot preclude any member of society benefitting from the production of, for example, cleaner energy which may result from university research. Equally, it is the case that one person's consumption of that cleaner energy, does not preclude another person's consumption of that research good. This means that arguments about the extent to which universities should be funded from public taxation are problematic. This then spills over into a discussion of the extent to which universities should be autonomous, profit seeking establishments which are in competition with each other.

It is also true though that the teaching activity of universities does also contribute to the provision of many goods to the economy which are privately given to their educated recipients, their successful graduates, but are also societal public goods. Clearly, if university educated individuals are more likely to contribute to the cultural life of the country by writing books, or poems or plays, composing music or making contributions to the visual arts these are largely public goods. Likewise, if these same individuals, for example, become more responsible parents who are less likely to commit crimes and contribute to voluntary organisations then there is a multitude of ways in which their acquisition of a higher education may benefit society at large. But this does not, by itself, make higher education a public good.

The reality is that economics does not have a clear theory of the supply of joint products (teaching and research) in a world where the resource is funded partly by student fees and partly by tax payer's money and the outputs are partly private goods with a return which goes to individuals, and partly public goods, from which society as a whole, benefit. Furthermore, economic theory is largely silent⁹ on the equity considerations of this public funding disproportionately being spent regressively on young people from better-off families.

There are also some important examples of potential conflict of interest and behavioural incentives which maybe counter to the best interests of the HE system. For example, UK universities are both providers of tuition and landlords providing accommodation for students. This means that there is a potential for conflict of interest in that they could be seeking to fill their places on their courses to also ensure that they maximise their accommodation income. These two sources of revenue are highly correlated and this is unwise for universities, in that they are not diversified in their product. So, as we have seen, it means that if the Chinese students do not return, then universities are at risk of losing both their tuition fee revenue and their accommodation revenue stream.

An example of a behavioural incentive which may work well at the level of the individual university is conditioning the CEO/VC salary on the success of the institution in attracting students or even media rankings (see Johnes and Virmani, 2019) when this does not serve the interests of the HE system as a whole well. If this is true as it means that VCs are focussed on maintaining and growing their own institution and are not incentivised to look at what is good for either the rational re-organisation of the system as a whole or preventing the accumulation of student lifetime debt. As a consequence, university VCs are invariably against mergers with neighbouring institutions. VCs have also not acted in the best interests of undergraduates by not challenging a student loan system which involves them accumulating such large debts.

Further complications regarding the economics of higher education provision are arising with the onset of Covid-19 due to the potential for moving university teaching online via media other than direct face to face teaching. The microeconomics of this – in the form of the development of the OU – have been examined in some detail by Wagner (1982). Proponents of a radical, rapid move of conventional courses to online

⁹ Two exceptions are the work of LeGrand (1982) who empirically captures the extent of this regressive transfer and Johnson (1984) who examines a simple theoretical model of HE funding in a society with discrete types.

provision would do well to examine the costs involved and the length of time this can take.

5. Marketization of Universities?

There is no doubt that the UK HE system now operates like a quasi-market which relies to some extent on state funding and taxation income, but nevertheless has introduced elements of fees and prices. This has attempted to shift the financial burden of paying for HE from the taxpayer to the recipient of the education. This means we have moved from system which was centrally funded from tax payer revenue, to one which is funded from the fees levied from students. The logical rationale for this is that the returns to education are largely private returns to the individual and not social returns to society. So, the logic is that degree level education is a private investment decision of the individual and not an investment decision of society. But we have seen above that this logic is flawed and possibly overstates the value of a degree as a private investment and may have systematically underestimated the social value of higher education to society.

There are many elements to the so-called marketization of UK universities. Many (e.g. Brown and Cassava, 2003) have argued that this process was the logical consequence of the introduction of full cost fees for overseas students and a loan scheme for home undergraduates. The market driven reforms were given further impetus by the introduction of student fees (Dearing, 1997) and the Coalition government's expansion of fees in 2010.

The substitution of tuition fees as the main source of income for universities, rather than them being funded directly by central government, has fundamentally changed the funding of HE and hence the character of the market for HE in the UK. Prior to 1997 student maintenance grants were available to undergraduate home students on a means tested basis. This system was replaced by one of income contingent loans to students (see Deardon, 2019). The UK is now very different from nearly all our European neighbours. In France, Germany, Spain and Italy as well as our Scandinavian neighbours still have some grants to students from low income families and a system of low cost fees.

It has been argued by many educationalists and policy makers (Brown and Carasso, 2003, Collini 2012, McGettigan, 2013) that these radical changes in our HE system has had many negative consequences and that the market mechanism has no place in the provision of education. Although we do not comprehensively assess the validity of

these arguments here, we do need to briefly review them to place the logic of how UK HE may need to change in the wake of the Covid-19 pandemic. It is argued that 'marketization' has led to the following effects:

Commodification of education – the treatment of degrees as commodities and students as customers has led to a devaluing of the principles of learning and is against the philosophy and ethos of education. Many thinkers believe that the provision of education cannot be sullied with prices and fees. But, at the end of the day, money spent funding HE cannot be spent on, for example, the health service. Unless of course we think we should all be paying higher taxes (or only those who are graduates should pay a higher tax). But this is a different argument and the reality is that most people believe when asked that public spending should be higher, but not usually at a cost to themselves.

Competition between universities is not only encouraged but supported and fostered by the Research Excellence Framework (REF) and the Teaching Quality Assessment (TQA) exercises (recently renamed as the Teaching Excellence Framework). We now have rankings and league tables to guide student choice in the name of freedom of information, but the efforts which go into these exercises are potentially wasteful and detract from the extra effort that could be going into teaching and research. Further, it is variously suggested that this form of competition between universities is actually counterproductive and it leads to a denigration of other colleague's research in an effort to further the evaluation of one's own contribution.

Bureaucratisation and Managerialism – Universities are paying higher salaries for their CEOs who are judged on the basis of fee income and media popularity hits. All universities are hiring more senior managers and executives and administrators and spending a greater fraction of their resources on administration rather than teaching and research. Frank et al. (2018) document the falling share of resources on teaching staff and the rising levels of spending on administration and capital building projects.

Quality and Standards – Unfortunately, the debate over the 'marketization' of HE has been an ideological political football for too long as it has really only been debated in terms of political considerations with the left (Brown and Carasso, 2003, Collini 2012, McGettigan, 2013) being against it, and the political right (Willetts, 2017) being in favour of it. It is necessary to evaluate the arguments in more neutral terms of what model of funding society should adopt to finance HE (Frank et al., 2018). Arguably the reforms implemented in the UK from 2010 onwards have created:

- Too much competition to the detriment of the system.

- A devaluation of degree standards with a rapid rise in the fraction of students getting Upper Second or First class degrees.¹⁰
- Too high a proportion of graduates going into non-graduate jobs (see for example Dolton and Vignoles, 2000).
- A cadre of senior management that has diverted too much resource into administration and capital projects.
- A situation in which undergraduates are paying fees which are too high and accumulating debts at exorbitant interest rates which will saddle them with a life-time burden.

The reality is that some competition between universities is needed, as a minimum to protect the best interests of the students. But some moderation is necessary. It should not be counterproductively using up resources in needless advertising, publicity, the hiring of consultants, vanity capital projects and excessive senior management salaries. Society should not regressively subsidize participation in HE of middle and upper-class students, at the expense of the public taxation from working class families who do not benefit from the system. In addition, students should not be paying interest on their student loan debts which are well above market rates.

Equally we should recognise that universities make a substantial contribution to research and innovation, economic growth and all manner of artistic and cultural dimensions of life. But does this nevertheless mean that universities should be funded for their own sake, irrespective of their contribution to economic growth as Collini (2003) suggests? After all, to argue that universities, who still disproportionately privately benefit an elite minority most directly from publically raised taxes, should have no limit to their funding, is a stretch. What limits should there be to the fraction of public spending that should be invested in the HE system? Especially if the price of such lavish provision at the top end of the educational spectrum comes with an opportunity cost. Perhaps, even within the education budget, the continuation of a large subsidy to universities comes at the expense of more complete provision of vocational and technical education. This is a particularly powerful argument if it is these technical and IT skills which the economy is most in need of (see Wolf, 2002, 2017).

6. The Challenges of the Present HE System

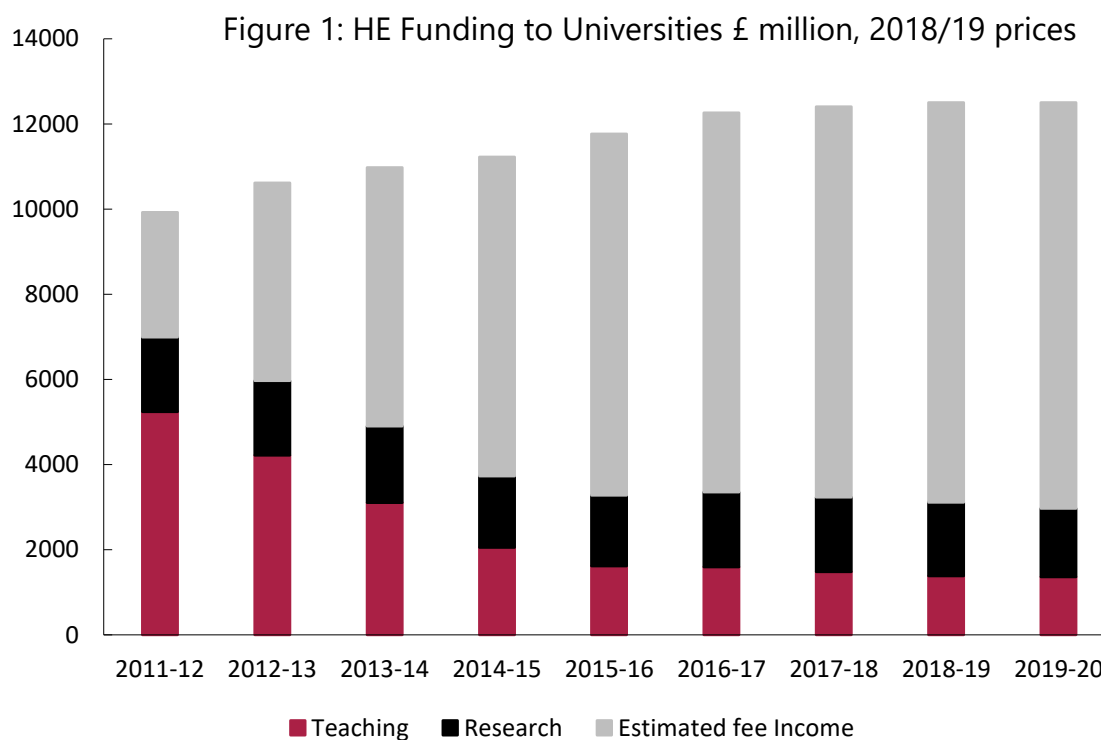
To complete the contextual picture of the present UK HE system we need to understand the source of the funding problem generated by the pandemic. It is rooted

¹⁰ Evidence on this, at least over the 2004-2012 period is patchy, see Johnes and Soo (2017).

in the growing over-reliance of UK universities on Chinese student fee income and the use of this funding to cross subsidise the funding of research. In this section, we document this problem.

Prior to 1981 around 90% of university income came from central government in the form of Exchequer grants (78%) or other research (and support) grants (9%)¹¹. In the last 10 years there has been a revolution in how universities in the UK are funded. Historically the money to fund universities came from central government funding allocations. Figure 1 charts how this position has changed. Even in 2010 over half of the funding came from central government. Now only approximately 25% of funding comes from central government. The remainder comes directly from student fee income. This has dramatically changed the HE funding system and resulted in a cross subsidization of research in universities by the use of student fee income. More specifically, many universities have adopted a funding model which involves them using the fee income from large numbers of students studying business, humanities and arts subjects to cross subsidise the running of natural science and medical faculties. The reality is that the present UK HE funding regime involves a large-scale underinvestment in research and a considerable element of cross subsidisation, at the expense of the fee income from both home and non-UK students.

¹¹ See Table 3.2, p38 in Johnes and Taylor (1990).

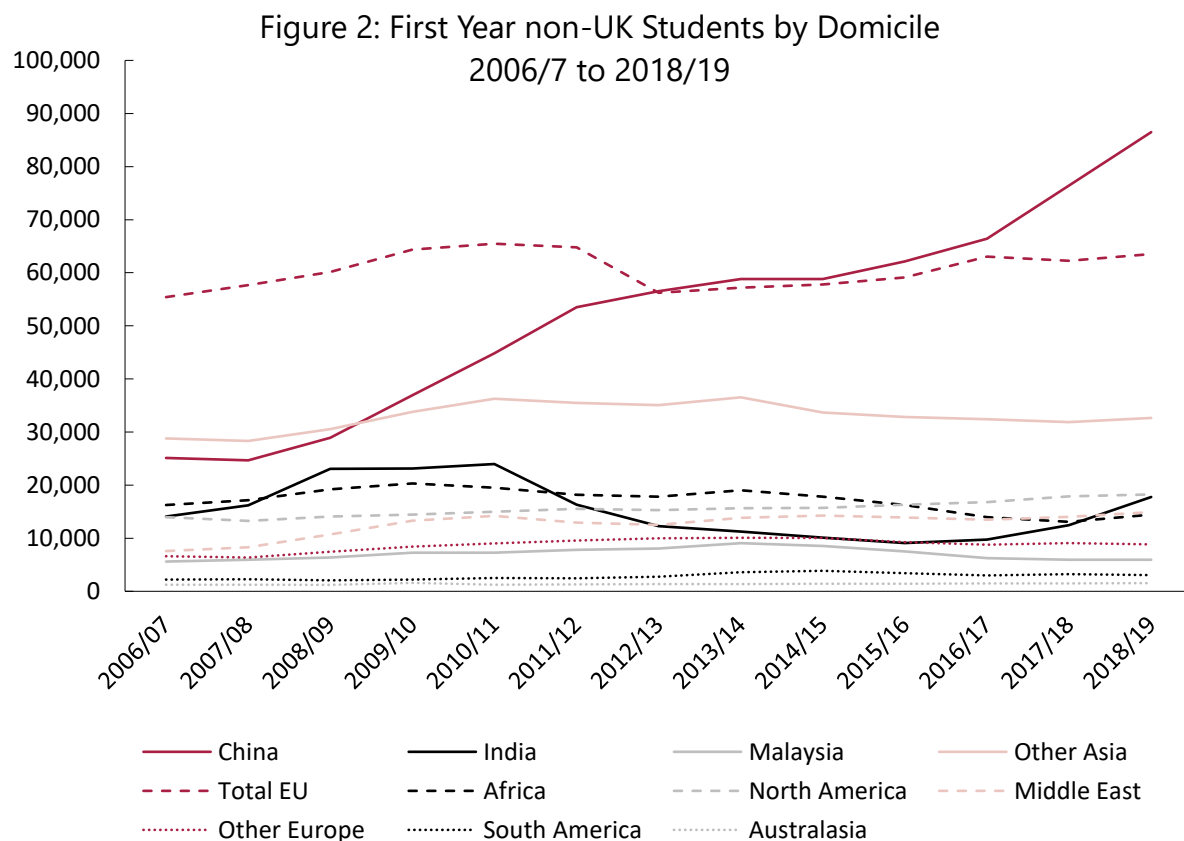


Source: Author’s calculations based on data from House of Commons Briefing Paper 7393.¹²

The most remarkable change in UK HE over the last 15 years has been the huge growth in students coming to the UK to study from overseas. This growth has been more or less exclusively from China. Figure 2 shows how the numbers of new students arriving in the UK over the years 2006 to 2019 has changed. We can see that the numbers coming from nearly all countries, other than China, has remained approximately constant. But the numbers coming from China have risen from 25,000 in 2006, to approaching 90,000 by 2019. This has meant that the numbers coming from China have risen above those coming from the whole of the EU combined. It is likely that this imbalance would be further skewed in the coming 3-5 years with Brexit, as EU students may be less likely to come to the UK after the UK’s departure from the EU. There is no question that this over-reliance on recruiting students from China has been a mistake on the part of the UK HE system, as it has meant that we are vulnerable to any change in policy from the Chinese government or an exogenous event like Covid-19. Some

¹² Where the numbers in the original table in this report do not add up to the totals in the same table I have used the raw numbers by year and added them up independently.

universities are much more exposed than others. Even if the pandemic had not happened, it is now widely acknowledged in government circles that this over-reliance on income from Chinese postgraduate students was naïve and injudicious – making future income streams very vulnerable. Not least because the demographic structure of the Chinese population means that the eligible population who make seek training overseas was likely to fall in the next 10 years anyway.



Source: HESA.

The evidence that the overseas fee income has been used to fund research in universities is not totally transparent and it is something which is not widely appreciated¹³. It can however be approximated by a careful examination of HESA data. If we calculate from HESA data the surplus on non-home student publically funded fees and cross tabulate this against research expenditure at the level of the university

¹³ See Hillman (2020) for an exception.

we can see the scatter plot in Figure 3. What we see from this figure is that there is a clear correlation between the two estimated quantities. This suggests that universities which generate the highest surplus on overseas student fees are also able to spend more on research. This is not proof of cross subsidisation, but it is reasonable evidence of the logic of what has been happening.

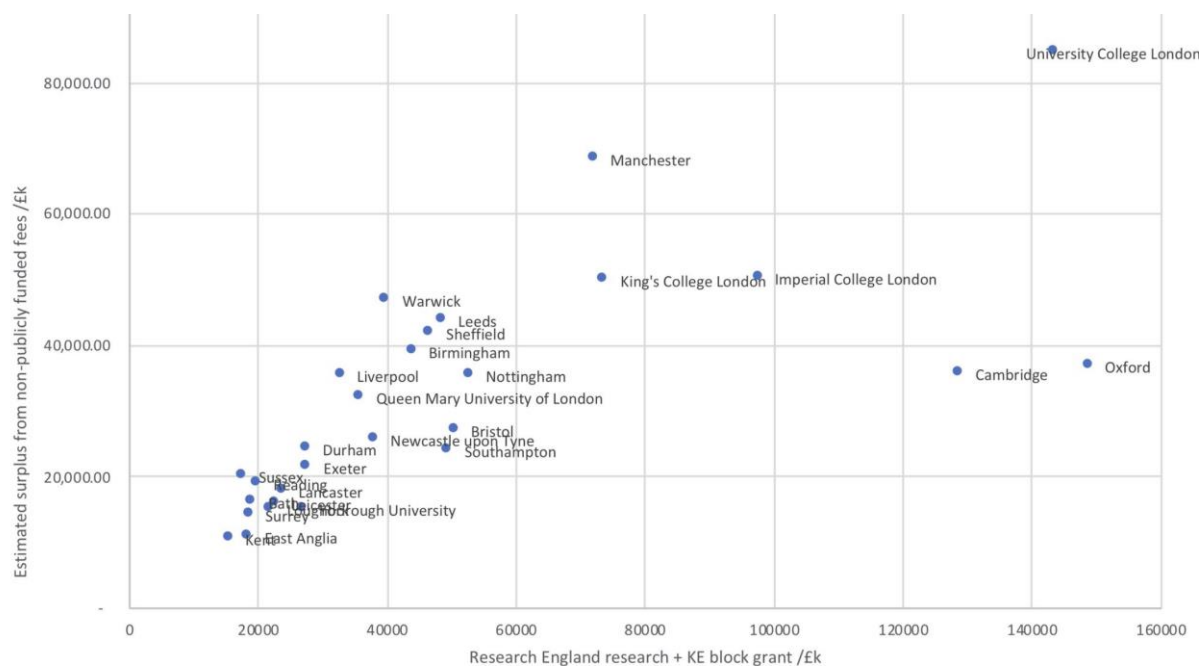


Figure 3: Scatter Plot of Estimated Surplus Fee Income against Research Expenditure by University.

7. How Bad are the Implications of Covid-19 for UK HE?

How bad are the implications of Covid-19 for the short term and long-term future of the UK HE system? The real truth of the matter is that we do not presently know the exact nature of the implications of Covid-19 for likely future student demand. Some universities are planning for worst case scenarios which could involve losing up to 75% of their overseas students and a drop of 20% of home students attending university

this September. In this case virtually all universities would be in a severe financial crisis. It has been suggested that all universities except Oxford and Cambridge could be insolvent in this case – including Edinburgh – Scotland’s most well-founded university.¹⁴ But let us break up the problem to get some bounded estimates of its impact. Firstly, let us distinguish between undergraduates and postgraduates. Then consider the position for home students from the UK and those from abroad.

Consider undergraduate student numbers first. The first thing to remember is that around two thirds of the students at university are those progressing into the second or third year of their study. Most of these will be likely to continue their studies in whatever form it is provided, although undergraduates from abroad may not be able to travel to the UK.

There still remains much uncertainty over what the first-year undergraduate numbers will look like this September. We already know that A-level results will be awarded on the basis of predicted grades by applicants’ teachers. This may well mean that more students are eligible and meet any conditional offers they have, as it is possible that teachers as a whole, will over-estimate what their pupils might have got. This is no bad thing though as it is better, in these troubled times, to err on the side of caution and admit those who may have been borderline. But does this mean that there may be more first year students coming to university this year? Not necessarily, as more than usual may still defer until next year. In addition, the demographic structure of the current 18-year-old cohort means that there are fewer of them this year than there have been in recent years. Many students may actually just intercalate or stay away this coming year over health concerns. Many universities are currently planning that up to 10% of their planned undergraduate numbers may not return next academic year.

Another issue is that the cap of student numbers was abolished in 2016. This has meant that, in recent years, more students with higher grades have been going to the most popular universities. Universities UK (UUK) have asked that this cap be reintroduced this year to stop a flood of a smaller pool of applicants ending up at the elite universities which would starve the less popular universities of their new recruits. The government has agreed to this within a 5% margin based on forecast student numbers.¹⁵ It remains to be seen how this will play out before September.

¹⁴ See <https://www.bbc.co.uk/news/amp/uk-scotland-edinburgh-east-fife-52666042>

¹⁵ Some universities have argued that this still favours the Russell Group of universities as they had mainly forecast growing numbers. These commentators have argued that it would have been fairer to

In a survey conducted by the British Council (2020) it has been suggested that up to 50% of postgraduate students who were planning to come to the UK are planning to defer and around 20% are likely to change where they go as a result of the Covid-19 pandemic. If this is true, then one year Master's courses in most universities may not reach viable numbers. The question then is whether the university chooses to suspend the course for a year and re-instates the course beginning in September 2021 or whether it continues with reduced numbers this autumn. The problem with suspending a course is the possible loss of reputation in the future.

In response to the potential loss of overseas student fee income, UUK asked the government for a £2.2bn boost to short run research funding. After weeks of negotiation this request was rejected. What the government decided to do instead was to increase research funding by only £100m and allow an advance on undergraduate fee income from the Student Loans company to the tune of £2.6bn. This represents a loan of around 10% of fee income to universities which will be a short run lifeline for some universities but only stores up future funding problems as these loans will inflate future financial obligations. We do not presently know how this loan will be released to universities, or if it will be in direct proportion to each university's existing level of potential fee shortfall.

One by-product of the move to put courses online is that this new development provides a new margin over which universities can compete on quality by making their lecture capture and presentations much more professional in order to attract students. Some universities (UCL and LSE) are already devoting considerable resources to doing this. This will have the effect of potentially worsening the financial squeeze on universities as there is already pressure to reduce fees if students are not getting face to face tuition. This may result in a price war on fees specifically in the provision of postgraduate courses, but possibly also in the provision of undergraduate courses. This may have further knock-on financial consequences for universities.

One of the most recent questions is whether universities should offer students a partial rebate on this year's annual tuition fees if the courses and teaching available to them has been moved on-line. Clearly, there is a case to be answered if the quality of teaching provision to these students has been diluted. But this does not make the financial plight of those universities any less serious.

base the cap at each institution on the actual number of students who have come to the university in the last three years.

Many universities have already given their students who are in university halls of residence a rebate on their rents for the remainder of this academic year. This is clearly appropriate, but further exacerbates the financial problems of universities. Further losses of accommodation income by universities next year will need to be faced if course provision moves on-line.

7.1 Which Individuals Will be Affected Most?

There is no doubt that the real burden of the 2020 pandemic will fall mainly on the newly minted graduates and postgraduates who will find it much more difficult to get jobs as they will be entering a labour market in the UK hit by the biggest recession in years. Specifically, the new crop of PhD students will find it extremely hard to find academic jobs when most universities have a freeze on hiring, are scrambling to find voluntary redundancies and are not renewing temporary contracts.

It is well known that those leaving school or HE in a recession are adversely affected by graduating in times of recession. But this is by far the biggest recession the modern world has ever seen. So, the graduates of 2020 will forever bear the scar of this pandemic – possibly for the rest of their careers. Those who will be worst affected are those who come from disadvantaged homes, from deprived areas and studied the less vocationally orientated subjects at less prestigious universities.

The other group who will be hugely affected are the students who are presently enrolled in universities, and are due to return in September. These students have already had their lectures and seminars and exam schedules interrupted. They may or may not have received a rebate on the rent they paid for their accommodation, and they will go on having interruptions to their course for the next year or two. Is it fair that these students are having to pay fees of £9,250 per year? Arguably there is a case for them paying lower levels of fees and some pressure is already being exerted to this end.

It is well known that college graduates who start their working lives during a recession earn less for 10-15 years than those who graduate during periods of prosperity (Oreopoulos et al., 2012). What we face now is arguably going to be the worst recession in just under 300 years and early indications suggest that it could be worse than the Great Depression of the 1920's.

A further knock-on effect of possible university closure, merger or contraction could be that whole communities or towns where the university is a sizeable fraction of the

local economy. These 'college towns' are more common in the US, but there are examples of small towns dominated by the local university¹⁶ in the UK too.

7.2 Which Universities in the UK Will be Most Affected?

The report from London Economics (2020) for the University and College Union (UCU) instructively set out the implications of Covid-19 for four different clusters of universities. Cluster 1 is Oxford and Cambridge. Cluster 2 consists of the traditional universities in the Russell Group, those Cluster 3 consist of the other pre-1992 universities, and Cluster 4 captures the remainder. Brackley (2020) has calculated the universities that are most at risk of financial failure. The basis for this 'At Risk Score' calculation takes into account the current financial position of the university on debts and loans and their exposure to the loss of fee income from overseas students. The estimated cash loss as a fraction of total income and the ordering of the 'At Risk Score' are presented in Figure 4. This information is available as a toolkit for UCU union negotiators¹⁷.

It shows that two of the universities with the lowest risk score, the green dots of Oxford and Cambridge, are at the extreme right end of the at-risk ordering. Figure 4 also shows that the estimated cash loss varies across universities from 0-20%. The universities at most risk of financial failure (the vertical axis in the figure) come from Cluster 3 and 4 but there are some potential casualties from the Cluster 2 as well. So, it is possible that there could be some universities with a considerable research reputation in severe financial difficulty as a result of this pandemic.

¹⁶ Examples include St Andrews, Durham, Aberystwyth, Lampeter, Bangor, Canterbury, besides Oxford and Cambridge.

¹⁷ See <https://protect-eu.mimecast.com/s/MbfECj8OxulJWpLURcBiK?domain=britishcouncil.org>

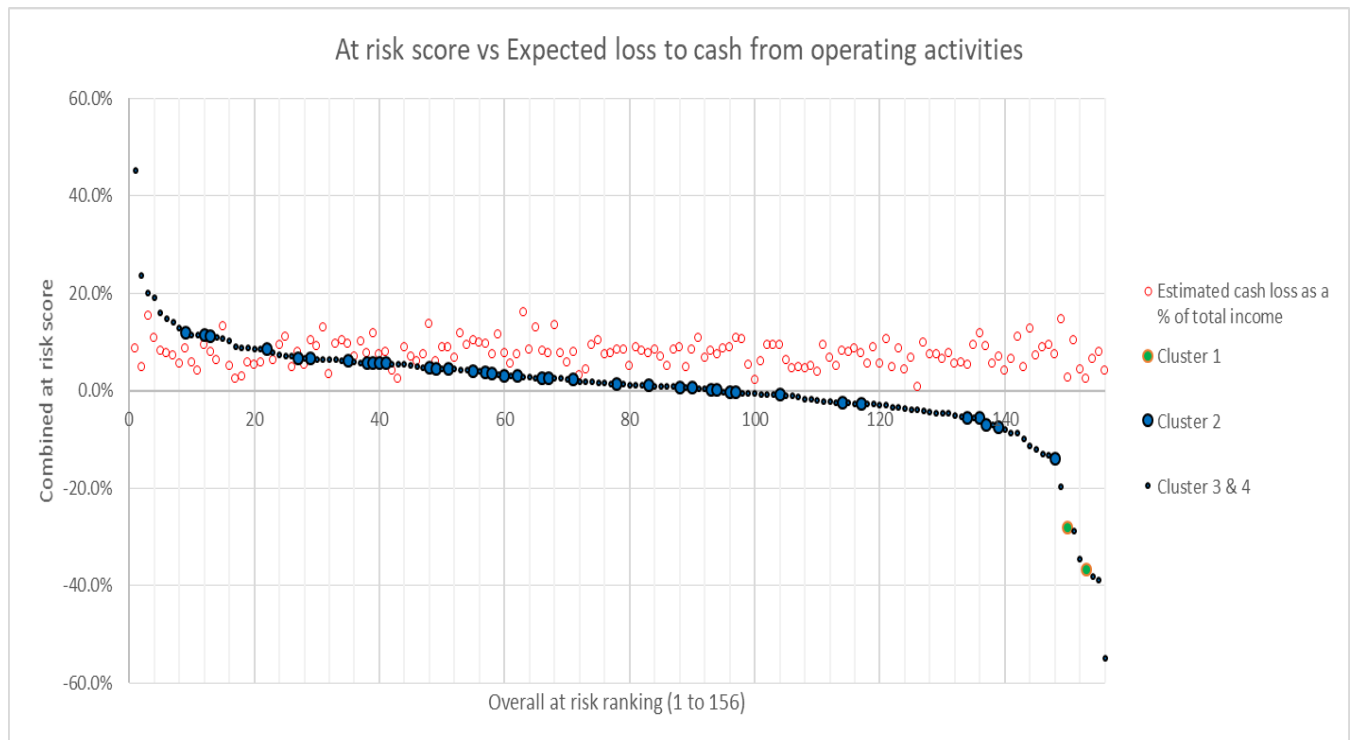


Figure 4: Universities at Financial Risk.

Source: Brackley (2020)

8. Where Do We Go from Here?

Many universities in the UK are in the middle of planning for a number of options: firstly, hiring freezes, redundancies, termination of short term contracts; secondly, dropping of courses and even whole degree programmes; thirdly, closing departments. Some universities have already proposed that staff take a voluntary pay cut¹⁸. These changes will cause large scale turmoil throughout the sector. The London Economics report (2020) predicts that there could be up to 30,000 job losses in the HE sector. This is possibly too pessimistic, certainly in the short run, as it will take time to respond to the major structural change that universities have been faced with. But is this necessary? Judging from the simple arithmetic rehearsed above it could be premature. If the demand for UK university education is still there from countries like China and India and many of the African countries then these measures may not be required. Clearly, there will be many students from Overseas who choose not to come to the UK in September 2020. But does this mean that they will never come? Surely a

¹⁸ For example, Essex University has proposed a 20% pay cut to those staff on over £100k. See <https://protect-eu.mimecast.com/s/59qcCvZ9NFyjL9OhQUqwN?domain=essex.ac.uk>

sizeable fraction of this demand will still be in place in September 2021 and many students will simply defer for a year. This logic may justify the government viewing the impending financial crisis of UK HE as a short run liquidity crisis.

8.1 A Prescription for the Future for Universities and the HE sector.

Describing the current impact of the Covid-19 pandemic and projecting forward its consequences cannot be separated from discussing what needs to be changed in the UK HE system and what restructuring or adjustments individual universities need to make. In conclusion, we set out a 7-point action plan for universities and a 7-point plan for the UK government.

A Seven Point Plan of What Should the UK HE Sector and Individual Universities Do?

1. Safeguarding their Students and Staff

Universities are not a set of buildings – they are their students or their staff. The human capital of any university is its capital. Buildings, blocks of laboratories, halls of residence come and go – but the enduring nature of a university only lives, and lives on – in its staff, students and alumni. All of these individuals have just been going through the biggest, most profound shock of their lives. Society, the economy, and the whole world has changed in a fundamental way. This will affect all members of a university in ways which we may not be able to predict. Many of them will have their lives changed forever by the events of 2020. This means that universities will need to think carefully how to get through the current academic year with the minimum amount of disruption to their existing students. This should not be the time that their universities cut short courses or lower the quality of tuition, furloughs them or seeks to replace or outsource their service function. Rather, for students' universities need to consider providing refunds on accommodation not used and academic courses not delivered. For staff, universities should try to retain them on contracts and not single out temporary or adjunct staff to take the biggest hit by terminating their contracts. It is incumbent on responsible universities in these unprecedented times, to look after all their members. This will require planning and careful decision making without over-reaction to short term demands.

Many universities have put in place other modes of assessment instead of conventional, sit down, unseen examinations in an attempt to relieve the considerable pressures on students. But, if and when, college campuses reopen, it will require careful safeguarding with social distancing and measures to take care of disabled or elderly staff.

Universities should also consider expanding their provision of postgraduate courses at discretionary lower fee prices or waivers for 2021 entry, in order to encourage the graduating cohort from 2020 to stay on and study further, instead of joining the long queues of unemployed. Inevitably, getting a graduate job this autumn will be much more difficult and it may be better for these new graduates to acquire more qualifications than remaining out of the labour market for another year.

2. *Handling Financial Exigency*

The main issue facing universities right now is how to not go broke in the short run and how to plan for the opening of campuses in September. Clearly the two are inextricably interlinked, as the avoidance of the former, will be achieved by the realisation of the latter. But what will happen if universities are not allowed to open again in September? Or indeed what happens if there is a second or subsequent wave of the pandemic? Universities should have contingency plans for these eventualities. Those prudent universities with contingency funds will need to use them, this is not a time to sit on reserves. Those without reserves or endowments will have little alternative to seek short term loans at low interest rates or make representations to central government for special financial help. But it has already been signalled that this will come at the price of considerable structural reforms. Which brings us to a consideration of possible mergers.

3. *Seriously Considering Mergers*

The calculations of risk liability based on the financial position at different universities suggest that between 30 to 50 of them could be in immediate danger of insolvency (see London Economics report, 2020 and Brackley, 2020). What should the government do about this? Can a government in office be seen to allow various universities to close? Politically this could result in quite a high political popularity hit. This is especially true if the universities in question were predominantly in the North of England, Scotland and Wales. It might leave the government's rhetoric of the 'Northern Powerhouse' and its programme for re-generation of the North looking less than credible. Arguably, it is also expensive to merge and restructure a university with a neighbour and there is relatively little evidence of substantial enduring economies of scale¹⁹. But this

¹⁹ Payne (2008) concludes that there is no firm evidence of economies of scale to be found in mergers but the evidence base is very thin and does not pertain to a situation when the whole HE sector is

should not prevent universities seriously considering this option in an attempt to rationalise their provision and economise on costs. There is very limited experience of merging universities in the UK, but it has been done before, and there may have been lessons to learn from this experience²⁰. From the outside, the experience of the University of Wales in 1988 and 2011, looked as if it put their universities on a more secure financial footing.

It is possible, that in the future, a higher fraction of students do not leave their parental home to go and study on campus some distance away, but rather study from home. Hence, many universities might not need so much residential accommodation in city centres or on out-of-town campuses.

4. *Carefully Consider the Rationale for Moving Courses Online*

Many universities have been scrambling to hastily put their remaining teaching of 2019/20 academic year on-line. But they should carefully consider this rationale and not rush headlong into the development of on-line courses. This market is already overcrowded. It assumes that Massive Open Online Courses (MOOCs) have not already been developed, when in fact, many of the leading universities – Harvard, Stanford, MIT – and many others have been developing them and honing them over the last decade. It also naively ignores the fact that the Open University (OU) in the UK has been providing online courses and distance learning for over 50 years. The necessary and distinct expertise of teaching at a distance should not be underestimated and conventional universities would do well to look at what the OU does and learn from it (see Wagner, 1982). It is clear that the Business School market for MBA degrees, especially in the US²¹, could be the first to change radically, quite quickly, in the face of growing demands from their students. But it is not yet clear that wholesale changes are needed across all subjects. Perhaps rashly, Durham University recently announced that it would migrate all its courses to an online operation. This decision was reversed within a few short days after the reaction of the academic staff²². Cambridge University has since followed suit, but it is not clear if the college supervision system would also be suspended. There may well be a case for re-structuring some courses around existing excellent on-line

potentially seeking a sizeable contraction. Recent evidence from Johnes (2013) and Papadimitriou and Johnes (2018) suggest there may be 5% efficiency gains from university mergers but that these could dissipate quite quickly.

²⁰ The various separate colleges of the University of Wales were merged in 2011, but prior to that the University of Wales Institute of Science and Technology (UWIST) merged with Cardiff University in 1988.

²¹ See *Financial Times*, 18th May 2020: Coronavirus pandemic accelerates shift in the MBA market.

²² <https://protect-eu.mimecast.com/s/tblZC69zgTVJmg7tpaSEI?domain=bbc.com>

material by focussing on problem classes or seminars to support the material that is already on the web in MOOC courses. But the idea that all universities should independently develop their own online lecture materials is potentially hugely inefficient.

5. *Course Postponement or Re-structuring*

Looking at the areas of activity at most risk it is clear that the potential non-arrival of overseas postgraduates is the biggest risk. So, universities should possibly contemplate the postponement or suspension of 2020/21 postgraduate courses where it is likely there will not be enough students to make them viable. The risk here is that if you cancel a course for the academic year 2020/21 a university will lose credibility and possible future applications. It is important that universities do not overreact to the Covid-19 crisis. Most of the postgraduate students who would have come to the UK in September in 2020 may be very likely to simply postpone their plans for a year, and come in in 2021 – provided the course still exists. This means that temporary suspension of courses rather than cancelling them altogether should be the favoured option.

Universities should also carefully consider the way in which they cross subsidise the loss making subject departments with those which make a profit. The future of departments and courses which rely on overseas student fee income may need to be rationalised if this income does not materialise. In many universities, such restructuring will also be dependent on the vocational needs of the local community which may need to be prioritised²³.

6. *Re-assess Fee Structures, Community Provision, and Satellite Campuses*

What is overdue is a radical reappraisal of what each course costs to run. This could lead to restructuring of fees differentially by subject. It is not efficient for universities to be cross subsidising their research by charging high fees, or charging the same fees for each subject. The Augar Review (2019) provides a long overdue reappraisal of this system.

Another area of university activity which needs to be re-examined is the links of universities with their local communities and course provision for the local population. Most universities between 1990-2015 chose to dispense with their Adult Education Departments as the lure of higher fees from foreign students became a possibility. This is more than regrettable, as this was a clear way of

²³ For example, Sunderland University recently closed, history, languages and politics departments in order to focus on vocational subjects:

<https://protecteu.mimecast.com/s/GX7vCqZMGF7PXM6FZCJy1?domain=chroniclelive.co.uk>

universities providing a hugely beneficial service to their local community. A huge demographic increase in the number of healthy 60-80 year olds who wish to continue to study in their advancing years is a revelation. The rise of the University of the Third Age (U3A) is testament to the fact that there is a huge demand for university level courses in foreign languages, history, literature and many other subjects. So, universities should reconsider re-developing their Adult Education Departments to meet this local community demand.

Universities also need to consider very carefully their existing commitments to overseas satellite university campuses in the light of predicted future patterns of demand. If universities are developing online learning materials then will it really be necessary to staff and maintain these campuses in far off overseas locations?

7. Reassess Administrative Structures

Universities need to undertake a review of their administrative function. Even before the present financial crisis borne of the present pandemic, as universities have expanded in recent years, there has been a chorus of voices seeking a rebalancing of the fraction of resources devoted to the administrative function (see Campos, 2015, THES, 2017, Spicer, 2017). Frank et al. (2018) have carefully documented the rise of student staff ratios and the increasing bureaucratisation of our universities under the guise of competition. This has involved an ever-increasing number of Pro-Vice Chancellors, Deputy Vice Chancellors, Deans and associated administrative officers and support staff, all to enable them to compete with their neighbouring universities. Such competition, funded by higher fee income, is wasteful. This has culminated in a radical increase in the number of senior administrative posts on larger salaries. Rising senior executive pay in universities, has resulted in some individual VCs receiving around £.5m per year in salary, and this has not been popular amongst the tax paying public or fee-paying students. But it will probably take action from the Government to change this, as most universities do not have an adequate mechanism whereby these officials are truly accountable either to the students or to the staff of the university, or to the tax-payer.

A Seven Point Plan for What Should Government Do?

1. Effectively Tackle the Immediate Crisis

The first priority is to review carefully whether universities can be allowed to open up in September. The argument in favour of doing so is that it looks as if all schools will be open by then and young people are largely unaffected by this disease or at worst experience fairly mild symptoms. It would seem inconsistent if schools were to open and universities were not to do so. But the government needs to set out clear measures to safeguard both students and staff from the epidemic. This is not straightforward as the business of teaching and research in a university is not the same as other working environments. Teaching and research activity involves close and repeated contact with many people on any given day. The adoption of social distancing in universities has important implications for their business and these are not necessarily straightforwardly addressed by shifting teaching to distance learning.

2. *Help for the 2020 Graduate Cohort*

The Government should consider carefully how it may help the current generation of students who are due to finish their studies this summer. This is a much harder question to address than providing cash for furlough schemes for existing workers in other sectors. Measures that could be explored include expanding postgraduate and post-doctoral bursaries as well as abolishing or reducing punitive interest rates on student loans and potentially employment subsidies to employers who create opportunities for new graduates. In addition, it is becoming clear that we will possibly require the services of thousands of 'tracers' to help the program of 'tracking and tracing' those who have contracted Covid-19 and possibly passed it on, in order to bring this pandemic under control. One way of getting the necessary manpower is to consider a large scale hiring of these newly qualified graduates who would otherwise may remain unemployed.

3. *End Cross Subsidisation of Research by Teaching*

The government needs to be realistic about the funding of research and not expect universities to cross subsidise this work by teaching undergraduates or postgraduates. Such cross-subsidisation is not efficient and opens the research capability of the university sector up to unpredictable risks like the Covid-19 epidemic we have just experienced – wiping out a substantial fraction of university funding and potentially causing many universities to go bankrupt. What will not solve the problems is loaning universities up to 10% of its tuition income as a stop-gap advance from the Student Loans Company, over the short run. This does not change the basis upon which universities do research, and it does not change the inappropriate cross-subsidisation of research by teaching.

4. *Differential Fees and Reform the Loans System*

The government should encourage, or even insist, that universities charge differential fees by subjects, especially where the costs of the provision are low. It is sensible to encourage students to undertake high cost subjects like medicine, if the financial rewards to a career in this field are commensurate with the loan. It does not make sense to encourage young people to study subjects which will saddle them with a large debt, that they will not find easy to pay back, since they may never get a graduate job, or earn graduate level remuneration. One effect of the Covid-19 pandemic is that many students are justifiably asking for lower fees and rebates on their fees for on-line delivery of courses. If this pressure gathers pace, it is possible to see many more courses delivered, at distance on-line, but at reduced fees. If this also encourages universities to differentiate by price for different subjects then we may see some positive effects of competitive market pressures on price.

The other area of necessary reform relates to student fees. Around £17bn is loaned to students each year in the UK and the total value of student loans in 2019 was £121bn. This is expected to rise to £450bn by 2049²⁴. Of this, it is estimated that 83% of graduates have some fraction of their loan written off and only 17% pay it back in full²⁵. This means that the problem of default, and graduates not passing the earnings threshold for paying back the IC loan, taken together imply that the UK tax payer will have to foot a large potential bill for the shortfall. If this bill is to be added to the projected £300-500bn cost of the Covid-19 pandemic to British taxpayers, then this will leave a huge legacy of debt well into this century.

5. *Rationalisation of the HE Sector*

The government should consider a rationalisation of the HE sector. By allowing the number of universities to expand with no constraints we now have a sector which is over-reliant on the postgraduate Chinese fee income and hugely vulnerable to seismic changes like the present crisis. This could potentially involve target numbers on courses in subjects where there is limited demand for graduates. Surely it is wrong for our system to allow too many young people to study subjects which will not enable them to get a graduate job by encouraging them to take out large loans in order to fund the continued operation of universities. There should be a much wider adoption of bursaries covering fees for high ability students from low income families who wish to study to become 'key workers'.

²⁴ Figures from Bolton, P. (2019b)

²⁵ See the IFS report: <https://www.ifs.org.uk/publications/9964>

6. *Rationalise Executive Pay and Administrative Costs*

Many have argued that any reform of the HE system should take notice of the public outrage relating to the level of Vice-Chancellor pay.²⁶ One suggestion is that the remuneration of these key CEOs be put under the umbrella of the Senior Salaries Review Body, who presently makes pay uplift recommendations on Judges, and senior members of the Armed Forces. Arguably this cadre of professional workers are equally vital to the functioning of key sectors of the British economy. Their pay is reviewed and scaled objectively by this neutral body of suitably qualified experts²⁷. In any HE system, where the funding of the universities is even partially reliant on public money from general taxation, then it is argued that the salaries of the senior personnel in question should be decided by an publically accountable body. The alternative is that the universities are completely privately funded as independent institutions, not reliant on public money – in which case they should obviously be free to set the pay of their CEOs as they see fit.²⁸

7. *Develop a Rational Plan for Medical Manpower.*

One of the major lessons that we have learnt from Covid-19 is that we do not train enough nurses and doctors in the UK (see Dolton et al., 2018). Farcically, in the current epidemic we reached a position in the operation of the ‘flagship’ Nightingale Hospital in the ExCeL centre in London was fully equipped at considerable effort and expense, but we didn’t have the nurses to staff it – so effectively it was never used in the Covid-19 crisis. If we look back at the root of this problem we can see that the position was made much worse by the Conservative government’s decision to abolish bursaries from 2016 for nursing students. This caused a dramatic fall in student demand to study nursing. The Government should carefully consider the numbers of doctors and nurses it needs to train, and be mindful of the fact that it needs to plan a long time ahead, very carefully, as it takes up to 5 years to train a nurse and double that to train a doctor. In the light of Brexit and the Covid -19 pandemic we now know that we need to train many more of them and we must be prepared to offer bursaries and reduced fees to students studying these subjects. We should not

²⁶ One prominent critic of the level of VC pay has been Lord Andrew Adonis. See his letter in the Varsity Magazine on February 11, 2018. <https://www.varsity.co.uk/news/14751>

²⁷ See Dolton and Makepeace (2015) for the functioning of these pay review bodies and econometric evidence that they perform an objective and proportionate function.

²⁸ Interestingly, the most well-known private university in the UK, the University of Buckingham, has a VC who was paid £135k per year this year. This is less than a third of what some universities in the UK pay their VCs.

go on trying to poach these key personnel from developing countries after they have been trained. It is inappropriate for the UK to be relying on the hiring of trained medical personnel from other countries, who have trained them at great expense.

9. Postscript: The Political and Economic Reality?

Notwithstanding the policy imperatives which may be logged by pressure groups on behalf of universities, and the pragmatic financial agenda of the government, the political and economic reality facing the whole HE sector is the biggest challenge ever faced by the system in the last century. This is because the crisis facing the whole economy is a massive contraction of potentially more than 30% of GDP – the biggest in over 300 years. The reality is that the ambitious £18bn R&D spending plans of the Conservative party, outlined in the 2019 election, are unlikely to be possible in the near future. It therefore behoves any pragmatic policy commentator to be proportionate in their prescription for UK HE in the age of Covid-19.

However, the long-term prospects for the HE sector are positive. In due course, when Covid-19 has run its course and/or there is a vaccine, then the world will surely turn. In the end, the UK will be open for business again, and when we are, we still have some of the world's best universities offering a training in most subjects which bear comparison with any other HE system in the world. The young people of most countries around the world will still aspire to come to the UK to study. In addition, the demographic pattern of the UK suggests there could be up to 300,000 additional young 18-year-olds wanting to come to UK universities by 2030. In addition, a recent HEPI (House, 2019) report suggests that there could be an additional 22,750 postgraduates' students in the UK by 2030. So, the long run financial viability of the UK HE system is assured.

Further cause for optimism is the way in which the academic research community has responded to the current pandemic. At the time of writing (22nd May, 2020) there have been over 7,000 research articles written on the science and impact of Covid-19. This out-pouring has also been accompanied by an unprecedented level of collaboration and sharing of data and computer code, hitherto never seen. This genuine spirit of cooperation and focussed endeavour, at the highest level, augers well for the future possible contribution of the research community in solving, what is a worldwide problem.

A third positive impact of the present pandemic is the sudden embracing of on-line conference and teaching IT and capability. Just recently I logged on (along with hundreds of others all over the world) to a presentation hosted by Princeton University given by one of the world's leading scholars from MIT on the topic of Covid-19 and potential impacts of lockdown policies, based on a paper which was only written a few days ago. Just a few months ago this would not have been possible. Normally we would wait for months to see a discussion paper or a year to catch a presentation at an annual conference, and then wait up to another 2-3 years before it appeared in one of our subject's elite journals. We had the technology for it to be different – it was there waiting for us – but not the impetus and will to use it. The impact of this is potentially enormous. People all over the world can learn and teach to huge audiences at close to zero, marginal cost. This will revolutionise the delivery of higher education and research. No longer will it be necessary to travel half way across the world to attend conferences at huge expense of time and money. The side-effect of this is that we will radically need to think through the implications of this revolution in the way research and possibly teaching is delivered. On the back of what we have learnt about the feasibility of online distance learning, it is conceivable that we will see the rapid expansion of on-line degrees from many high-quality universities which will preclude students leaving home (or their own country) to complete their degrees. The unfortunate consequence of this though may be that the huge capital expenditure of many of our universities on student accommodation may prove to be an unfortunate investment.

But in the meantime, we have, some would say, a long overdue interregnum, to critically appraise our system and map a new direction for its future. This future should include a rational reappraisal of the role of the market in our system and whether or not our 20-year-long experiment with it, needs some adjustment. It should also include a rebalancing of the importance of technical education and apprenticeships and the role that employers should play in its provision. We can learn much from Germany – not only about the handling of the Covid-19 epidemic – but also the development and sustainability of a high-class training system. We really need to cure the snobbish view that technical training is something done by other people's children. Young people need to be radically re-educated about the burden of the debts that doing an undergraduate degree and incurring up to £70k of debt will exact on their future lives.

The government will be right to seek restructuring assurances from universities that seek government financial help. This should include, not only plans for technical training, but also much more flexible curricula for lifelong learning and re-engaging with the demands of the local community and the pent-up demand for courses from

older people who presently use the University of the Third Age (U3A) and are starved of resources.

In contemplating restructuring we will need to address difficult questions, for example:

- should there be some rationalisation of universities – for example, do we really need 5 universities in Leeds and Manchester?²⁹
- should we really be using the future debts of young people to fund universities – and how can we possibly be asking them to pay 6% per annum interest for the privilege?
- should our system be so reliant on postgraduates students from overseas – especially if the vast majority are coming from one country?
- can we justify poaching the medically qualified manpower of developing countries without having paid for their training?
- can we go on subsidising the research activity of our universities by teaching sources of income?
- should we go on charging the same fee to students irrespective of what subject they study or what institution they study at?

These are all questions which need to be addressed by our university system.

²⁹ There are 5 universities in Leeds: the University of Leeds, Leeds Beckett University, Leeds Trinity University, Leeds Arts University, and the University of Law (Leeds) when Leeds has a population of less than half a million people. In Manchester, there are a further 5 universities with a total of 24 universities within a one hour public transport commute in the North West alone. Furthermore, Leeds and Manchester are only 36 miles apart. Can this be rational?

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