

Finding a NEET Solution.

How Government can fund the skills of the future

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About Coadec

The Coalition for a Digital Economy (Coadec) is an independent advocacy group that serves as the policy voice for Britain's technology-led startups and scaleups.

Coadec was founded in 2010 by Mike Butcher, Editor-at-Large of technology news publisher TechCrunch, and Jeff Lynn, Executive Chairman and Co-Founder of online investment platform Seedrs.

Coadec works across a broad range of policy areas that matter the most to startups and scaleups: Access to Talent, Access to Finance & Technology Regulation. We represent the startup community on the Government's Digital Economy Council, and the UK on the international organisation Allied for Startups Board.

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Key Recommendations

- 1. The Government must commission analysis to identify where the nation's immediate and longer-term skills needs lie.** This should be regularly updated, as real-time labour market data is essential for ensuring that lifelong learning is properly linked to employers' skills demands.
- 2. The Government must focus on adult education at the next Spending Review,** and set out an ambitious, long-term funding settlement.
- 3. The Government should allocate £100 million to a new "Future Skills Fund",** in order to enable those wishing to retrain or upskill to access funding, structured as a Future Earnings Agreement (FEA).

Introduction

When the Covid downturn struck, it collided with a more persistent crisis in the British economy - a severe skills shortage that points to a £4.4 billion annual fee for businesses to backfill skills in technology and digital areas in particular.

With a mounting unemployment crisis, which the Bank of England has predicted could see 2.6 million unemployed by the middle of 2021, two challenges have been compounded: ensuring that Britain has the necessary workforce to compete and lead in the economic recovery, and turning huge numbers of NEET individuals into employable and productive workers.

The Government has already taken bold actions to shoulder furlough costs in order to keep people on payroll during the crisis, but now is the time to turn costs into investment, and inject the economy with the talent required to supercharge growth for years to come.

Nevertheless, the UK has a long history of failed skills policies and the evidence base on which retraining interventions are most effective is not rich. British Governments have launched new skills policies roughly once a year for the last 40 years, and there will be many bad ideas - both old and new - in this space.

But from our literature review we can identify three ingredients to success:

1. **A clear link between available training and employer demand.** It's no good funding people to do courses that are immediately appealing but have little prospect of leading to jobs. Likewise paying companies to host young people on temporary placements generates little useful economic activity.
2. **Certification and accreditation.** It's broadly true that any form of labour market participation is better than nothing, but the best outcomes are obtained when people receive something to demonstrate to future employers that they have gained and applied certain skills. This is particularly important for those without university degrees.
3. **Speed and scalability.** Adapting and scaling up what already exists will be faster and more effective than inventing new schemes from scratch that require extensive testing and work to explain them to partners. Gordon Brown took a year after Lehman Brothers fell before even announcing the Jobs Guarantee. We need to be much quicker than that.

The Case for Lifelong Learning

Reskilling is one of the biggest issues facing the UK – getting it right is essential to levelling-up opportunity, improving international competitiveness, and building back better from this crisis.

Historical UK and cross-cutting international research consistently shows that productivity is the key driver of living standards and that there is still a strong correlation between productivity and real earnings in the UK, despite evidence of a decoupling internationally.

Skills are a key driver of productivity growth. Whilst skills interventions are not a solution in isolation: the interaction of skills with other drivers of growth, particularly employer demand and socio-economic factors is crucial. Before the 2008 financial crisis, UK growth was mostly driven by a combination of capital and Total Factor Productivity (TFP). Since 2008, skills growth has been relatively steady, while capital and TFP have stagnated. This has stalled productivity and it has led to the UK becoming the 'sick man of Europe' once again.

It's clear that the world of work in 2030 will look considerably different to today. Tasks, roles and entire jobs are set to transform, as technology rapidly changes work and drives up demand for new and higher skills. Research commissioned by the Department for Education in 2018 highlights that automation and labour market changes are expected to displace many jobs, with estimates varying from 10% to 35% of jobs expected to be at "high risk" of replacement in the next 20 years.

And not just any jobs. The jobs that only a generation ago were the most sought after by top graduates for mega-salaries, and a status so high that incumbents used to call themselves "Masters of the Universe." As David Solomon, CEO of Goldman Sachs, explained last year: "Fifteen years ago we had 500 people making markets in stocks. Today we have three." Algorithms can do their jobs now.

Nevertheless, research by the Office for National Statistics concluded that of a sample of 19.9 million jobs, 7.4% of workers are employed in roles at risk of automation, with lower skilled workers more vulnerable to these changes.

Some sectors, such as green energy, are set to grow, with research predicting 1.18 million new green jobs by 2050. Similarly, the UK's tech sector is growing six times faster than the rest of the economy, creating a huge demand for new and higher skills. British tech startups and scaleups now employ 2.93m people, with 40% growth over the last two years. Digital and tech roles, like Software Developers, now feature in the top five sought-after roles alongside those that are perennially in short supply - like Social Care workers and Nurses.

But analysis from the Industrial Strategy Council has found that 7 million additional workers will be under-skilled to meet the job requirements of the most in-demand roles by 2030. Two thirds of the workforce are said to face some level of under-skilling in basic digital skills, of which 5 million workers are estimated to be acutely under-skilled and a further 1.5 million workers acutely under-skilled in at least one STEM workplace skill.

With around 80% of the 2030 workforce having already left formal education and are either employed or looking for work, the UK urgently needs a step change in its approach to adult reskilling in order to support the vision for levelling up opportunity for people across the country. We cannot hope to deliver meaningful improvements to productivity through skills interventions over the next decade unless we act to improve the skills of adults already working.

Since 2004 adult training and learning participation rates have almost halved (-49%) from 29% to just below 15%, and 38% of adults have not participated in any learning since leaving full time education. Formal training in the workplace has also declined over the past 15 years. The latest Employer Skills Survey shows that one-third of staff have received no training in 12 months, a figure relatively unchanged since 2011.

Too many people across the UK lack the opportunity to develop key skills after they leave formal education - particularly those with relatively limited prior education and from lower income backgrounds. This is one of the greatest social injustices of our time.

Recent analysis conducted by the OECD found that while the UK has been effective in activating highly skilled adults, pronounced inequalities between the highly skilled and those who have not had those opportunities remain. ONS evidence shows that at present, adults they deem low skilled are the least likely to access training opportunities.

A review of the literature indicates that this has been a consequence of an education and skills policy that prioritises resources for Higher Education (HE) and schools over Further Education (FE) or lifelong learning. Adult skills funding has fallen by 45% in real terms between 2010 and 2018, and constrained resources for FE and vocational skills have focused on young adults. What has been referred to as a 'vocation fixation' has translated to an emphasis on, and investment in, apprenticeships over other forms of both classroom-based and work-based training.

Those who do participate in lifelong learning tend to be wealthier and they are more likely to already have a higher-level qualification. 92% of adults with a degree level qualification have undertaken lifelong learning over the past year compared to 53% of adults with no qualifications.

Little wonder when the upfront costs required to participate in high-quality technical and professional training are substantial. University graduates are expected to earn £210,000 more on average than someone with A-level qualifications, over the course of their lifetime. They can afford to invest in lifelong learning. By contrast, declining employer training budgets, and a lack of public funding for adult skills, has significantly reduced access to training opportunities for those who choose not to go down the HE route.

There is a rich amount of research on the positive effect high-level qualifications (Bachelor's degree and above) have on productivity growth, which shows that a one percentage point increase in the proportion of the workforce with a university qualification raises productivity levels by 0.2-0.5% in the long term. Yet, restricted and unequal access to training can actually have a negative impact on overall economic growth; whereby limited training opportunities for disadvantaged individuals can offset the productivity advantages of other workers' investment in skills. Therefore, opportunities for retraining, upskilling and lifelong learning must be available across skill levels and groups of people to achieve economic and productivity growth.

This was the situation even before the Covid-19 pandemic took hold, but the Government had already stated its ambition to widen training opportunities in order to improve the skills pipeline:

- T-Levels, co-designed with employers with an element of on-the-job training could become high quality vocational qualifications. However, it is not clear how deliverable industry placements on the necessary scale will now be and there is limited capacity in the FE sector to deliver a full-scale programme.
- The reforms of the apprenticeships programme to focus on quality and incentivise employers to invest in high quality training. However, starts have declined and there are major projected overspends alongside persistent complaints from business over the inflexibility of the apprenticeship levy.
- Pilots of the National Retraining Scheme, announced in the 2018 Autumn Budget, were rolled out in six areas in England in July 2020. The programme offers tailored advice and guidance and functional skills training, focused on English and Maths, to people on low wages aged 24 and above with no degree level qualifications. It also includes 12-16 week digital bootcamps focusing on coding and software development skills. So far, over 3,600 users have accessed the scheme.
- A £2.5 billion National Skills Fund (NSF) and £1.5 billion capital funding for upgrading further education college facilities over the course of the next parliament. The NSF was described as providing "matching funding for individuals and SMEs for high-quality education and training" as well as "strategic investment in skills", but that the Government would "consult widely" before determining its specific design.

The Impact of COVID

The Covid-crisis has posed many new challenges for skills policy, and the prospect of rising unemployment has only increased the urgency of such measures.

First, elevated unemployment creates the risk of permanent loss of skills. The Bank of England has predicted that up to 2.6 million people could be unemployed by the middle of 2021, and the Chancellor has already warned that the economy is likely to undergo a permanent adjustment to Covid-19, and that not every job lost will return.

Widespread business failures will lead to the loss of institutional knowledge and technical capacity; sustained unemployment risks skills atrophy hitting long-term growth. The end of the furlough scheme and weak domestic consumption will bear down on employment in the short term. Declining investment, changing patterns of demand and weak external demand risks structurally higher unemployment in the medium term.

Second, social distancing will hinder much traditional retraining. A lot of classroom-based and on-the-job training will become impossible, restricted or just more difficult and expensive to deliver.

Third, retraining needs are heterogeneous across the country. The hits to output and employment vary by region and sector and will necessitate different retraining needs. Construction, manufacturing, retail and hospitality sectors face acute challenges, and some of this job shedding is likely to be permanent rather than temporary in nature. For example, survey data suggests more than 40% of people expect to make fundamental changes to how they shop.

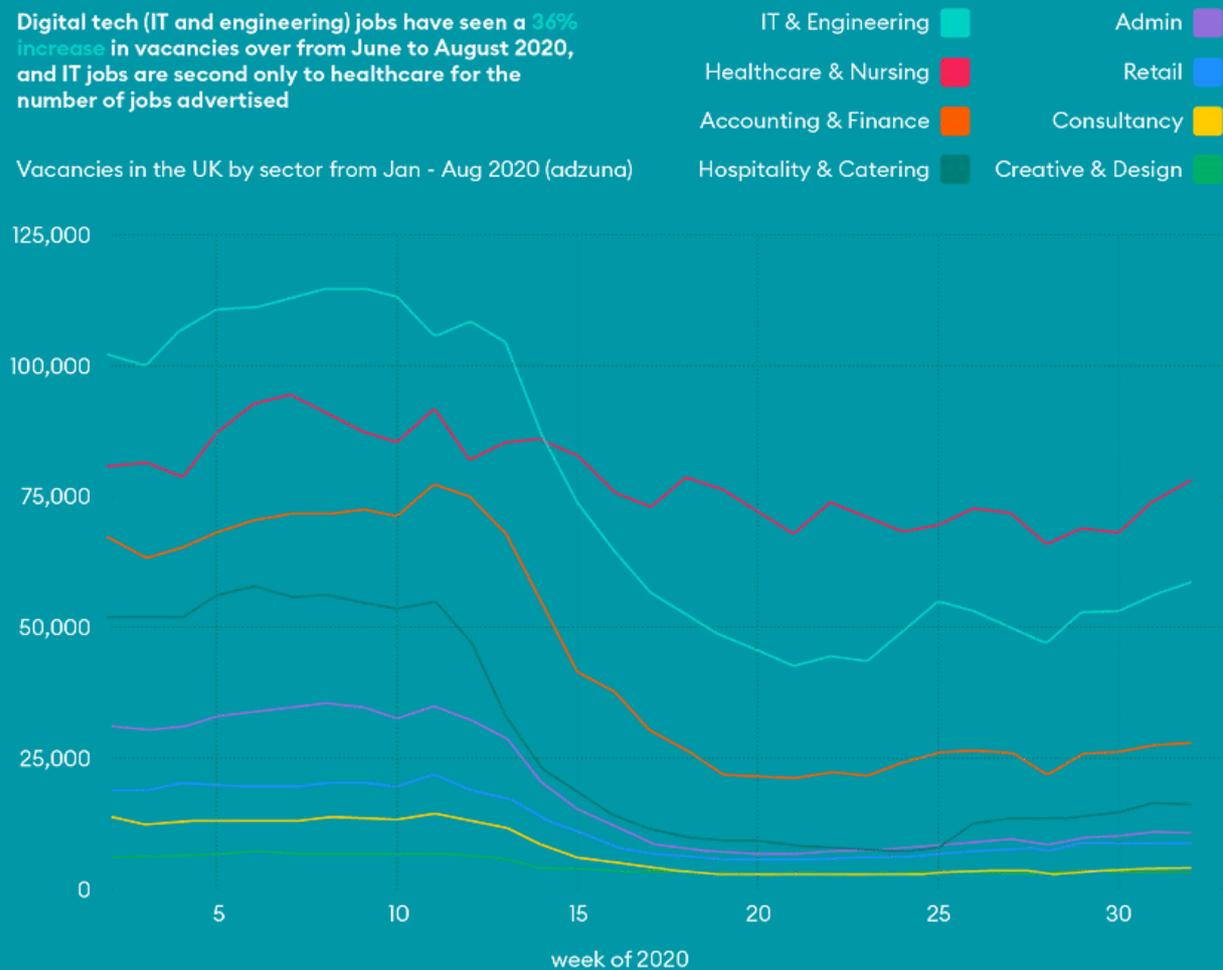
By contrast, digital and tech is now second in importance in the UK labour market in 2020 only to Healthcare (see diagram overleaf). Digital and tech roles have seen a 36% uptick from June to August 2020, and there were over 90,000 jobs per week advertised in August last year alone.

Fourth, the effectiveness of different interventions varies substantially. The UK has a long history of failed skills policies and the evidence base on which retraining interventions are most effective is not rich. British Governments have launched new skills policies roughly once a year for the last 40 years. Yet despite some limited successes, skills are still a major drag on productivity.

Fifth, in-work training budgets are under pressure. Employer investment in training never properly recovered from the 2008 financial crisis. Many revenue-constrained businesses will be looking to cut non-essential costs in order to get through this new crisis. This is likely to put employer training budgets under yet more pressure.

Digital tech (IT and engineering) jobs have seen a **36% increase** in vacancies over from June to August 2020, and IT jobs are second only to healthcare for the number of jobs advertised

Vacancies in the UK by sector from Jan - Aug 2020 (adzuna)



It's clear that now, more than ever, there is a need to ensure people in the UK are able to upskill and retrain in areas that meet the nation's needs. The challenge will be in the execution: targeting the spend to the right people (it will cost 4 times as much to retrain a worker than to upskill them), engaging the 34% of employers who provided no training at all last year, ensuring that money is spent effectively (training can boost productivity by more than 40% or not at all), and who funds what. But as skills availability is a key factor for firms deciding where to innovate and expand, the UK can forge a new place in the global race by creating an extensive pool of talent.

The new £2.5 billion National Skills Fund offers a significant opportunity for a large-scale, sustained transformation to skills and lifelong learning. But more is needed than just a new pot of funding alone. To get the most out of the National Skills Fund, decisions on expenditure must be underpinned by a well-defined, strategic vision of the role and purpose of lifelong learning in the 21st century.

Just over one hundred years ago, the Ministry of Reconstruction published its landmark 1919 report, setting out its vision of adult education as "a permanent national necessity, an inseparable aspect of citizenship... both universal and lifelong." An ambition on a similar scale is needed again.

How to Fund Lifelong Learning?

In September 2020, the Prime Minister announced that part of the NSF budget would be spent on a Lifetime Skills Guarantee - free, fully funded places on an approved list of college courses "valued by employers" for adults without A-levels or equivalent qualifications. In the same speech, he also announced that further education students would have access to the student finance system on the same terms as university students, offering access to loans to fund up to four years of post-18 education.

A generous pot of government-backed finance for any type of learning, not just for a succession of university degrees, would especially support those now out of work because of Covid-19. And making future repayments income-contingent would avoid it being costly to the taxpayer.

But more thought needs to be given to the practical delivery – how will the funding work? Which qualifications will be prioritised? And can we ensure providers are ready to operate and deliver at scale?

1. Adult Learner Loans through the Student Loans Company (SLC)

We already provide income-contingent loans, through the Student Loans Company (SLC), to allow people to pay for university fees and living costs. This means students don't pay those loans back unless they earn above a certain income (currently £25,716/year), above which they pay 9% of their earnings in repayments. The loan incurs an annual interest rate equal to an annual measure of inflation plus 3%. Once you have paid off the loan, no more repayments are taken, and any amount still unpaid thirty years after the loan was first taken out is written off.

This is very generous. Under a less generous repayment scheme that was in place until recently, with a lower income threshold for repayment, out of every £1 borrowed by students the long-run cost to the government was 43.3p. That means that there is a *de facto* subsidy to university education, which has encouraged more people to pursue higher education than might otherwise do so under a more neutral system.

To eliminate the funding bias, the Government could choose to extend the financial support available for university student loans to vocational courses and alternative academic study, in order to provide everyone with four years of post-18 education funding. This would mean that, in practice, you could borrow £37,000 or more at the age of 18 to spend on whatever training you wanted, to be repaid as you started earning more as you got older on the same terms as university loans are repaid.

In some parts of the country, where very few people go to university, this policy would mean a major cash transfer that currently only goes to universities and university towns, possibly helping the government's aim of 'levelling up'. This seems to be the direction of travel set out in the Government's White Paper for Further Education (FE).

Whilst this is understandable, given the relative ease with which the SLC could be scaled up to provide lifelong learning loans more widely, there are a number of problems with using this delivery mechanism.

First, financing four years worth of post-18 education loans through SLC would not only be a huge burden on the Exchequer at a time when fiscal levers are constrained, it would also provide poor returns to individuals and taxpayers alike. The SLC's pretty rudimentary process for originating loans - "apply, assess, repay" - means that the same loan terms are currently offered to students who study medicine or economics as study English or the creative arts, even though they have wildly different expected returns in terms of lifetime earnings. There is no individual assessment of estimated future income, based on the specific qualification gained.

This has led to a situation whereby the SLC collects less than 43p from every £1 it disburses in loans (income-contingent debt) - effectively providing an 57% public subsidy. This isn't sustainable. And over the last decade alone, the Government has been forced to sell off two tranches of the SLC loan book to private investors at cut price. In the most recent sale in 2017, the Government booked a loss of around £800m on £3.7bn of loans.

To put it bluntly, universities have a big financial incentive to get as many bums on seats as they can — they get £9,250 per student per year for doing so, almost no questions asked. Rolling the scheme out more widely would do nothing to correct this perverse incentive structure for the other training providers to take advantage of. It also raises important questions about whether adult learner loans are the most effective policy option, given the cost of financing the loan may well outweigh any wage increases (and additional tax receipts), resulting from the extra training.

Second, this system would effectively crowd-out privately funded programmes. It is reasonable to expect that any public provision of finance for private training would come with strings attached. The extra bureaucracy and regulation involved creates barriers to entry, which would favour the 1,179 private sector providers who already possess government training contracts, over their smaller and more agile counterparts. It would also reduce the very flexibility over syllabus that has enabled the best private training providers to build relationships with large employers and adjust their courses to skills demands.

This has already started to take place with the £8 million digital bootcamps programme. Although government has been correct to zoom in on the tech sector, and leverage coding schools to provide lifelong learning opportunities - something we called for in our Startup Manifesto - the DfE has set very strict stipulations on how these bootcamps ought to be run, mandating the length, linked job interview and subject focus.

They could also be subject to stringent quality checks, as Ofsted has said it will be reviewing, with the DfE, “whether such programmes would fall into our inspection scope in future”. This would neuter the very best training providers, and completely deter them from participating. The reason why schools like General Assembly and Makers Academy are able to boast that their graduates go on to work for Google, Apple, Black Rock and NASA, is because they are able to flexibly adjust their courses to meet employer-demand.

2. Creating Individual Learning Accounts (ILAs) to simplify adult education funding

Another widely-touted approach is to consolidate all the different pots of adult education funding into one single scheme of 'learner accounts'. The idea would be to reduce the complexity of the adult skills funding landscape, and provide everyone over the age of 18 with a government grant, which they could spend on accredited training providers. Effectively acting as a bank account for skills and training.

Several countries have started to explore similar programmes. Probably the most prominent is Singapore's SkillsFuture Credit, introduced in 2015, which offers every citizen over the age of 25 an initial S\$500 (circa £285) to spend on eligible courses. Government can then top up these accounts: for example, this year people aged 40-60 will receive a one-off top up of S\$1,000 and everybody else over the age of 25 will receive S\$500. Pilots of similar schemes are underway in Scotland (Individual Training Accounts, worth £200 a year) and Wales (Personal Learning Accounts). Unlike SkillsFuture Credit, however, these are not universal programmes, but are targeted at people seeking work or on low wages and limited to courses in priority subject areas.

The French Government introduced a system of Personal Training Accounts in 2015, funded by a levy on businesses with over 10 employees and self-employed workers. Initially, workers were credited with a certain number of hours' worth of training each year, which they could reclaim from a sectoral training fund or the French employment service. Since 2018, however, the scheme has been converted to cash. Most full-time employees are now credited with €500 a year, up to a maximum of €5,000, while low-skilled employees are credited with €800 a year, up to a maximum of €8,000.

But none of these schemes are of sufficient scale to replace the existing adult education funding infrastructure in England. This is only where the problems associated with ILAs begin.

For years, ministers have tinkered with the idea of handing choice and power to the student by giving them access to a “bank” of the loans and grants they can spend on tertiary education.

The idea has had various names – Individual Learning Accounts, as they were under New Labour in the early 2000s, as well as personal learner accounts, individual education budgets, skills accounts, skills wallets – you name it, it’s been floated within all three political parties. But a system open to fraudulent abuse under the ILA scheme, launched in 2000, caused the then Education Secretary to end them just a year later. Even the Education Committee has acknowledged that they’ve become a poster child for bad government and “political kryptonite.

The Augar Review in 2019, which the government shows every sign of largely following, examined the failed ILA scheme and recommended the “gradual” implementation of a similar system that might be “overseen by the established Office for Students and the Student Loans Company”. It’s certainly true that advances in technology and digital security could reduce the risk of fraud taking place again, but the time it would take to get the necessary infrastructure just wouldn’t be sufficient to meet the scale of the challenge. With unemployment predicted to hit 2.6 million by the middle of this year, speed and scalability of delivery will be critical.

Similarly, it seems pretty clear that the government would have to assess which courses will provide “value for money”, in terms of employability and the earnings potential of individuals, in order to prevent ILAs becoming a black hole in public finances. But the notion that the “skills mismatch” is a problem of “planning” which can be solved by government mapping the market and brokering supply and demand is a myth and failing to recognise this will waste resources and create a more, not less complex system.

There are more effective solutions to addressing skills gaps out there, which are employer-led and market-driven.

A NEET Funding Solution

There is a plethora of programmes, run by private sector technical qualification providers, that are intensive and typically only last only a few months in duration. Students are given focussed training that is specifically tailored to precise occupations, such as software development, AI and operations, that make them work-ready in the UK's growing tech sector.

Companies know that the people coming out of these certified training courses can do the jobs they need, so they move in and Hoover up the graduating students, putting them straight into their workforces. It's common to see people go from having an interest in software development, but no formal qualifications, to gaining a job in a booming industry paying £30,000 or more, within the space of three months. General Assembly and Makers Academy are just two examples of these institutions, and they boast graduates working at the likes of Google, Apple, Blackrock and NASA.

Case Study 1: Makers Academy

Makers is the premier coding provider based in London. In 12 weeks, the organisation trains students to become fully qualified software engineers. Makers retains a successful track record for spotting and developing the talent of students from different backgrounds. Over 35% of its engineers have been women (two times higher than the industry average). In the past it has also developed its own fund to attract students from challenging and underprivileged backgrounds.

CEO of Makers, Claudia Harris, explains: "the UK is facing a major digital skills deficit. Prior to the pandemic, it was estimated that 22% of the country's workforce (11.9M people) did not have the essential digital skills to engage in everyday life. Over half of UK employees lacked the digital skills necessary for work and firms were finding it difficult to fill specialist digital roles such as software engineering."

Since then, the COVID-19 crisis has led to huge numbers of industries moving online, at a pace that could never have been anticipated. From education to leisure, organisations across the country have adjusted their models and behaviours with unprecedented speed.

"Although many jobs across the UK are under threat at the moment, software engineering is proving relatively resilient", says Claudia, "in the past, salaries have been higher than most positions for newly qualified university graduates. Data collected about Makers alumni over the past six years reveals that the average annual remuneration for men is £32,000, and for women coders £34,000 and over 90% of graduates seeking jobs are successful within a year."

Companies work with Makers because of the enormous shortage of developers – and because those who go through the bootcamp are much more likely to pass companies' technical tests. This is in part because of rapid iteration – new Makers' students arrive every six weeks. The course is tweaked – sometimes substantially – after every intake. This means the course changes up to 20 times in the same period in which a degree course would change once: the result is something much closer to market demand.

The level for Makers' developers is substantially higher than the new standards for degree apprenticeships, and employment rates are much higher than for average university degrees. Yet universities attract high Government subsidies, through student loans, which are not afforded to private coding providers like Makers.

To date, Makers has reskilled 1,700 people into junior software engineers and placed them with leading global brands such as Deloitte Digital, Tesco, Vodafone and Capgemini. "We do not care where you went to school... All we care about is whether you can do the coding exercises. We've had lawyers and bankers who get sick of the city, we've had painters and flooring contractors who want to earn more, we've had musicians who just want a better salary," Claudia says.

"Learning to code has become even more relevant as the world has shifted online; it is the bricks and mortar of our day-to-day lives now. It provides a foundation for understanding the technology around us; it is central to the economy and world that we live in, and is thus a skill that will last a lifetime."

They are also attractive to a range of people for whom more traditional training, or a university degree, or even a formal apprenticeship, wouldn't be right. As such they are a good fit for those who have just lost their jobs, but also those who have families or commitments, and are not in a position simply to drop everything.

The problem is accessing the finance needed to pay the substantial upfront fees required by these training providers - which typically range from £8k to £15k - and technical training is currently excluded from Government subsidised loans, in the form of the Student Loans Company (SLC).

As a result, individuals are predominantly forced to use their savings to cover these admission fees, constraining training opportunities to the already wealthy. This is because traditional loans for lifelong skills are expensive and offer poor value for learners. Learners often have a poor credit rating (e.g. are young people with thin credit files), or may have been out of work for some time (e.g. due to Covid), or simply have had low paying jobs and want to earn more by getting a higher skilled job.

This in turn makes loans expensive at APRs of more than 20%. Not only this, but all of the risk is borne by the borrower. If they don't land the job they hoped for, perhaps because the course was of poor quality, they are saddled with the whole debt and interest.

Coadec has long championed innovative funding mechanisms like the Future Earnings Agreement (FEA) model that companies like StepEx deploy. They act as an alternative to debt that links the total amount paid for a training course, to the future earnings that are estimated to be obtained post-qualifying.

In the US, FEAs are used widely and are known as Income Share Agreements (ISAs). World-class training institutions like Lambda School and General Assembly use these models in order to expand access to high-paid jobs in software engineering and data science. Just speak to Austin Allred, Co-Founder and CEO of Lambda School - the benefits of them are clear:

"I recently checked in with the first Lambda School graduate that was ever hired. Since graduation he has three years worth of work experience and has earned a cumulative \$385k.. Of which he paid \$30k back to Lambda School for his course.

If he was still making his pre-Lambda salary he would have earned \$90k over the same period of time. That's a \$295k delta in 3 years!

If he had gone to college instead of Lambda School he'd be just starting his final semester."

Similar to government-backed student loans, learners who are able to use FEAs pay nothing up front for the course, and repayments are only made once the learner has a job and earns above a certain salary (e.g. 7% of earnings above £25k). Those that never get a sufficiently high paying job don't need to pay back the FEA. As opposed to debt, there is no 'millstone' around the neck of the learner.

But unlike student loans, the origination of FEAs is based on the **predicted future earnings** of each student upon graduation, rather than educational background or prior attainment. All of these features mean that they are attractive to a much wider group of people for whom training opportunities would otherwise seem like a far-away dream. They have significant potential in levelling the playing field and promoting social mobility.

Those that do gain a high paying job may end up paying back more than the cost of the course (i.e. to 'compensate' the FEA provider for those who don't repay), but this amount is capped in total (both through the number of payments, and as a multiple of the amount of finance), and also only ever a fixed proportion of salary above the threshold (e.g. 7% over £25k).

What makes this such a great funding mechanism is the fact that the providers only get paid if their graduates secure good jobs after their training. This means they have a strong incentive to invest in after-graduation careers support, and build strong partnerships with large employers. It is a **market-driven, employer-led** process of addressing skills gaps.

By contrast, universities and colleges get paid by the SLC regardless. Graduate employability might matter for league table performance, but if graduates don't go on to earn decent salaries and pay back their student debt, it's the Exchequer that suffers financially, not the institutions.

FEAs could fund a wide-range of training programmes without requiring substantial state involvement. Coding courses may be a low-hanging fruit, but the future earnings model would work for most forms of vocational learning. There is an abundance of intensive training providers covering everything from health and social care, to construction and law.

Even at the other end of the scale - in postgraduate study - there is huge utility in making FEAs widely available. The courses that lead to the highest-earning outcomes often cost in excess of £30,000. Yet, 75% of 20-30 year-olds have combined savings and access to finance of less than £7,500 and postgraduate student loans are capped at £11,222 for a masters degree, which doesn't cover the cost of these qualifications.

Private debt finance should fill this gap, but it can't because it is based on a person's income history, which for young grads is often low, despite high future earnings potential. Banks have long left this market leaving a few private high cost loan companies, charging credit card levels of interest to compensate for the one in ten that are forced into bankruptcy, leaving many of the remainder burdened with debt for decades due to compounding interest.

The unsuitable nature of debt for skills finance has created a significant market dislocation, with individuals who don't already have wealth effectively locked out of "productive investment" into higher education. The means to uplift income is only affordable to those who already have a high income. This is not only unjust; it is a monumental waste of our brightest talent. By utilising FEAs, the Government could be at the forefront of equipping people with the skills to thrive in the modern economy – and all without being saddled with debt.

Case Study 2: Jesse

I grew up in a single-parent family and left school at 17. But I taught myself the markets and in 2008, aged 18, joined Northern Trust in a trader-support role. In 2017 I left Deutsche Bank and I didn't really know where I was going.

I love video games so I started going to conferences, networking and talking to people in the industry. But I realised I had no clue about gaming from a business perspective. So I found a Masters level course at ISDE in Barcelona.

This was a 14,000 euro, 9 month intensive course, paired with a 3 month internship. That's important to me, rather than studying theory, it's about getting a job. I got finance through an FEA (which takes a slice of my salary) - It's all about people ready to invest in you.

Case Study 3: Tipton Training

Tipton Training is the first private post-graduate dental education provider in the UK to have an Royal College of Surgeons (RCS) England accredited centre. Over the course of its 30 year lifespan, Tipton has successfully trained over 3,500 dentists, providing them with Level 7 (masters level) postgraduate certificates and diplomas across ten courses - from prosthodontics and restorative dentistry to dental implantology.

Clinical Lead at Tipton Training, Professor Paul Tipton, explains: “Dentistry is an ever-changing profession with continual professional development at its heart. With this in mind, our courses are always developing to ensure we are delivering a course with the latest scientific research and clinical skills. Our inherent goal is that everything taught on a Tipton Training Course can be put into practice the very next day.”

The Tipton Training training philosophy is based on its belief that dentistry is a hands-on profession letting a dentist use both scientific knowledge and hands-on clinical skills to deliver better quality treatment for patients. “Our course takes on dentists from both the NHS and private practice who are looking to improve their level of dentistry, with the ultimate aim of broadening their skills-base and providing more specialised treatments,” says Paul, “rather than being stuck on a treadmill of just drilling and filling, they are able to constantly upskill which means that the sky is really the limit when it comes to their skill level and potential earnings.”

However, prospective students currently have to stump up the upfront fees themselves (around £8,000 on average) for these specialised courses. This makes it harder for junior and NHS dentists to access training opportunities that are vital for not only their career development but also for their patients’ care. After all, a newly qualified dentist earns £32,050 a year, whilst a salaried dentist employed by the NHS earns £52,000 a year on average. This is significantly less than their counterparts in private practice who can expect to earn over £140,000 and can easily tap into these upskilling resources.

“Future Earnings Agreements (FEAs) would equalise access and enable much wider participation”, says Paul, “they provide a great opportunity for students that have recently graduated university, who have already been saddled with five years worth of debt, to gain a foundation in dentistry without taking on more debt. Our curriculum is not taught in university to a great degree, so it secures their long-term career as a dentist by allowing them to improve themselves and gain new skill-sets.”

“Enabling everyone to access funding that is structured as FEAs would provide us with the ideal opportunity to tell prospective students coming out of university: ‘look, here is another way of funding your training, you’re investing in your future, and ultimately the sky’s the limit if you want to grasp the opportunity.”

Case Study 4: Cranfield University

Cranfield University is ranked as one of the leading science and technology (STEM) universities in the UK and, unlike other institutions, it only provides specialist postgraduate qualifications. Their work informs government policy and leads the way in producing cutting edge new technologies and products in partnership with industry. Cranfield Defence and Security, for example, is a provider to the Ministry of Defence with a portfolio including forensic sciences, digital warfare and cybersecurity and counterterrorism among many more.

As Dr Stephanie Hussels, Director of the Bettany Centre for Entrepreneurship at Cranfield University, explains: “Future Earnings Agreements are a fantastic new solution that allows students, irrespective of their income or family situation, to undertake a postgraduate degree to really enhance their career. Unlike at undergraduate level, where there are more funding opportunities available for families with less disposable income, the post-graduate landscape is a lot more restrictive.”

The courses that lead to the highest-earning outcomes often cost in excess of £30,000. Yet, 75% of 20-30 year-olds have combined savings and access to finance of less than £7,500 and postgraduate student loans are capped at £11,222 for a masters degree, which doesn't cover the cost of these qualifications.

“Often students get really concerned about the debt they have afterwards. They're unsure of the jobs they can get afterwards and how they can repay it. FEAs help to overcome this by not only offering the funding to get into a top university, but they also support students indirectly by enabling them to get a high-quality job that will allow them to repay it gradually.”

“For Cranfield, this allows us to widen our student base and get a more diverse range of candidates irrespective of income groups. It's all about getting the best talent that can help businesses and organisations going forward, whereas in the past they would've been overlooked or deterred from applying because of the cost of the course.

Cranfield is one of a handful of forward-thinking British universities that allow a small number of students to use FEAs to fund their postgraduate study. At the moment they are available for courses run by the School of Management and the School of Aerospace, Transport and Manufacturing. The latter ranks 5th in the QS World Rankings 2021.

“We can only provide a limited number of these places because the majority of the course fees are deferred for two or three years. This puts a strain on cash flow if we were to offer them out more broadly as they are currently structured. But if more funding was made available to cover upfront fees, all seats could be filled using FEAs, which would enable us to offer this option more widely and promote social mobility.”

Stepping Up

I know what you're thinking: if FEAs are so great, then why don't we have them? And how can we utilise them better?

First, they're a relatively new financial solution due to the limitations of the Consumer Credit Act (CCA), which had, until recently, prevented a lot of innovation in credit from taking place.

According to the CCA, any organisation offering lending products has to state a representative APR. This frankly doesn't make sense in the context of an FEA, because the 'repayments' depend on future income. Similarly, by law you have the right to pay back a credit agreement early, with no penalties. But FEAs work on the assumption that some people will pay back more than the course costs to cover for the people who inevitably pay back less. Allowing early repayment breaks that model.

Progress has been made by StepEx, a fast-growing financial institution, who have worked closely with the Financial Conduct Authority (FCA) to create the world's first regulatory framework for FEAs in 2019. They have been granted the first and, to date, only licence to provide "outcome-based consumer credit" by the FCA. The world's first regulated FEA, was originated by StepEx in August 2020 for a Master of Accounting at Cambridge University.

Subsequently, a number of FEAs have been issued to education providers that range from elite universities - such as Cambridge University, London School of Economics and Cranfield University - to technical training providers like Makers Academy, CAPSLOCK and AiCORE (Tech).

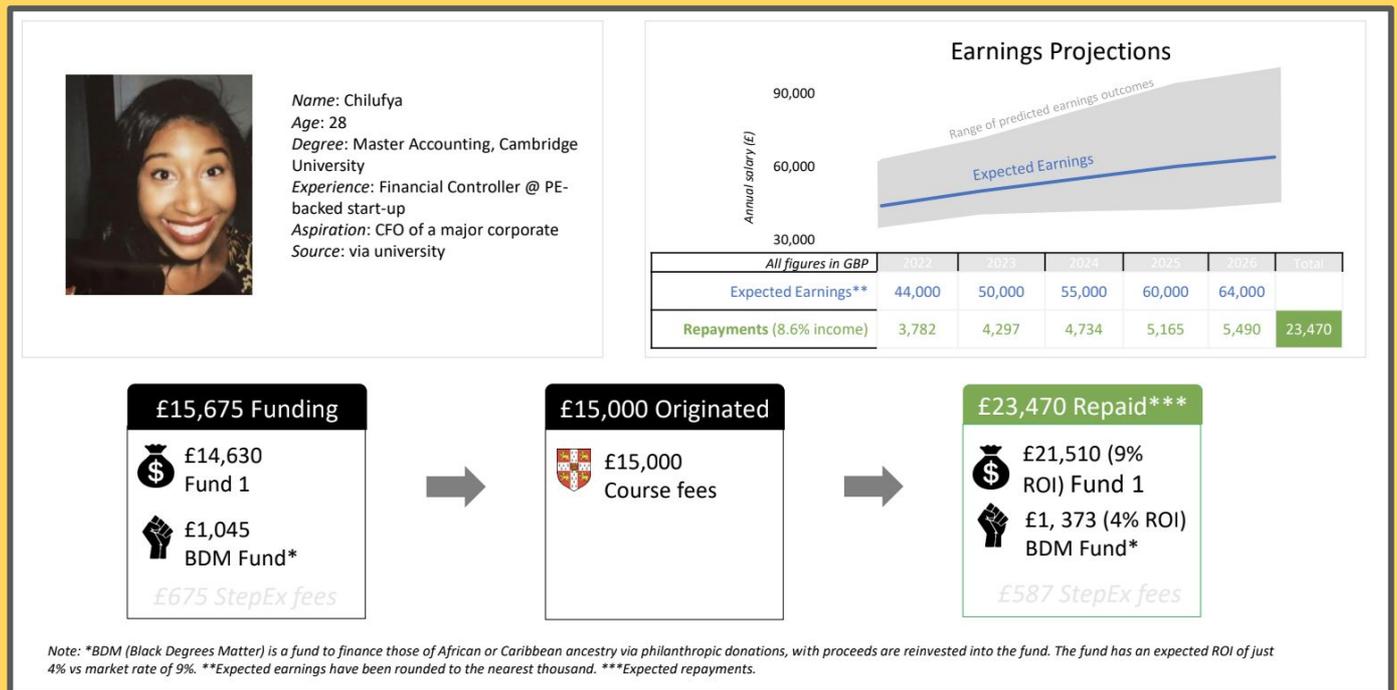
But the biggest constraint to the short-term growth, and wider availability of this financial product is that education and training providers still require upfront fees to cover their overheads. This means that they are only able to offer a restricted amount of available seats as FEAs. Yet, understandably, demand for these FEA designated places is far outstripping supply - data shows that there is only one acceptance for every fourteen eligible applicants.

So there is a model for unlocking lifelong learning in the market already, it just needs scaling up. If more funding was made available to cover upfront fees, all seats could be filled (and many more seats could be made available) using FEAs, which would then widen access to these courses even further. This is where the Government can make all the difference: By stepping up the StepEx model.

Case Study 5: Chilufya

Chilufya was a highly promising candidate for a Cambridge university masters degree. Despite receiving a bursary for some of the fees she was not able to pay the remaining £20,000. Traditional debt providers could not give her an unsecured loan because the gap between what she had earned and spent in the last three years was not large enough to justify the finance.

With an FEA provided by StepEx, Chilufya is now enrolled in a qualification that is likely to rapidly accelerate her career. Cambridge university has gained a student and one from an underrepresented group that they otherwise would have missed out on.



Case Study 6: AiCore

AiCore is a specialist AI and data engineering training provider that enables students to train remotely over 18 weeks to become a machine learning or data engineer. It is now the UK's largest network of AI talent, with over 6500 members. Regardless of what students previously studied or their background, they are getting more people in tech, closing the skills gap and growing diversity along the way.

Founder & CEO of AiCore, Christian Kerr, explains: "We essentially provide a masters level qualification in machine learning in half the time and half the cost. Our course is practical and industry-focussed meaning that we have 100% employment-based outcomes so far."

What sets AiCore apart from other digital bootcamps is that many of their students already hold a masters or Phd in a STEM subject. "The main thing we've learned is that there are so many graduates from higher education with incredible theoretical knowledge, but they've been left totally unprepared for employment. It's quite shocking", Christian explains. "They've been taught R and MATLAB, which are research languages that are never used in industry nowadays. We've seen double Phd students from UCL and Imperial join our course over the past year, as they're looking to actually get a job."

The key to AiCore's impressive post-graduation employment statistics is listening to the changing needs and wants of employers like Goldman Sachs, Apple, Revolut and Ocado. "When we started out last year, we went to all the employers and asked 'what's missing from the students you're trying to hire?' And effectively they built the curriculum for us." This means employers know that their graduates can do the jobs they need, and are eager to plug them into their workforces straight away. The average starting salary of AiCore's graduates is £46,000.

AiCore has delivered two cohorts of students over the past 12 months but Christian explains that he is keen to scale the size and frequency of these cohorts. "We'd love to be able to provide opportunities for an even wider group of learners, but one of the problems of the bootcamp model is that it is cashflow strapped. Because of the deferred tuition model, students don't pay fees until they have graduated and secured a job. This means we shoulder the debt for three or four years after they graduate, as we're effectively taking a bet that they will get hired after learning with us."

This is the exact opposite of higher education where the student bears the debt burden and universities get paid regardless. But it's this very incentive model that underpins the success of bootcamps like AiCore. "It means we're totally aligned with our students as it's in our joint interests that they get hired," says Christian, "if they don't, it's us who ultimately pays. This is why our promise is employment."

So how can we help bootcamps like AiCore to widen participation to high-paid tech jobs? Here, Future Earnings Agreements (FEAs) appear to be an answer. "At the moment our course costs £12,500 per student, and they pay £1,000 upfront as a deposit - this enables us to cover our ongoing operational costs. But if prospective students were able to use FEAs, we would be able to receive the full fee upfront". This would allow AiCore to scale at pace.

"If we were able to receive more of the course costs upfront, we'd be able to hire more professionals to deliver the model to more students. We have a long waiting list of prospective students but we can't take them on at the moment because it's too much of a risk for our own cash flow. Allowing more people to utilise FEAs would rectify this. Longer-term we'd look to expand our offering to students in the North of England and Northern Ireland where there's huge demand."

Case Study 7: CAPSLOCK

CAPSLOCK is an intensive training bootcamp that reskills adults into cyber-security professionals within six months. Designed in collaboration with industry leaders including Lloyds Banking Group, BT and Dell, it provides students with opportunities to solve cyber-security problems practically, equipping them with the skills necessary to pursue high-paying, competitive careers in cyber-security.

Significantly, the course comes at no cost to its students. Costs are fronted through Future Earnings Agreements (FEAs), provided by StepEx, meaning that graduates are not required to pay back until earning more than £27,000, with the loan wiped after six years. Of its first cohort of 85 students, 77 opted for the FEAs, with CAPSLOCK deferring £700,000 in tuition fees so learners could join for free. This makes CAPSLOCK the UK's largest provider of FEAs in the UK.

Co-Founder & CEO of CAPSLOCK, Jonathan Slater, explains: ““At a time when the value of tech degrees is in decline, there is an urgent need for disruption in cyber-security education. We’re determined to drive this disruption and close the cyber skills gap in the UK, which costs £27bn annually. By unlocking the potential of adults in the UK, and eliminating the financial barriers to reskilling, we’re changing the face of cyber-security and making it more accessible to people of all backgrounds.”

After it was founded in 2019, CAPSLOCK has been able to scale significantly. They are a strategic partner of the Prime Minister’s ambition to create a ‘cyber corridor’ across the North of England, following the announcement that the North West will become home to a new National Cyber Force Centre. “In what has been a difficult year for many, we’re supporting local people reskill to get well-paid, sustainable careers in an exciting sector. 10% of our latest cohort are from the North West, and the average starting salary of our graduates is £35,000.”

FEAs have been a significant factor to CAPSLOCK’s successful growth. “Being able to utilise FEAs has been extremely important”, says Jonathan, “they’ve allowed us to receive more upfront capital when learners enrol which has enabled us to scale, and it has provided us with more operational and working capital than we would have been able to receive through a deferred tuition model ourselves.”

“FEAs have also enabled us to achieve our own ambition of promoting greater diversity and inclusion in cyber security, since the financial hurdle no longer exists”. Of their inaugural cohorts in February and March 2021, 32% were women and 35% were from ethnic minority backgrounds, more than double the average representation on a university degree in a similar subject.

Ultimately, CAPSLOCK shows how FEAs can both improve access to training opportunities for individuals and help private training providers to scale their operations by enabling them to receive more working capital upfront.

HM Treasury should allocate £100 million to a new “Future Skills Fund”, in order to enable those wishing to retrain or upskill to access funding, structured as a Future Earnings Agreement (FEA).

The funding for this is already available: There is currently £2.5 billion sat in the National Skills Fund that is ready to be mobilised. This funding would be used to pay upfront course fees for British citizens. Once the funded student qualifies and earns over a certain threshold, they repay a percent of their salary back into the fund for a contracted period. Effectively, the Government would be providing the seed capital for an evergreen skills fund, as repayments will be constantly recycled to fund new candidates.

It would also help to crowd in private capital over the longer-term, laying the groundwork for a new asset class that has true social impact. A range of institutional investors have already indicated a strong appetite for a Fund once a “track record of performance” has been established. Little wonder when FEAs offer competitive target returns relative to risk category (volatility), as well as an opportunity to diversify portfolios since their exposure to macro-shocks is non-correlated to traditional asset classes (equity in particular). As ESG becomes an increasingly important factor for fund managers, the Future Skills Fund would enable the government to reduce the poverty premium on education by harnessing the power of private capital.

This public-private sector mix of investment would not only be a better outcome for the Exchequer, rather than shouldering the burden of an over bloated SLC, it would also seem to fit perfectly with the original concept of the National Skills Fund. In the Conservative Party’s 2019 manifesto, the National Skills Fund was described as providing "matched funding for individuals for high-quality education and training."

At the individual level, some learners will earn less than expected and repay a total amount back to the fund that is less than expected, however this will be compensated for by those students who earn more than expected and repay more. This means every 3-5 years approximately 120% of the qualification value can be disbursed again. This compares highly favourably to the SLC, where approximately only 40% of the value disbursed is returned.

	Qualifications Funded	Amount Disbursed (£m)	Amount Returned (£m)
Period 1	10,000	100	120
Period 2	12,000	120	144
Period 3	14,400	144	173
Period 4	17,280	173	207
Period 5	20,736	207	249
Period 6	24,883	249	299
Period 7	29,860	299	358
Period 8	35,832	358	430
Period 9	42,998	430	516
Period 10	51,598	516	619
Total	259,587	2,596	3,115

For every one-off tranche of £100m provided, 10,000 qualifications would be provided over the next 4 years. This equates to approximately £1.6 billion of additional lifetime tax receipts based on the higher earning potential of each candidate – a 16x direct financial return in addition to the productivity benefits this scheme would enable.

The initial £100 million of funding could be repaid to HM Treasury in the future, or the Fund could be allowed to continuously grow with the proceeds reinvested in skills on an ongoing basis. If reinvested, the number of qualifications funded increases into perpetuity, totalling 75,000 qualifications over the next 20 years - which would equate to £11.8 billion of additional tax receipts.

Now is the time for the government to take bold actions. Establishing a new Future Skills Fund, on the basis of FEAs, will not only improve equality of opportunity, it will also create a whole new industry and asset class with the UK leading the way internationally. We've seen this happen elsewhere, with forward-thinking approaches to fintech, peer-to-peer lending, and crowdfunding spurring on countless startups and making the UK a world leader.

We now have a chance to do the same and be at the forefront of equipping people with the skills to thrive in the modern economy.

Appendix:

Future Earnings Agreements vs Current Student Financing Alternatives

Below is a detailed analysis of the structure and implications of the three types of financing that are now available in the UK market for students seeking to undertake Masters Degrees, Advanced Technical Courses or Vocational Professional Qualifications.

In all cases they fall under the legal definition of Consumer Credit (although the SLC is not required to be regulated as such by the FCA) and can be considered to be providing funding now in exchange for repayments in the future. They are:-

- 1) **Debt/Loan from Private Companies** – Under a loan agreement, the amount borrowed, the “principal”, is repaid plus an interest charge based on the period of time it takes to repay the amount due. Typically private student debt has a fixed number of repayments with the percentage of income to be repaid undefined.
- 2) **Debt/Loan from Student Loan Company (SLC)** – This structure determines the amount of income to be repaid but the period of time is undefined.
- 3) **Future Earnings Agreement, “FEAs”** – Authorised by the FCA in 2019 FEAs specify that the amount owed is a percentage of the borrower’s income for a defined period. Both the number of repayments and the percentage of income are fixed under the original contract. The total amount repaid is dependent on the amount of income earned by the borrower over the period. The agreement includes a minimum income threshold to be achieved before any repayments are due and a maximum repayment amount so that out performers whose earnings materially exceed forecasts do not have to pay excessive amounts.

A common misconception is that the loans provided by the SLC and FEAs are “the same” given that the individual repayments from the borrower are both based upon a percentage of the borrower’s earnings.

The periodic repayment mechanism is the same but, what this alone does not take into account, is that FEAs are for a fixed term and SLC loans are not. So the potential consequence for a low earner with an SLC loan is that they will have to make repayments for an extended period and, given that interest will continue to accrue over the duration of the loan, the “low earner” ends up repaying a “higher” amount than a “high earner” – in many cases the accrued interest charges result in non-repayment of the credit and loss to the SLC.

With an FEA the “low earner” repays a lower amount as the term is fixed and there is no interest. This is compensated for by the “high earners” who have to repay more but have the earnings to be able to do this.

The practicality and consequences of these different structures that should be considered are:

- a) **Affordability for Borrower** – ability for a borrower to make repayments and still cover their essential living expenses, such as rent and groceries, from their income:
 - 1) **Debt/Loan from Private Companies** – Those who earn less than expected will potentially find it difficult to repay what is due. With traditional “fixed repayment debt” this would lead to a default whereby the lender must write off the debt and the borrower faces consequences such as exclusion from participating in the credit system and the related poverty premiums associated with this.
 - 2) **Debt/Loan from Student Loan Company (SLC)** – With SLC “income-contingent loans”, repayments are linked to income, mitigating the likelihood of financial distress. However, this means that those who earn less than expected repay less of the “principal”, thus accruing high interest charges. For many these interest charges will exceed their repayments leading to an escalating outstanding debt that is never likely to be repaid.
 - 3) **Future Earnings Agreement** – the amount owed is not a fixed principal amount and there is no interest charge attached. A borrower instead repays a percentage of their income for a defined period. The amount to repay and the period is fixed at the beginning of the contract based on what the borrower is expected to earn. This means that the amount repaid that matches the borrower’s ability to repay. As the share of income is never greater than 15% and is only applicable once their income reaches a defined level, this financial product provides the best level of affordability protection for borrowers.

- b) **Overall Cost to Borrower** – total cost of the financial product.
 - 1) **Debt/Loan from Private Companies** – those who earn less than expected and repay less will likely default. The interest charged needs to account for these defaults so all those who do repay are charged more to compensate. This higher charge means even more will default leading to an escalating spiral of high interest and increased defaults until an equilibrium point is met. In the UK’s private student debt market this is typically 16-25% APR.
 - 2) **Debt/Loan from Student Loan Company (SLC)** – For SLC “income-contingent debt”, repayments are affordable. However there is still the problem that many are never likely to be able fulfil their obligation as interest charges compound and make the outstanding amount unpayable. This loss is currently borne by the tax payer.
 - 3) **Future Earnings Agreement** – As the total to be repaid is linked to the amount of income earned, a borrower’s “inability to repay” is significantly reduced – this has been shown to account for 70-90% of student loan defaults. Underpayment from lower earners is compensated for by overpayment from high earners – negating the need to charge high amounts to compensate from significant expected defaults.

- c) **Funding Accessibility for Borrower** – ability for students who meet the selection criteria for the qualification but not the criteria to obtain the financial funding required:
 - 1) **Debt/Loan from Private Companies** – Loans can only be made where the lender is satisfied the borrower will be able to afford repayments i.e. their income must cover their basic expenses plus repayments of the amount borrowed and interest charges. This is assessed based on the individual’s historic earnings and expenses according to regulatory guidelines. This results in many at the beginning of their career being excluded from the qualifications required to achieve their professional potential due to being assessed on lower, unqualified historic income.
 - 2) **Debt/Loan from Student Loan Company (SLC)** – The SLC is not bound to follow the FCA regulations and their assessment may differ but the finance provided is capped.
 - 3) **Future Earnings Agreement** – Provided based on an assessment of the borrowers’ future earning potential. Broadly aligning credit criteria with qualifications entrance criteria, a much better suited form of finance for the student market because historic income prior to a qualification is a poor indicator of future earnings once qualified. This provision is possible because affordability is built into the product, with those who earn more repaying more and those who earn less repaying less, not just in each repayment but in total.

	Defined Terms in Contract		
	Amount repaid	Number of payments	Percentage of income
Traditional debt	Yes	Yes	No
SLC debt	No	No	Yes
FEA	No	Yes	Yes

	Private Debt	SLC "Masters Loan"	Future Earnings Agreements
What is repaid?	Repayment of principal plus interest in fixed repayment amounts for a fixed period of time	Repayment of a percentage of your earnings until the principal plus interest has been repaid	Repayment of a percentage of your earnings for a fixed period of time
Who is eligible?	For any course, but only for those who have an income history that is sufficiently higher than their expense history to justify the fixed loan repayments	Most courses for most people but capped at £11,000 (some restrictions)	Only for qualifications that will provide high enough future earnings to justify the course cost
What does it cost for low earners?	No difference	Higher - as those who earn less take longer to repay and suffer higher interest charges	Lower - as those who earn less than expected repay less in total
What does it cost for high earners?	No difference	No difference	Higher - those who earn more repay more than expected repay more in total
What is the average cost?	15 - 25% APR - given historical default rates higher interest charges are required to compensate	9% APR - interest rate due to heavy subsidy from the taxpayer	8% APR - higher earners compensate for low earners and affordable repayments reduce the deadweight loss of defaults