SKUNKS IN AN ENGLISH WOODLAND: SHOULD ENGLAND EMBRACE FOR-PROFIT HIGHER EDUCATION?

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Abstract

The government is encouraging the growth of for-profit alternative providers of higher education (HE). While it is true that for-profits have opened access to HE to previously underserved groups and have been more agile in reacting to market demand, they have done so at a considerable cost to students and the taxpayer because they do not share in the cost of the failure of HE to payoff for many of their students. The U.S. experience with for-profits should be a cautionary tale for those supporting their expansion in Britain. Policy is needed to craft a regulatory framework that produces the benefits that for-profits can provide but minimises the costs that often accompany them. At present it is far from clear that expanding alternative providers- for-profits- would 'work better' for students.

Keywords: higher-education, alternative providers, for-profit, student loans, dropout rates

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In his important book, *A University Education*, David Willetts outlined his strategy for the expansion of higher education (HE): 'to create a more open and diverse HE system which would work better for students. That meant more choice and competition between universities and easier entry for new providers'. In two previous papers published in this journal in, I addressed whether more competition would 'work better' for students and argued that this was far from certain.[i] In this paper I address Mr. Willetts' enthusiasm for 'alternative providers' of HE, an enthusiasm shared by subsequent ministers. These 'alternative providers' are principally for-profit businesses. I will first discuss some activities of 'alternative providers' in England which do not work well for students and then turn to a discussion of for-profit HE institutions in the U.S. which have a longer history than those in England. Mr. Willetts admires features of the U.S. HE system but he said 'we cannot and should not copy them'. There are very good reasons why Britain should not copy U.S. experience with for-profit HE providers for, unless they are closely regulated, they are likely to be, to borrow a colourful term from Mr. Willetts, 'skunks in an English woodland'.

For-profits in England

The for-profit HE sector in England, often referred to as 'private' providers, is already large- 674 for-profit colleges providing degree and sub-degree courses and receiving about 400 million pounds per year from the student loan system- and the government is keen to expand this sector.[ii] A key feature of alternative or private providers is that they are for-profit businesses and I shall refer to them as such. As a writer for the U.S. business magazine Forbes noted, for-profits are 'businesses that sell education and hope for a better life for a profit. Like all for-profit businesses, they exist to make money'. And, like other providers of HE in England, for-profits make money by recruiting students who pay for their education with government provided student loans. Another observer of HE writing in the New York Times remarked 'when industry reaps all the profit from student loans and the taxpayer has to pick up the losses, how can we be surprised when things turn out badly?’. One cannot fault for-profits for entering HE because they are reacting to incentives provided by the government. They get paid to enroll students not to graduate them and they suffer no financial penalty, other than the loss of a paying customer, when things do not turn out well for students. Customer satisfaction is less important where the demand for places in HE exceeds the supply. Of course, the same incentives apply to non-profit HE. Because the for-profit sector must cover the costs of education and make a profit short-termist pressure to maximize profits is more likely to lead to opportunistic behavior than is the case for the traditional sector where there is no profit maximizing motive and where reputation, built up over many years, if not centuries, is of considerable importance. For-profits are new entrants and have to decide whether building a reputation is worth the long-term investment.

The size of some of the for-profits may come as a surprise to many readers. BIMM (British and Irish Modern Music Institute) offers degrees in contemporary music and in 2016-7 was the biggest private recipient of student loan funding (24.4 million pounds and 4183 students). This sum exceeded that of many traditional HE institutions including LSE and SOAS, University of London, and was treble the amount received by BIMM in 2001. BIMM is owned by Sovereign Capital which also owns Greenwich School of Management (GSM London). GSM received 19.9 million pounds in fee loans from its students in 2016-7. Together GSM and BIMM accounted for 30 per cent of all fee funds received by for-profits. Student maintenance loans received by the students at these institutions amounted to an additional 65 million pounds.[iii]

HESA data show that alternative providers serve students who are older and more likely to be Black or minority ethnic than those at non-profit institutions. Unlike their U.S. counterparts they serve equal numbers of men and women.

Skunks in the English Woodlands

Late in 2017 BBC Panorama filmed an 'education agent' offering to get 'bogus' students admitted to a government-approved private for-profit college for a fee of 200 pounds. Government-provided student loans would pay for attendance. For 600 pounds the agent supplied a backdated certificate for a course the 'student' had never taken that was equivalent to A-levels. For a further 1,500 pounds the agent offered to fake attendance records and provide all necessary coursework. An agent at another for-profit college was reportedly paid 600 pounds for every student he helped enroll- 10per cent of the annual tuition charged. The agent also promised to put the 'bogus' student in contact with someone who could do all assignments required for a 3 –year honours degree in business. The 'bogus' student tested this proposal by buying three assignments that were submitted and awarded good marks.[iv] The Times Higher Education recently reported that a company, the PhD Consultancy, offers- for a fee- 'assistance' in all stages of undertaking a PhD. It is unclear how widespread are these practices.

Under Mr. Willetts and his successors 'alternative providers' have flourished, particularly those with university status and those granted taught-degree awarding powers. Is this expansion a cause for concern? Seemingly not because Mr. Willetts claimed 'not much public spending was involved- other than if any part of these loans had to be written off in the future'. As we will see below, the latter part of Mr. Willetts statement is a significant qualifier as is the impact on students of failure to complete a course. Not everyone is so sanguine about for-profits. In 2015 Margaret Hodge, chair of the Public Accounts Committee, reported that the failings of the alternative providers could cost the taxpayer 100 million pounds and she did not have 'confidence the [government had] systems in place properly to guard our public money'. An earlier National Accounting Office (NAO) report raised concerns about the high dropout rates at some for-profit institutions and the number of 'ineligible' students claiming funding. In a follow-up report in 2017, the NAO again found higher dropout rates among for-profits and a failure to recover 36 of 45 million pounds paid to 'ineligible' students at for-profit institutions in the six years to 2014-5. The NAO noted some improvement in oversight of these institutions by the

Department for Education (DfE) but it still had ‘important issues to address before it can provide assurances that it has a firm grip on current or emerging problems’.[v]

While there is a growing literature on the earnings of graduates of for-profit programmes in the U.S. such information is scarce in England. Most for-profits are ‘vocational’ in nature concerned with ‘gainful employment’ so earnings data should be important in evaluating whether they ‘work’ for students. Some suggestive information on at least part of the sector is provided by a recent DfE and Institute for Fiscal Studies report on graduate earnings. BIMM produces graduates in ‘creative arts’, as do a number of other for-profits, funded by student loans. These graduates have the lowest earnings five years after graduation of any student- controlling for differences in student characteristics, 21per cent less than average for females and 29per cent for males. For-profits are also prominent in the provision of business courses and business graduates have the eighth highest earnings for women and fifth highest for men. However, after controlling for student characteristics, there are very large variations in earnings among business graduates from different institutions with the lowest ranked having earnings up to 40 per cent below average for all business courses.[vi]

Dropout rates are another measure of whether for-profits ‘work’ for students and although student dropout is not unique to for-profits it is more prevalent in this sector. For example, a recent HESA report showed that four of the top six institutions with the highest first-year dropout rates were for-profit institutions. GSM London had the highest dropout rate within a year of beginning- 28per cent- eight points higher than the next highest, BPP University, also a private HE provider. The average first-year dropout rate for HE institutions in England was 7.7per cent.[vii] One positive development is dropout rates among for-profits were much higher in 2012/3- 38 per cent. For-profits claim that higher dropout rates are to be expected given the characteristics of the students they enrol. However, their dropout rates exceeded those to be expected even when controlling for student characteristics. HESA data also dispute the claim made by for-profits that they enrol a disproportionate number of disadvantaged students. In 2015/6, GSM drew just 2.7per cent of their students from ‘low participation’, that is, disadvantaged areas. The same was true of other large for-profits, namely, BPP University and the London School of Business and Management. To be fair, some traditional providers also have high dropout rates but the highest of these, Birkbeck College, has a dropout rate 10 percentage points below that of GSM London.

A further concern with for-profits is their financial soundness. GSM London, the largest alternative supplier of HE courses with 4587 students and 17 million pounds received in tuition fee loans in 2017-8, made a loss of almost 10 million pounds and had debt of 26 million pounds written off as part of a turnaround plan approved by the DfE. The Times Higher Education reported doubts over GSM’s ability to continue to operate if market events are negative and future funding cannot be arranged. Former Minister for Universities, Sam Gyimah, said ‘we do not see it as the government’s role to bail out universities when they make reckless financial decisions’. However, David Willetts was ‘assured by BEIS that the legislation ensured Office for Students would have the power to make loans where institutions failed. So no bailout when ‘reckless’ but otherwise possibly? And can we tell when a for-profit has been ‘reckless’? There is a lack of transparency about what is happening at GSM. The University of Plymouth, which validates degrees for GSM is withholding an investigative report into claims of fraud on grounds including ‘commercial interests of both itself and its partner college’.[viii] One worries about ‘too big to fail’ in HE.

There is understandable concern in England that as many as half of students will not earn enough to repay their student loans. This should not be surprising because when students do not anticipate having to repay their loans, they have little incentive to worry about the cost or value of the education they are pursuing. Similarly, when there is no penalty for institutions for their students being unable to repay loans there is no incentive to be selective about students or programmes…other than they appeal to students. The challenge for the government is to decrease adverse outcomes from HE and decrease the risk for the taxpayer of non-repayment of loans while still providing fair and expanded access to HE for those who can succeed. As Mr. Willetts said, 'alternative providers' are more willing to take risks' but why should they not when there is no penalty for failure?

Skunks have some positive attributes. Proponents of for-profits emphasis that they are more innovative than traditional HE, are better at getting underrepresented groups into HE, are more responsive to the market, and are more willing to provide short degree courses. A further claim that seems to be unique to England is the belief that for-profits provide 'better value for money'. The NAO found 'indications' that for-profits had helped widen access to HE. Based on experience in the U.S., the main innovation is on-line courses which allow non-traditional students to combine education, work, and family responsibilities. On-line courses accounted for much of the growth in for-profit HE in the U.S. However, recent rigorous evidence has shown that online courses, as currently offered, result in students earning lower grades in the course and in subsequent related courses suggesting students learned less in an online setting. These negative effects were concentrated in the lowest performing students. In addition, earnings of graduates of online programmes are lower than those of graduates of bricks and mortar institutions.[ix] While for-profits may be more willing to take risks and faster at responding to changes in labour demand, the evidence presented here suggests that such agility does not result in profitable labour market outcome for many students.

Skunks on the American Prairie

A discussion of evidence on the performance of the non-profit HE sector in the U.S. will be helpful in evaluating whether and how England should embrace further expansion of this sector. Until recently, the sector was the fastest growing part of HE in the U.S. Enrollment grew more than 100 fold from 1970 to 2009 whereas the HE sector as a whole grew 2.4 fold. Based on National Center for Education Statistics data, for-profits increased their share of all HE Fall enrolments from 4.3 per cent in 2001 to

11.3per cent in 2010 and from 2.9 per cent to 9.6 per cent of Fall enrolment in institutions granting 2-year and 4-year degrees, respectively. The averages of annual growth rates between 2000 and 2010 were 13.8 per cent for all for-profits, and 16.4 per cent for for-profit degree granting institutions, but only 2.6 per cent for all public non-profit HE institutions. Between 2010 and 2016 the for-profit sector suffered substantial contraction- 8.4 per cent annual declines in Fall enrolment 2010 to 2016 compared with 1.3 per cent decline for all public HE enrolment. For-profits disproportionately enroll females, older students, students of colour, economically disadvantaged students, and single parents. These are groups of particular interest to the U.K. government. Since 2000, non-profits have expanded their business in the degree-granting end of HE while still being a dominant player in the production of sub-degree (certificate) programmes. For-profits enrolled 57 per cent of all sub-degree students in 2000 and 71 per cent in 2010, and in 2000 they enroled three per cent of all degree-seeking students. By 2010 they enroled 10 per cent of such students. Between 2000 and 2016 degree-seeking students increased from 67 per cent of all for-profit students to 82 per cent. Because of their vocational focus, for-profits focus on programmes in business, communication, and health care. For-profits are relatively expensive. A public 2-year college charges just 19 per cent of the annual charge at a similar for-profit and 4-year public institutions charge just 55 per cent of the cost of a similar for-profit. Another feature of for-profits is their significant expenditure on advertising and marketing- on average they spend 24per cent of revenue on these areas.[x]

By any metric, for-profits have become an important part of the HE sector in the U.S. The sector is large but is it successful? If success is measured by getting students into higher education then the sector has been very successful but if the metric is based on the results of that education the conclusion must be that for-profit education has not been a resounding success. Barmak Nassirian, a programme director at the American Association of Colleges and Universities, summed up the ‘success’ of the for-profit sector in this way ‘terrible outcomes are very profitable and there is no adverse consequence visited upon corporations that generate absolutely abysmal consequences- for both student and taxpayer'.[xi] Is this an exaggeration or is there evidence that the outcomes from for-profits are 'abysmal'?

Of particular interest for the U.K. are the U.S. experience of dropout rates, debt levels, student loan default rates, earnings of for-profit students, and student satisfaction. For-profits have a better record than non-profits of retaining and graduating students from 2-year programmes but, for students in four-year degree programmes who entered HE is 2011, only 35 per cent of students at for-profits had graduated after six years. The comparable data for public and private non-profit 4-year institutions were 65 per cent and 76 per cent. For-profit attendance is associated with greater student debt. Fully 55 per cent of graduates from 2-year for-profit colleges had more than 20 thousand dollars in debt compared with nine per cent of those from public 2-year colleges. Graduates from 4-year for-profit colleges also had relatively higher levels of debt- 78 per cent had more than 20 thousand dollars in debt compared with 39 per cent from public and 53 per cent from private colleges and universities. In 1990 only one per cent of students who borrowed for graduate school attended for-profit institutions. By 2014 17 per cent did so and the for-profit share of large borrowers (50 thousand dollars or more) increased from three per cent to 21 per cent. Within 12 years of graduation 47 per cent of all first-time students at for-profits had defaulted on their government loans compared to 13 per cent of students in public and private colleges and universities.[xii] In 2009, for-profits accounted for 11 per cent of all HE enrolment but 50 per cent of student loan defaults. Default rates at non-profit institutions have changed little over time but have increased at for-profits. Indeed, the increase in default rates in the U.S. has largely been caused by increasing enrolment at for-profit and lower quality schools not by increases in unemployment or changes in student characteristics. Default rates are higher for all segments of the for-profit sector. For example, even after controlling for differences in student and institutional characteristics the for-profit default rate is 11 percentage points higher for 4-year degree programmes and about 6 percentage points for 2-year programmes. It is important to control outcomes for differences in student characteristics because, as noted above, a common defence used by for-profits is they enroll more disadvantaged students than non-profit institutions. Ten years after graduation, graduates of for-profits make ten per cent less income than graduates of non-profit colleges and universities and are less likely to be employed. A study of 800 thousand sub-degree students tracked over 18 years found that students at for-profit institutions earn 11 per cent less than those from non-profit institutions and most for-profit students would be better off at non-profit institutions. More damning is evidence suggesting that many for-profit students would be better off *not* attending a for-profit programme at all. These findings control for student characteristics. Sub-degree students from for–profits have lower earnings and higher debt in 70 per cent of all subjects and even the top earnings programmes at for-profits have lower net earnings than their non-profit peers when the higher costs of for-profits are taken into account. Outcomes were particularly bad for women.[xiii] The disadvantage is most marked for students from low SES groups suggesting that for-profit institutions further social inequality rather than decreasing it. Although the vast majority of for-profit students report they are satisfied with their programme, they are significantly less satisfied than students at non-profit schools. Thus, no matter the metric used-graduation rates, debt, loan default, earnings and employment, or satisfaction- the outcomes for students from for-profit programmes are, on average, inferior to those of students who attended non-profit programmes. These results should give even the most ardent supporters of for-profits cause for reflection.

Concerns have been expressed in England about for-profits financial stability and the impact on students. The U.S. has experienced bankruptcies and the impact on students and taxpayers should give pause. The Education Corporation of America declared bankruptcy and closed most facilities and left 20,000 students with course credits that were worthless because they were not recognized by 94 per cent of public and 83 per cent of other for-profit institutions. That is, they were not transferable to other institutions. The students were generally stuck with the debt for these courses. Two years before the closure of the Education Corporation of America, ITT Tech, the largest conglomerate of for-profit schools, closed, and Corinthian Colleges, another large chain of for-profit HE institutions was fined 30 million dollars and was forced to close because of misrepresenting job placement data, grades and attendance records. Echoes of the Panorama story.

What can be done?

Strict government regulation of for-profits is required because students, particularly those from disadvantaged areas where there is little experience of HE, often lack the expertise to assess the quality of for-profit institutions, especially in the face of strong advertising and recruitment practices and sometimes false promises of outcomes. Such regulation could include stricter definitions of 'success', including admissible loan default or loan repayment rates, 'gainful employment' requirements, sharing in the cost of adverse outcomes, stricter screening on a student's suitability for HE study, limits on public funding, and better data.

The U. S. experience is informative on stricter admissible loan default rates and 'gainful employment' rules. In the U.S. loan default rates increased during the 1980s so in 1992 the government removed eligibility to receive income from student loans from institutions where the default rate exceeded 25 per cent for three consecutive years. By 2000 one thousand HE institutions lost access and 80 per cent of these were for-profits. Building on this requirement, the Obama administration introduced a 'gainful employment' requirement for for-profits based on the debt to earnings ratio of recent graduates. If these rules had been instituted 800 programmes would not have met the new standard and 98 per cent of these were for-profits.[xiv] The aim of the 'gainful employment' rule was to hold for-profits accountable for the outcomes of their students because they were 'vocational' institutions. However, in August 2018 Betsy DeVos, the Trump administration Secretary of Education, moved to abolish the 'gainful employment' requirement in order to 'increase options for students'. This move was widely seen as removing a necessary safeguard for students and a boost for the for-profit industry. The latter view is bolstered by the Department of Education hiring key executives and lobbyists from the for-profit sector to oversee the regulation of the for-profit sector- a classic case of what economists call 'regulatory capture'. The U.S. administration estimates that removal of the gainful employment rule will cost taxpayers $5.3 billion over ten years and trap more than 350 thousand students deep in debt. The recent decisions of Secretary DeVos continue a disturbing cycle in the U.S. approach to for-profits: generous federal student financial support and lax oversight leading to rapid growth of for-profits; this growth leads to deceptive behavior on the part of at least some for-profits and media exposes; this behavior and adverse media attention leads to stricter regulation and shrinking of the for-profit sector; as time passes and for-profits promise reform restrictions are eased and the cycle starts over.[xv] The cycle can be broken if it is recognised that for-profit behavior improved *because* of stricter regulation which must be maintained to ensure the continuation of improved behavior. Most policies enacted to date are designed to increase protection for graduates but not the majority who drop out of for-profit programmes, although making failing institutions ineligible to receive funds does protect all students. Specific policies need to be crafted to apply to dropout rates.

Another approach is to have HE institutions share in the loss when students fail to repay loans or dropout, that is, the institution would repay the government a percentage of the student loan money they received if the student failed to repay their student loan. It has been argued by non-profit HE institutions and many policymakers that this requirement should apply only to for-profit institutions because they are essentially vocational institutions, including those that grant degrees, while non-profit degree-granting institutions are not primarily vocational in purpose. Basically, for-profits are narrowly focused on certain vocational areas, such as business, health care, law, and music, and emphasise the connection between the course and subsequent employment whereas traditional non-profit institutions are more diverse in their offerings and do not generally make the same explicit connection between the courses they provide and subsequent employment. IN the U.S. the Trump Administration sees higher education as 'market-driven workforce development' – and statements made by the Department for Education suggest a similar belief- and proposes to apply the 'failure sharing' rule to both for-profit and non-profit HE. The argument for not applying the rule to non-profits is weakened by the claim made by colleges and universities that they produce cognitive and non-cognitive skills that are highly valued in the market place. In addition, degrees such as business, engineering, and law do have a vocational purpose. Evidence cited above suggests that even if the same rule applied to all institutions, the majority who would fall foul of it would be for-profits.

The notion of 'clawing back' loan funds received based on low repayment rates of high dropout rates may sound radical but Education Secretary, Damian Hinds, suggested that dropout rates be considered when setting VC pay. In addition, current Teaching Excellence Framework (TEF) awards are based on student satisfaction, dropout rates, and graduate employment. Another policy approach would be to cut off access to public student loans if loan default rates exceeded or loan repayment is below a particular level, as in the U.S. case, or set a limit on the amount of funds an institution could receive and allow them to allocate that among programmes. Also, as I argued in my earlier papers, the government could use data on earnings to rank programmes and institutions or decrease fees or student loans for underperforming programmes and institutions and increase them for those who perform better. This would provide incentives for institutions to shrink poorly performing programmes and expand those that are better performing and decrease the debt and default risk for students who choose underperforming programmes or those with highly variable outcomes. With the availability of detailed data on individuals (which has been used to estimate contextualized school rankings) there is a far better understanding of who is likely to succeed in HE. It is therefore arguable that it is now possible to have stricter screening of students' suitability for HE. A challenge of stricter screening is that it will exclude low performing secondary students who may blossom in HE. This is clearly contrary to the government's desire to increase access to HE but it would reduce the cost of failure for the taxpayer. The challenge for policy is to give at-risk students the opportunity to attend HE but to guide this choice to programmes that will serve them and the public well. Good policy relies on good timely data and the NAO has pointed out that there is insufficient timely and specific data on payments to track ineligible students and non-continuation rate. Data systems need to be improved to decrease fraud and improve the impact of regulation.

Conclusion

While it is true that for-profits have opened access to HE to previously underserved groups and have been more agile in reacting to market demand, they have done so at a considerable cost to students and the taxpayer because they do not share in the cost of the failure of HE to payoff for many students. If England is to keep 'skunks' out of the English woodland they should learn from the U.S. experience and craft a regulatory framework that produces the benefits that for-profits can provide but minimises the costs that often accompany them. At present it is far from clear that expanding alternative providers- for-profits- would, in the words of Mr. Willetts, 'work better' for students.

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[i] D.A. Ahlburg, 'Is Going to University in Britain a Wise Investment?', *The Political Quarterly,* vol. 88, no. 4, 2017, pp.660-66 and D.A. Ahlburg, 'Higher Education A Market Like Any Other?', *The Political Quarterly,* vol. 89, no. 4, 2018, pp.679-86.

[ii] The BBC, 'Student loans fraud exposed by Panorama, November 13, 2017. www.bbc.com/news/uk-41966571 , accessed January 23, 2019, identified only 112 such institutions. The number quoted in the text is from Willetts, p.276. The ambiguity in numbers is understandable because data on the sector is incomplete. HESA has just released the third year of data on alternative providers and noted that the data is still 'experimental' because providers are being added and dropped and requirements for inclusion are changing. In the third release postgraduates were included for the first time. In addition, some providers did not submit data.

[iii] Data in this paragraph from J. Grove, 'Rock school awarded more student loan funding than LSE', January 4, 2018. www.timeshighereducation.com/news/rock-school-awarded-more-student-loan-funding-lse. Accessed January 23, 2019. The exact amount of funds received from students is unclear because of uncertainties in the data noted in endnote 1.

[iv] BBC, 'Student loans fraud exposed by Panorama, www.bbc.com/news/uk-41966571 , accessed January 16, 2019.

[v] See J. Morgan, 'Private college 'fiasco' could cost 100 million pounds, suggests Hodge', March 17, 2015. www.timeshighereducation.com/newsprivate-college-fiasco-could-cost-100-million-suggests-hodge/2019140.article, and J. Morgan, 'NAO: still no 'firm grip' on English private provider 'problems'', October 18, 2017. www.thetimeshighereducation.com/news.nao-still-no-firm-grip-english-private-provider-problems. Both accessed January 23, 2019.

[vi] See C, Belfield et al. '*The relative labour market returns to different degrees*', Department for Education/ Institute for Fiscal Studies report, June 2018.
[vii] S. Baker, 'Do private providers have higher dropout rates?', April 1, 2017. www.timeshighereducation.com/news/do-private-providers-have-higher-dropout-rates. Accessed January 23, 2019.
[viii] See J. Morgan, 'DfE 'bends over backwards' to help England's biggest for-profit', November 22, 2018. www.timeshighereducation.com/news/dfe-bends-over-backwards-help-englands-giggest-profit, and J. Morgan, 'Plymouth keeps report on private college cheating claims secret', January 23, 2019. www.timeshighereducation.com/plymouth-keeps-report-private-college-cheating-claims-secret. Accessed January 23, 2119.
[ix] E. Bettinger and S. Loeb, 'Promises and pitfalls of online education', Brookings Institution, June 9, 2018, www.brookings.edu/research/promises and pitfalls-of-online-education/. (Accessed February 12, 2018) and studies cited therein. Also see S. R. Cellini and N. Turner, 'Gainful employment? Assessing the employment and earnings of for-profit college students using administrative data', National Bureau of Economic Research, working paper 22287, revised January 2018. These finding are for current online programmes. There is potential that AI could lead to better tailored online courses that could improve student outcomes compared to current online programs.

[x] D. Deming. C. Goldin, and L. Katz, 'The for-profit postsecondary school sector: Nimble critters or agile predators?'. *Journal of Economic Perspectives*, vol. 26, no. 1, 2012, pp. 139-64.
[xi] Quoted in Caroline Simon, 'For-profit colleges' teachable moment: Terrible outcomes are very profitable', March 19, 2018. www.forbes.com/sites/schoolboard/2018/03/19/for-profit-colleges-teachable-moment-terrible-outcomes-are-very-profitable/. Accessed January 23, 2019.
[xii] Data in this paragraph are from A. Looney and C. Yannelis, 'A crisis in student loans? How changes in the characteristics of borrowers and in the institutions they attended contributed to rising loan defaults', *Brookings Papers on Economic Activity',* vol., no. , 2015, pp. 1-89, Center for Analysis of Postsecondary Education and Employment, *For-profit colleges by the numbers,* 2018. https://capseecenter.org/research/by-the-numbers/for-profit-college-infographic/, S. R. Cellini and N. Turner, 2018, Deming et al., 2012, and D. Gelbgiser, 'College for all, degrees for few: For-profit colleges and socioeconomic differences in degree attainment', *Social Forces,* vol. 96, no.4, 2018, pp. 1785-1824.

[xiii] S. R. Cellini and N. Turner, 'Gainful employment? Assessing the employment and earnings of for-profit college students using administrative data', National Bureau of Economic Research, working paper 22287, revised January 2018.
[xiv] See Cellini and Turner, 2018, p.6 and D. Whitman and A. Duncan, 'Betsy DeVos puts protection of for-profit schools ahead of students', Brookings Institution Brown Center Chalkboard, October 17 2018.

[xv] See Whitman and Duncan, 2018, and Deming et al.