

Comparing high school students' attitudes towards borrowing for higher education in England and the United States: Who are the most loan averse?

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Abstract

Student borrowing is a major higher education public policy issue, with students in both England and the United States increasingly relying on loans to finance postsecondary education. Our paper examines prospective higher education students' attitudes towards debt in England and the United States. It exploits a unique dataset which allows us to compare students' responses to similar surveys conducted in both countries during the same time period. Our study is the first of its kind to explore how students' borrowing attitudes differ across the two countries. It confirms widespread loan aversion among prospective higher education students in both countries. But students in the United States are more debt averse than their peers in England. These debt averse attitudes also predict lower intentions to pursue higher education, potentially exacerbating existing inequalities in access. We consider how these attitudes to borrowing are likely shaped by each country's distinctive student loan system. We conclude that the design of loans matters. England's income-contingent loan repayments, in contrast to North America's mortgage style repayments, make borrowing less risky and reduce the impact of loan aversion on participation decisions, while borrowing is more common, and the system less complicated, in England. Thus, there are lessons for other countries

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considering introducing student loans or reforming their provision. We contribute to the extant literature on the determinants of, and socioeconomic differences in, higher education participation and the overlooked role of student debt aversion.

1 | INTRODUCTION

As the higher education sector expands and costs rise, there is an increasing dependence on student loans to finance higher education in both the United States (US) and England, unlike many European countries (Marginson, 2016). Student borrowing is now a major public policy issue in both countries. In 2019–2020, 95% of the 1.5 million undergraduates in England took out a government-funded student loan, worth an annual average of \$19,994,¹ while 45% of first-time full-time undergraduates in the US borrowed an average of \$7,300 (Bolton, 2021; Higher Education Statistics Agency, 2019; Irwin et al., 2021). England had the highest average student loan debt at graduation across OECD countries at around \$50,000 in 2017/2018 (OECD, 2019) while the average for US bachelor's degree recipients in 2015–2016 was \$31,200 (Friedman, 2017). The study on which this article reports examined the implications for prospective higher education students' attitudes towards debt, comparing students in both countries. We explore how students' borrowing attitudes differ, influence decisions to enrol in higher education, and are shaped by each country's unique student loan system.

Despite large loan burdens, student loans allow students to invest in higher education who would otherwise be unable to do so, thereby addressing socio-economic inequalities in access. Furthermore, government loans have facilitated the expansion of higher education, also allowing greater access, but shifting the burden of rising costs onto students and their families, away from government (Mettler, 2014).

Such cost sharing policies in higher education are commonly rationalised through a private benefit argument: college graduates will experience higher earnings, increased job options, and higher levels of life satisfaction (Johnstone, 2004). Despite these potential benefits, some students may be reluctant to borrow because of fears that future earnings will be insufficient to repay their loans (Jones, 2016). Others may suffer psychological costs beyond the financial costs of the loan (Baum & Schwartz, 2015), and some may be reluctant to borrow due to general loan aversion stemming from poor prior credit market experiences, possibly leading to an underinvestment in education and negatively affecting enrolment decisions.

Research from the US finds high rates of reluctance to borrow, known as loan aversion, among high school seniors, community college students, and adults without a college degree, that vary by demographic characteristics, financial literacy, and knowledge about the federal loan system (Boatman et al., 2017; Boatman & Evans, 2017). In England, negative attitudes towards borrowing were significantly predictive of lower intentions to enrol in higher education, and prospective students from lower income families were significantly more likely to hold negative attitudes towards student loan debt than students from higher income families (Callender & Mason, 2017). Importantly, providing information about student loans and the benefits of income-based loan repayment reduces respondents' loan averse attitudes (Evans & Boatman, 2019).

Although loan or debt aversion appears prevalent, to our knowledge, no prior analyses on student debt and loan aversion have explicitly compared borrowing attitudes across countries. In this study, we use unique survey data to compare the borrowing attitudes of prospective college students from both England and the US. First, we describe differences between the higher education student loan systems in England and the US. Second, we compare loan averse attitudes between similar populations of prospective college students in each country, controlling for demographic characteristics. Third, we assess whether these borrowing attitudes predict intentions to

enrol in higher education. Finally, we discuss factors in the student loan system which may explain the observed differences in borrowing attitudes between the two countries.

As education continues to globalise, international comparative higher education scholarship provides opportunities to learn from other nations, while being cautious about the pitfalls of policy borrowing (Crossley, 2000; Steiner-Khamsi, 2010; Whitty, 2016). Fairbrother (2005) argues that comparative work improves our understanding of educational phenomena. We embrace this argument as we leverage similarities and differences across the higher education funding systems in England and the US to improve our understanding of loan aversion. This goal is enhanced by empirical comparative work and using similar surveys and data collection efforts in both contexts (Teichler, 2014). This comparison enables us to potentially identify policies that could be adopted from other student funding models. And, such a comparison illustrates the lessons for both the US and England, and potentially other countries too.

2 | COMPARISON OF ENGLISH AND US STUDENT LOAN SYSTEMS

2.1 | Tuition fees

Figure 1 presents the average tuition charged per annum to full-time undergraduates in the UK/England and the US between 1998–1999 and 2017–2018. In 2017, tuition fees in England were 18% more than the average sticker price of a US public four-year college degree (Murphy et al., 2019).

Prior to 1998 in England, public universities were fully funded by central government and English domiciled full-time undergraduates paid no tuition fees. Following a series of policy reforms, the government-set maximum undergraduate tuition fees rose rapidly from £1,000 (\$1,915) in 1998, to £3,000 (\$4,798) in 2006, to £9,000 (\$12,000) in 2012 and beyond.² Following each reform, all universities opted for the maximum for all their undergraduate courses, resulting in no variation of tuition fees across universities.

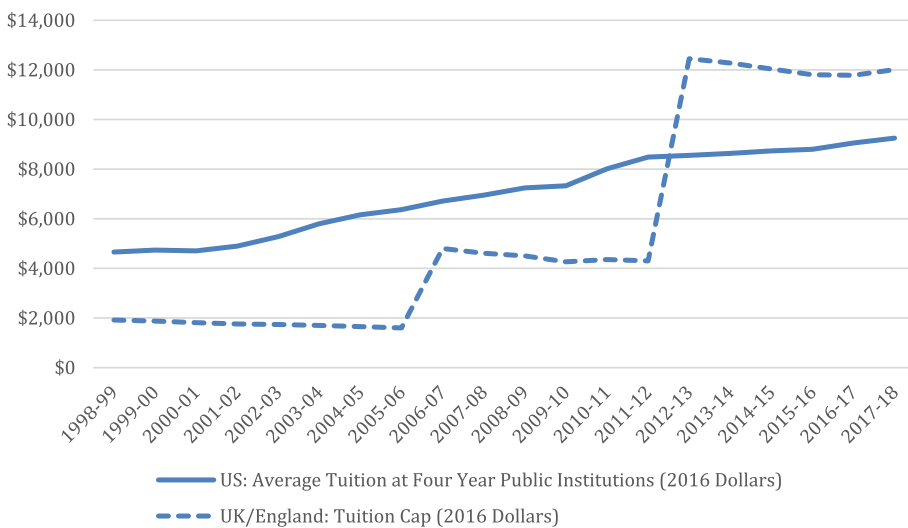


FIGURE 1 Average tuition in the US and UK/England. The UK/England line uses the government set tuition cap and reports values for England-only between the years 2005 and 2017 and for the entire UK prior to 2005, reflecting policy changes. Sources: Authors' calculations from Baum et al. (2017); Belfield, Britton, Dearden, et al. (2017). The tuition amounts are in 2016 US dollars, adjusted for inflation

As seen in Figure 1, public college prices have increased in the US as state appropriations have declined, and college leaders have shifted the cost of providing higher education to students and families (Doyle, 2013). In 2018–2019, the average tuition and fee charges for public US institutions (where 75% of all students study) were \$10,230, a 35% increase over a 10-year period (Baum et al., 2019). While most students enrol in public institutions, tuition and fees are considerably higher at private institutions in the US, with an average cost of \$36,880 (Ma et al., 2019).

2.2 | Borrowing

Rising tuition has led to increased rates of borrowing in both countries. In England today, two types of loans are the sole source of government financial aid: maintenance loans towards living costs, and tuition fee loans, first introduced in 1990 and 2006 respectively. All English domiciled undergraduates attending a UK higher education institution are eligible for income-contingent loans which cover all their tuition fees and some of their living costs with repayments linked to earnings. Both carry an interest rate which is also linked to the graduate's earnings.

The US federal loan system was established with the 1965 Higher Education Act. Eligibility for aid and loans is determined by the student's family income, assets, and size. The main federal lending program, Stafford loans, includes both subsidised and unsubsidised loans. All undergraduates and graduates are eligible for unsubsidised loans while those with demonstrated financial need qualify for subsidised loans, paying less interest. Cumulative loan amounts are capped at \$31,000 for students dependent on their families, and \$57,500 for independent students. However, the cost of attendance at many institutions is higher than these caps, so some students resort to private loans. Yet, between 2009 and 2013, private loans comprised less than one tenth of all student loans disbursed in the US (Baum & Steele, 2018).

Figure 2 compares percentages of undergraduate students from England and the US borrowing government loans between 1995–1996 and 2015–2016. While both countries experienced growth, the percentage of borrowers in England rose considerably over this period, reflecting policy changes. In 1995–1996, around 60% of undergraduates in England borrowed maintenance loans. By 2012–2013, this climbed to 90% following the 2012–2013 tuition fee increase.

The rates for borrowers in the US were notably lower than rates in the UK/England from 2000 onward, although there is a marked difference between students attending public and private institutions. In 2000, about 40% of full-time undergraduates at public institutions were borrowing some form of federal student loan, while nearly 60% of students at private institutions were borrowing. Borrowing rates at both types of institutions grew rapidly between 2010 and 2012 during the Great Recession before declining. See Berman and Stivers (2016) for a discussion of the multitude of reasons for the growth and expansion of federal student aid in the US during this period. Unlike England, the US offers several means-tested grants, such that loans are not the sole financial aid tool for college students.

Not only are students in England far likelier to borrow, but they also borrow far more. Figure 3 shows the average annual loan amount per undergraduate borrower in the UK/England and the US between 1995–1996 and 2016–2017. Due to changes in reporting, we linearly interpolate the UK values for 2006–2007 and 2008–2009. The US graph includes subsidised and unsubsidised federal Stafford loans.

In England, the average loan amount was \$2,562 in 1995–1996 but grew dramatically in 2006–2007 and especially in 2012–2013 when tuition fees rose. Bachelor's degree students can now expect to graduate with around \$68,700 in student loan debt (Belfield, Britton, & van der Erve, 2017), far higher than the average for graduates who borrow at US four-year institutions (Murphy et al., 2019).

In the US, the average total Stafford Loan amount per undergraduate borrower remained relatively steady at about \$6,000 until 2007 when it began to rise due to the Great Recession. Although these numbers combine public and private students, on average, students at private non-profit institutions borrow one to two thousand dollars more (National Center for Education Statistics, 2017). By 2015–2016 the average debt load for students

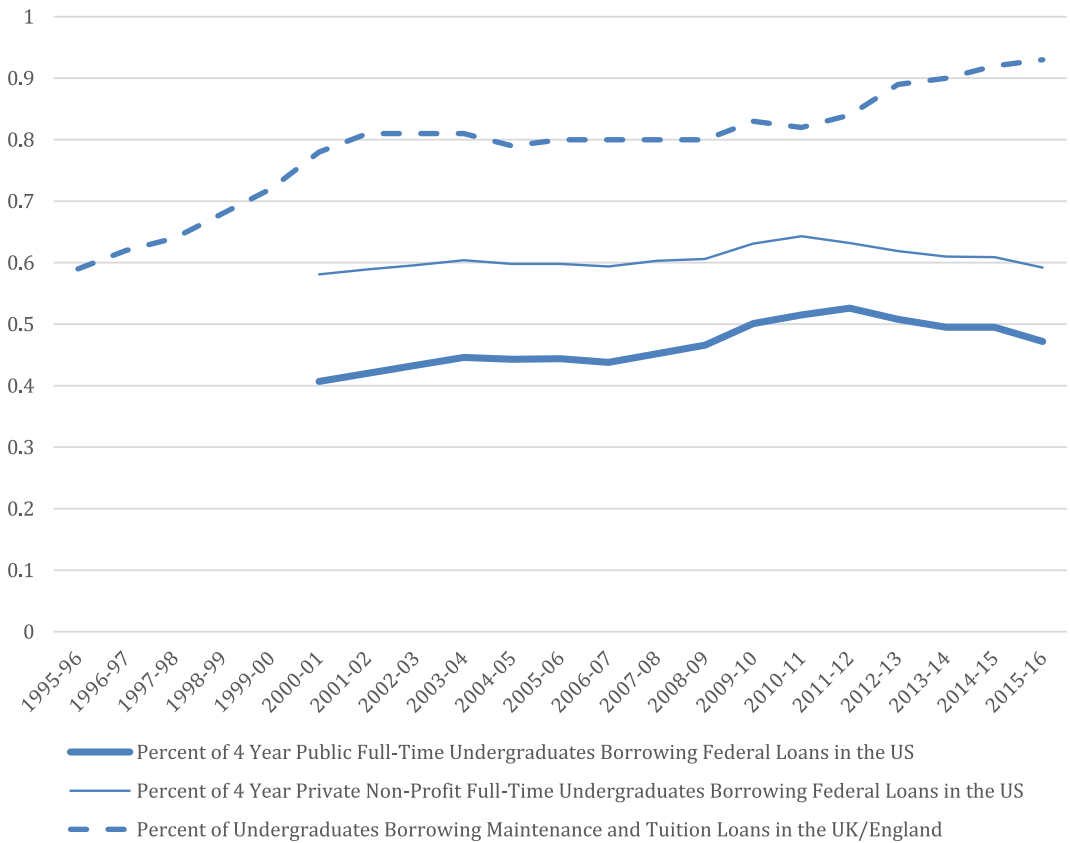


FIGURE 2 Percentage of undergraduates borrowing loans in the US and the UK/England. For the US, the figure presents the percent of full-time, first-time four-year undergraduates borrowing federal loans made directly to students. Reliable data by institutional control does not exist prior to 2000. The 2001 and 2002 year datapoints are linearly interpolated. For the UK/England, it displays values for England-only from 2005–2016 and for the entire UK prior to 2005 and reflects the percentage of students borrowing a maintenance loan prior to 2009–2010 and a maintenance and/or tuition loan from 2009–2010 onward. *Sources:* Figure constructed by authors using data from the digest of education statistics 2009–2017; Bolton (2021)

completing a bachelor's degree was \$32,300. The numbers for public, private non-profit, and private for-profit institutions were \$29,100; \$34,400; and \$44,600, respectively (Irwin et al., 2021).

2.3 | Loan repayments

In the English loan system repayments are income-contingent, with terms and conditions set by central government. Borrowers start repaying their loans once they leave higher education and their earnings reach a threshold—currently \$ 37,509. They pay nine percent of their earnings above the threshold until their loans are paid off, with any outstanding debt forgiven after 30 years.³ This system protects low-earning graduates from high repayments and from defaulting; repayments are unrelated to the amount borrowed. The low default rates are also aided by the loan recovery system: repayments are automatically deducted from graduates' monthly wages through the tax system.

By contrast, most US loans are “mortgage” style. Loans are repaid over a fixed term, often 10 years, with monthly repayments determined by the total amount borrowed plus interest. In 2009, the federal government

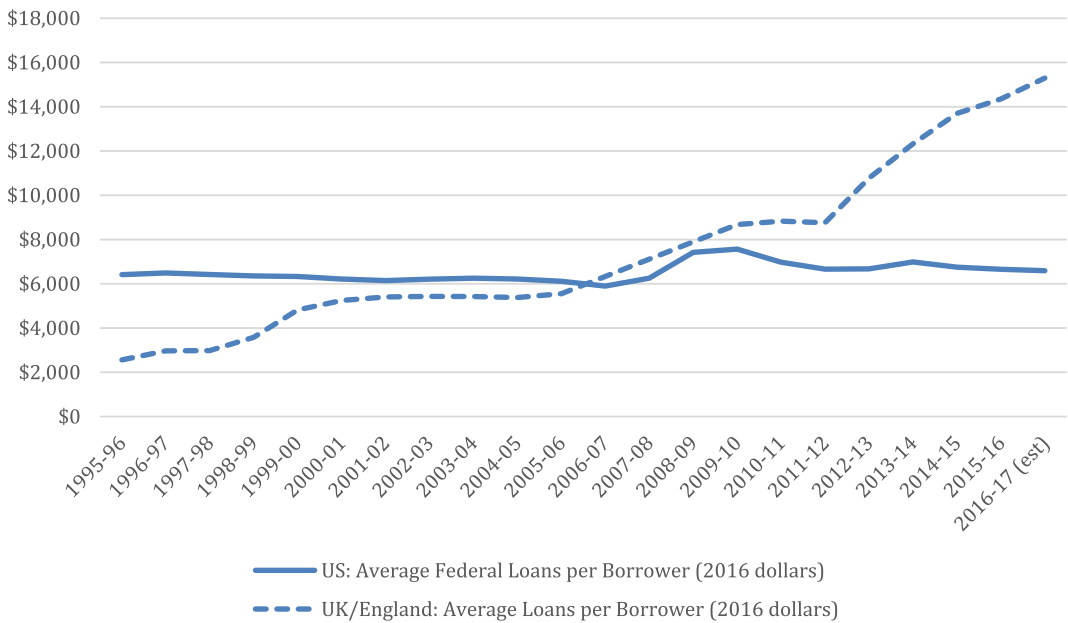


FIGURE 3 Average loan per undergraduate borrower in the US and UK/England. The UK/England data represent the entire UK prior to 2009–2010 and England-only in the subsequent years. The US data include all undergraduate borrowers of Federal Stafford Loans. *Sources:* Figure constructed by authors using data from Table 1 of Bolton, 2021; student loans company, 2018; table 6 in Baum et al. (2019)

began offering an income-based repayment (IBR) program for federal loans, which capped student payments as a percentage of their income. Any remaining loans would be forgiven after 25 years (10 years for students working in public service). The latest income-contingent repayment plan now caps repayments at 10% of discretionary income and requires payments for 20 years prior to forgiveness. In 2016, approximately five million people, representing one-fifth of all borrowers, were enrolled in an income-contingent repayment plan, compared to only 700,000 in 2011 (US Department of Education Office of the Inspector General, 2018).

US borrowers who do not elect an income-contingent program risk defaulting on their student loans if they fail to make their payments for nine months. About one in 10 default on their loans within three years of entering repayment (US Department of Education, 2019), although these rates vary across student characteristics, amount borrowed, and repayment plans (Baum et al., 2017; Scott-Clayton, 2018).

In sum, England, relative to the US, has higher tuition fees leading to higher borrowing rates and amounts, but no loan defaults due to universal income-contingent loan repayments and their loan recovery system. We expect these differences result in different borrowing attitudes between the countries, so we turn to empirical evidence to investigate levels of loan aversion among prospective higher education students in the two nations.

3 | CONCEPTUALISING AND OPERATIONALISING LOAN AVERSION

We consider two different dimensions of the construct of loan aversion in England and the US. Table 1 illustrates how our two measures of loan aversion were constructed. The first is a general attitude about borrowing money. To gauge this, we asked survey respondents how far they agree with three statements about borrowing taken from Callender and Jackson (2005): (1) you should always save up first before buying something, (2) owing money is basically wrong, and (3) there is no excuse for borrowing money. Respondents used a 5-point Likert scale

TABLE 1 Construction of loan aversion variables

Measure	Source	Survey questions	Codes
Attitude	Callender and Jackson (2005)	1. You should always save up first before buying something	1 = Strongly agree or agree 0 = Strongly disagree, disagree, neutral
		2. Owing money is basically wrong	1 = Strongly agree or agree 0 = Strongly disagree, disagree, neutral
		3. There is no excuse for borrowing money	1 = Strongly agree or agree 0 = Strongly disagree, disagree, neutral
OK to borrow for	Mortenson (1988)	1. Education	1 = Yes 0 = No, or Do not know
		2. House	1 = Yes 0 = No, or Do not know
		3. Car	1 = Yes 0 = No, or Do not know
		4. Vacation/Holiday	1 = Yes 0 = No, or Do not know
		5. Daily expense	1 = Yes 0 = No, or Do not know
		6. Clothing	1 = Yes 0 = No, or Do not know

Notes: For the Attitudes measure, we employed Guttman scaling by adding the total Codes for all three survey questions to generate a Loan Aversion Scale ranging from 0 (least loan averse) to 3 (most loan averse).

Source: Authors.

ranging from strongly agree to strongly disagree to rate the extent they agreed with each statement. To facilitate analysis, we created a binary variable for each statement coded as 1 if a student answered agree or strongly agree. Because the response pattern clearly suggested increasing severity of the statements, we employed Guttman scaling to generate a Loan Aversion Scale ranging from 0 (least loan averse) to 3 (most loan averse) based on these three items.⁴ This scale quantifies the level of loan averse attitudes about borrowing money generally.

The second dimension we measured is loan aversion specific to individual purchases, adapted from Mortenson (1988). We asked students whether they believe it is OK to borrow for a house, car, vacation, clothing, daily expenses, and education. A respondent is considered loan averse for that purchase if they did not answer yes. We focus on the binary variable of whether respondents believe it is OK to borrow for education, coded as 1 for "OK to borrow" and 0 if they do not believe it is OK and hence are loan averse for education.

The correlation between these two measures in our sample is a statistically significant .25, which demonstrates that they are related but not highly so. Boatman et al. (2017) discuss how these measures likely capture different dimensions of the loan aversion construct.

4 | DATA AND METHODS

Our effort to compare loan aversion between English and North American high school students relies on survey instruments administered in each country. Each survey captures similar data on demographic characteristics and uses identical questions to measure loan aversion.

4.1 | English survey

The survey in England was conducted in 2015 and is a nationally representative survey of high school pupils aged 17 to 21, in their final year of upper secondary studies, and studying towards higher education entry-level qualifications. This was a one-off bespoke survey. Pupils attending public high schools were selected from the National Pupil Database (NPD); students attending public further education providers from the Individual Learner Record (ILR)⁵; and pupils from private fee-paying high schools directly through their institutions. The UK Department for Education supplied the NPD and ILR data from which the sample was drawn, and *Edubase*—a separate database of private high schools—was used to obtain a sample of private pupils.

Disadvantaged pupils⁶ were oversampled to address the social class biases in university applicants and our interest in how the most disadvantaged students fare. A systematic random sample was selected from the eligible students in the NPD and ILR from within and outside the disadvantaged category. A systematic random sample of 100 private schools was selected from *Edubase* and the selected schools were contacted and invited to participate in the research project.

The survey was administered through a combination of paper and email surveys, and yielded 1,617 respondents, giving an overall response rate of 22 per cent. The response rate was considerably higher for the private school sample (40%) than the NPD sample (28%) and the ILR sample (11%). The lower ILR response rate was driven primarily by the lower quality of the contact information received for the ILR sample.

A single weight was produced for analysis.⁷ The influence of the sample design and weighting can be summarised by measure by design effect, which was estimated at 1.73 (i.e., the effective sample size for the analysis is 1.73 times smaller than the actual number of respondents). This can be considered a reasonable result for a study with such a complex sampling design.

Although we collected data on a total of 1,617 respondents, we drop observations due to missing data elements used in our analysis, creating an analytic sample of 1,056.

4.2 | US survey

The US survey, also conducted in 2015, gathered data on high school seniors at racially and socioeconomically diverse public high schools in four states: Kentucky, Massachusetts, Tennessee, and Texas (see Boatman & Evans, 2017). The sampling frame consisted of all high schools in each state with at least 10% low-income, 10% white, 10% Black, 10% Hispanic, and more than 500 total students. We selected these states as they enrol differing proportions of white, Black, and Hispanic students, allowing us to examine responses across racial groups for a related study. Stratifying by state, high schools were randomly asked to participate until we reached five schools in a state, or exhausted all of the high schools meeting our conditions. Researchers travelled to each of these high schools and administered the survey to over 80% of high school seniors at each school. This resulted in a sample of 1,895 students with an analytic sample of 1,447 students after dropping observations with missing data. Although high schools within these states were randomly chosen, it is possible the sample is not completely representative of the entire nation given potential geographic variation across states. While we do not have reason to believe loan averse attitudes vary widely across the country, we cannot rule out this possibility with the current data.

4.3 | Comparing English and American samples

Table 2 compares the two samples on demographic characteristics and postsecondary educational expectations. All variables are binary except age. The English sample is more heavily female by 10 percentage points, but the

TABLE 2 Demographic descriptive statistics of survey respondents

	England			US		
	Mean	Standard deviation	N	Mean	Standard deviation	N
Female	0.612	0.488	1,056	0.509	0.500	1,447
White	0.815	0.388	1,056	0.361	0.480	1,447
Black	0.057	0.232	1,056	0.211	0.408	1,447
Asian	0.096	0.294	1,056	0.026	0.160	1,447
Hispanic	0.000	0.000	1,056	0.246	0.431	1,447
Multiple race	0.032	0.177	1,056	0.143	0.350	1,447
Other race	0.000	0.000	1,056	0.012	0.111	1,447
Age	18.281	0.673	1,056	17.543	0.651	1,447
Low-income	0.287	0.453	1,056	0.457	0.498	1,447
Parents attended higher education	0.422	0.494	1,056	0.645	0.479	1,447
Intends to attend higher education	0.854	0.353	1,056	0.957	0.203	1,447

Source: Data taken from surveys conducted by the authors in each country.

US sample is much more racially diverse by design. English students are slightly older, on average, than North American seniors. The US sample has a higher percentage of low-income students (46% compared to 29% in England). Parents in the US sample are more highly educated with a 22 percentage-point advantage in having attended higher education. The US sample has higher aspirations to attend higher education, although both samples reported very high intentions.

4.4 | Analysis

Our empirical analysis uses two methods to compare loan aversion between students in England and the US. The first conducts *t*-tests of the comparisons of means between English and North American students for each of our *Attitude* and *OK to borrow* measures as well as our constructed loan aversion scale. These *t*-tests enable us to assess which country has higher rates of loan aversion and whether that difference is statistically significant.

While simple and direct, the *t*-test method does not account for the sample differences outlined above. Given prior research on the relationship between loan aversion and individual characteristics (Burdman, 2005; Callender & Jackson, 2005; Cha et al., 2005; Cunningham & Santiago, 2008; Hillman, 2015; McDonough & Calderone, 2006), we conduct a multiple regression analysis to consider the difference in our loan averse measures across countries while controlling for these salient individual characteristics. Our regression model is:

$$y_i = \beta_0 + \beta_1 US_i + \beta_2 female_i + \beta_3 Black_i + \beta_4 Hispanic_i + \beta_5 Asian_i + \beta_6 Multiple_i + \beta_7 Other_i + \beta_8 LowIncome_i + \beta_9 ParentalCollege_i + \beta_{10} IntendsCollege_i + \beta_{11} Age_i + \epsilon_i \quad (1)$$

We fit this model using two different outcomes: our continuous loan aversion scale constructed from the attitude questions and our binary measure of believing it is *OK to borrow for education*. We use a linear probability model for the binary outcome to ease interpretation. The main coefficient of interest, β_1 , identifies the relationship between country and outcomes and is interpreted as the difference in the outcomes between the English and North American students, controlling for gender, race, age, income, parental education, and intent to pursue higher education.

Our final empirical analysis assesses the likelihood that loan aversion predicts intent to pursue higher education. For this analysis, we rely on a binary outcome variable of whether the student intends to pursue higher education, captured on the English survey by asking, "Have you decided to go to university or college to study for a higher education qualification?" and on the US survey by asking, "What is the highest level of education you would like to get?" These questions both assess students' intentions to pursue higher education. Using a linear probability model, we regress this outcome on both our loan aversion scale and *OK to borrow for education* measure including demographic and other *OK to borrow* measures as controls across several models.

5 | RESULTS

5.1 | T-tests for borrowing attitudes

Table 3 reports differences between England and the US using *t*-tests on specific attitudes about borrowing for individual items and general attitudes about borrowing money. Each row reports the England mean, US mean, difference between the means, the *p*-value of the test for statistical significance of that difference, and the sample size for each country. The means for the *OK to borrow* measures are the proportion of each sample that believe it is *OK to borrow* for that item. The mean of the general attitude measures is the arithmetic mean of the 1–5 Likert scale responses (higher numbers indicate stronger agreement). The mean of the loan averse scale is the arithmetic mean of responses on the 0–3-point Guttman scale, with a larger number indicating greater loan aversion.

Using the *OK to borrow* measures, we observe generally high levels of acceptability in borrowing for a house, car, and education in both countries. In contrast, students in both countries find it far less acceptable to borrow for a vacation, daily expense, or clothing. The strongest differences between countries relate to housing and education. US students are fourteen and nine percentage points less likely to believe it is *OK to borrow* for a house and education respectively, suggesting greater loan aversion among North American students.

On our three attitude measures, US students consistently demonstrate more loan aversion. They are statistically significantly more likely to agree that one should always save up first before buying something, owing money is basically wrong, and there is no excuse for borrowing money (Attitude: Saving, Wrong, and No Excuse, respectively). Our constructed loan aversion scale further demonstrates a much higher rate of loan aversion among US students than English students.

These collective results demonstrate US students are practically and statistically significantly more loan averse generally, and specifically for education than English students. However, these results could be driven by demographic differences in the samples, so we turn to regression analysis to measure these differences while controlling for demographic characteristics.

5.2 | Regression results for borrowing attitudes

Table 4 reports results from our regression model (Equation 1) for two outcomes: the loan aversion scale and the *OK to borrow for education* binary measure. For each outcome, the first model reports the bivariate regression using only a binary US predictor variable, replicating the findings in Table 3. US students are 0.44 points higher on the loan aversion scale, corresponding to over half a standard deviation change in the scale, and are nearly nine percentage points less likely to believe it is *OK to borrow for education* relative to English students.⁸

The second model for each outcome adds our demographic control variables. For both outcomes, the point estimate on US students attenuates slightly but remains large and statistically significant. Even after controlling for demographic characteristics, high school seniors in the US are, on average, 0.38 points higher on our four-point

TABLE 3 T-test comparisons of borrowing attitudes

	England mean	US mean	Mean difference	p-value of difference	England N	US N
OK to borrow for						
House	0.946	0.802	0.144	.000	1,056	621
Car	0.670	0.715	-0.045	.053	1,056	621
Vacation/Holiday	0.086	0.085	0.001	.953	1,056	621
Daily expense	0.286	0.254	0.032	.162	1,056	621
Clothing	0.105	0.134	-0.029	.078	1,056	621
Education	0.920	0.833	0.088	.000	1,056	621
Attitude						
Saving	3.768	4.442	-0.674	.000	1,056	1,447
Wrong	2.402	3.062	-0.660	.000	1,056	1,447
No excuse	2.221	2.447	-0.226	.000	1,056	1,447
Loan averse scale	0.973	1.415	-0.442	.000	1,056	1,447

Notes: The US sample size for the "OK to Borrow for" measures are smaller than the Attitudes measures because only a randomly selected subset of respondents were asked those questions.

Source: Authors.

loan aversion scale (0.450 standard deviations) and seven percentage points less likely to believe it is *OK to borrow for education* than their English peers.

Coefficients on the demographic characteristics reveal that women are less likely to be loan averse on both measures, Hispanic students are more likely to be loan averse on the scale measure, students of other races are more likely to be loan averse on the *OK to borrow for education* measure, and students whose parents attended higher education are less likely to be loan averse on the scale measure. To examine whether demographic differences in loan aversion differ across the two contexts, we ran a series of regressions (not reported in a table) regressing loan aversion on each demographic characteristic interacted with country. Only female and Asian students have significant interaction coefficients. Women's less severe loan aversion relative to men is even more so in the US than it is in England, and being Asian in the US is associated with less loan aversion than being Asian in England.

5.3 | Does loan aversion predict intent to enrol in higher education?

Table 5 reports results from our final empirical analysis in which we predict intentions to enrol in higher education with our two primary measures of loan aversion. We report results across eight models to account for the inclusion of different combinations of predictors and controls. Model 1 reports the bivariate relationship between the binary *intent to enrol* outcome and the loan aversion scale. There appears to be no relationship between general loan aversion and intent to enrol in higher education; however, once the full set of demographic controls is added in Model 2, a stronger negative relationship emerges that is just outside the standard level of statistical significance with a *p*-value of .069. General loan aversion may negatively predict intent to pursue higher education, although the relationship is weak. Models 3 and 4 parallel Models 1 and 2 using the binary *OK to borrow for education* predictor. Being *OK to borrow for education* is associated with an approximately 11 percentage point increase in the likelihood of intending to enrol, and the demographic controls make little difference in this result. The same result holds when we add the full set of *OK to borrow* measures in Model 5. In Model 6 we include both

TABLE 4 Regressions of loan aversion measures on country

	Loan aversion scale		OK to borrow for education	
	Bivariate	Covariates	Bivariate	Covariates
United States	0.441 ^{***} (0.034)	0.380 ^{***} (0.044)	-0.088 ^{***} (0.017)	-0.069 ^{**} (0.022)
Female		-0.207 ^{***} (0.033)		0.056 ^{***} (0.016)
Black		0.079 (0.053)		-0.015 (0.028)
Multiple race		-0.045 (0.057)		0.035 (0.030)
Asian		0.165 [*] (0.077)		0.032 (0.025)
Hispanic		0.198 ^{***} (0.054)		-0.055 (0.039)
Other race		-0.116 (0.180)		0.146 ^{***} (0.023)
Low income		0.062 (0.036)		-0.022 (0.018)
Parents attended higher education		-0.076 [*] (0.035)		0.023 (0.016)
Age		-0.004 (0.025)		-0.002 (0.011)
Constant	0.973 (0.027)	1.175 (0.459)	0.920 (0.008)	0.911 (0.205)
Adjusted R ²	.066	.091	.018	.029
N	2,503	2,503	1,677	1,677

Notes: Heteroskedastic robust standard errors are in parentheses. A linear probability model was used for the binary OK to Borrow for Education outcome. The sample size for the OK to Borrow for Education models are smaller because only a randomly selected subset of US respondents were asked those questions.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Source: Authors.

the loan aversion scale and *OK to borrow* measures and add an indicator for the US to account for the different enrolment rates across countries (87% in the US and 56% in the UK [World Bank, 2021]). The *OK to borrow* predictor remains stable, and the coefficient on the Loan Averse Scale predictor remains consistent but becomes slightly less precise. It seems loan aversion as captured by the *OK to borrow for education* measure is negatively related to intent to enrol in higher education, but this conclusion does not hold as strongly for the loan aversion scale measure.

We also consider whether these models have similar results across England and the US by estimating the full model separately for US and English samples (Models 7 and 8, respectively). We find that the relationship between *OK to borrow for education* and intent to enrol is larger in England at 12.7 percentage points relative to the relationship in the US at 8.2 percentage points, although a formal test of this difference in an interacted model is not statistically significant. We conclude from the results in Table 5 that loan-averse attitudes specific to education are negatively predictive of intending to pursue higher education.

TABLE 5 Predicting intent to pursue higher education with loan aversion

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Loan averse scale	-0.008 (0.010)	-0.017 (0.009)				-0.016 (0.010)	-0.019 (0.014)	-0.017 (0.013)
Ok to borrow for education			0.105*** (0.030)	0.112*** (0.029)	0.112*** (0.029)	0.106** (0.032)	0.082* (0.039)	0.127* (0.050)
Female		0.026 (0.015)		0.023 (0.015)	0.023 (0.015)	0.025 (0.015)	0.014 (0.015)	0.033 (0.023)
Black		0.077*** (0.020)		0.078*** (0.021)	0.083*** (0.020)	0.066** (0.021)	0.014 (0.027)	0.139*** (0.031)
Multiple race		0.099*** (0.018)		0.096*** (0.018)	0.097*** (0.018)	0.078*** (0.018)	0.034 (0.023)	0.117*** (0.031)
Asian		0.138*** (0.022)		0.131*** (0.022)	0.128*** (0.022)	0.129*** (0.023)	0.054** (0.019)	0.148*** (0.027)
Hispanic		0.118*** (0.021)		0.122*** (0.021)	0.123*** (0.021)	0.096*** (0.023)	0.061* (0.026)	0.000 (.)
Other race		0.112*** (0.022)		0.096*** (0.021)	0.102*** (0.023)	0.075** (0.024)	0.070* (0.029)	0.000 (.)
Low income		-0.008 (0.017)		-0.006 (0.017)	-0.004 (0.017)	-0.004 (0.017)	-0.010 (0.019)	-0.003 (0.026)
Parents attended higher education		0.114*** (0.016)		0.113*** (0.015)	0.113*** (0.016)	0.107*** (0.016)	0.068** (0.021)	0.126*** (0.021)
Age		-0.033* (0.013)		-0.032* (0.012)	-0.033** (0.012)	-0.025 (0.014)	0.007 (0.015)	-0.041* (0.019)
Ok to borrow for house					0.024 (0.029)	0.029 (0.029)	0.019 (0.030)	0.023 (0.053)
Ok to borrow for car					-0.019 (0.017)	-0.030 (0.018)	-0.006 (0.022)	-0.033 (0.023)
Ok to borrow for vacation					-0.058 (0.034)	-0.059 (0.034)	-0.006 (0.043)	-0.079 (0.047)
Ok to borrow for daily expense					0.003 (0.019)	0.003 (0.019)	-0.003 (0.022)	0.001 (0.026)
Ok to borrow for clothing					-0.014 (0.031)	-0.019 (0.031)	-0.042 (0.041)	0.000 (0.042)
United States						0.051** (0.019)	X	
Constant	0.900 (0.013)	1.390 (0.227)	0.798 (0.029)	1.272 (0.227)	1.277 (0.227)	1.142 (0.251)	0.713 (0.274)	1.416 (0.351)
Adjusted R ²	.000	.069	.011	.080	.082	.084	.054	.071
N	1,677	1,677	1,667	1,677	1,677	1,677	621	1,056

Notes: The dependent variable is having the goal of attending higher education. Heteroskedastic robust standard errors are in parentheses. A linear probability model was used to estimate the binary outcome of whether students intend to pursue higher education. A formal test of significance of the difference in willingness to borrow for education coefficients between the English and US samples does not reveal a statistically significant difference.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Source: Authors.

6 | DISCUSSION

Our study suggests that loan aversion is prevalent in both England and the US. But it is more pervasive in the US even after controlling for demographic characteristics including income, gender, race, and parental education. American high school students have nearly half of a standard deviation higher value on the loan aversion scale and a seven percentage-point higher probability of not believing it is *OK to borrow for education*. These loan averse attitudes predict lower intent to pursue higher education in both countries, and the size of the relationship is substantial. Being *OK to borrow for education* is associated with an 11 percentage point increase in the probability of intending to enrol. These findings lend credence to concerns that loan aversion can deter college enrolment, especially in the US.

Below, we explore three factors that may explain the observed differences in the US and England. We focus on three higher education-specific rationales, although there may also be country differences in broader societal attitudes towards borrowing. If borrowing money, generally, is more widely accepted in one country, this may in turn influence attitudes towards financing higher education.

6.1 | Borrowing is more common in England

Figure 2 shows student loans in England are far more common than in the US, being essential for all but the wealthiest (de Gayardon et al., 2019). Furthermore, Figure 3 shows that English students borrow more on average than their US peers. Perhaps borrowing to finance college is a more generally accepted practice in England for people of all backgrounds. Other research confirms this, suggesting that student loan debt is broadly tolerated and regarded "as a normalised feature of contemporary student life" (Harrison et al., 2015, p. 103). Nevertheless, loan aversion in England exists and probably depresses college enrolment levels despite the relatively high higher education participation rates. It should be noted that in spite of greater loan aversion, undergraduate enrolments in the US are approximately as high as British enrolments in terms of the percent of the age cohort.

6.2 | England's student funding system is less complicated and confusing

Researchers and policymakers both in England and the US agree that effective student financial assistance should be simple, transparent, and predictable (Dynarski & Scott-Clayton, 2006; Long, 2008). Students need to know university costs and financial support well in advance of deciding to attend.

These design features are largely present in England's student funding system. There is only one main source of government-funded financial support—student loans. The same loan system covers tuition and maintenance costs, and nearly all fulltime students qualify. The loans are managed by one government-owned organisation—the Student Loans Company. Students make one application for both tuition fee and maintenance loans. A government provided calculator enables students to determine how much they can borrow well in advance of enrolling. All loan repayments fall under one uniform income-contingent repayment plan. Repayments are taken automatically from the graduate's salary through the tax system. Finally, tuition fees are broadly the same at all English universities for all programs with low levels of institutional aid, resulting in limited price discounting and price differences.

In the US, students face extraordinary complexity. There are four different federal undergraduate loan programs, loans provided by some institutions of higher education, and private loans offered by banks or other financial agencies. A credit check may be required. The amount a student can borrow depends on numerous factors including federal regulations, financial need, and the cost of attendance. Repayment is equally complicated. For federal loans alone, there are eight different repayment plans with varying eligibility requirements representing

options with fixed, graduated, or income-contingent repayment amount (Federal Student Aid, US Department of Education, 2021). In sum, the complexity of the student lending system in the US likely increases loan aversion among the student population in comparison to England.

6.3 | All loans in England are income-contingent

If students are concerned about their final debt burden and ability to repay it, income-contingent repayment plans reduce these risks, thereby reducing the impact of risk aversion on participation decisions (Barr et al., 2019; Chapman, 2006). It is the government, not the individual or their higher education institution, that bears the risk of no or low graduate earnings. Consequently, the system is expensive for the government. For every \$100 the government lends students, currently it only gets back \$53. This is primarily because the amounts students borrow and the interest accrued are high, but graduates' lifetime earnings are not high enough to repay their whole loan balance in full before any outstanding debt is written off by the government. Only about a quarter of 2020–2021 higher education entrants in England are forecast to fully repay student loans (*Department for Education, 2021*).

Income-contingent plans exist in the US but they suffer from administrative challenges and a general lack of accessible information about their benefits. As a result, take-up of income-contingent plans is still low in the US, with only a fifth of all borrowers in 2016 enrolled in one. Moreover, income-contingent repayments are quite different across the two countries (Barr et al., 2019). English borrowers need not provide repeated verification of their income, as repayments are automatically withdrawn through the tax system. This procedural hurdle, along with the default mortgage-style repayment process, and challenges in verifying income for those who switch jobs leads most US borrowers to enter traditional 10-year repayment plans. These standard plans provide no protection against high repayment levels or low earnings, which can lead to financial hardship and default. This increased risk of poor financial outcomes probably increases loan aversion among North American students, and there is suggestive evidence on behavioural effects that lead to loan aversion driven by risk averse students (Evans et al., 2019). Furthermore, the ultimate government cost of these policies in the US remain unknown. North American students have only recently entered a time when unpaid income-contingent loan balances can be forgiven for public service employees, and the long-term percentage of borrowers eligible for forgiveness and their balances remain uncertain.

7 | CONCLUSION

Our study finds that US high school students have greater levels of loan aversion than their English peers. It confirms how, in both contexts, loan aversion can inhibit higher education enrolment. Student loans, promoted as an instrument of equity as they allow access to higher education independently of financial resources, may have the opposite effect by deterring access and exacerbating unequal access. However, we suggest, the type of student loan matters and helps explain differences in the patterns of loan aversion in the US and England.

We acknowledge several limitations to our study: it only applies to traditional high school students; the US sample may not be completely representative of the entire country; some elements of student financial aid have changed since our surveys were conducted; our models only explain a small percentage of the variation in the outcomes because we did not observe many characteristics affecting loan aversion and intention to enrol in higher education; and it focuses on prospective students' intentions about entering higher education rather than actual behaviour. We also cannot assume that attitudes towards debt perfectly determine borrowing behaviour, although the potential impact of perceptions on behaviour is well established (Kettley et al., 2008). Drawing a causal conclusion that debt-attitudes lead to underinvestment in higher education requires longitudinal data tracking students from high school into college.

Despite these limitations, our results suggest that if the US moved towards a single, income-contingent repayment plan, this could address the problems of economic hardship and high default rates (Barr et al., 2019),

potentially reducing loan aversion and increasing access. The same may be true if the student financial aid system and the number of loan programs was simplified, and the application process made easier (Baum & Schwartz, 2015; Bettinger et al., 2012). If England were to remove income-contingent repayment, this may increase loan aversion. However, reintroducing need-based grant aid in England could help reduce levels of borrowing without negative enrolment impacts. While we would prefer to see more grant aid, in the current financial climate continued reliance on loans seems likely. Both countries should work to make borrowing manageable and ensure that reliance on loans does not preclude enrolment among loan averse individuals.

Notable differences exist between the English and US higher education systems, and there are real dangers with "policy borrowing" in which policies from another society are copied without deeply considering the prerequisites necessary for implementation (Steiner-Khamsi, 2010; Whitty, 2016). On the other hand, there are reasons to suggest that policy borrowing could work between England and the US. Both countries share considerable socio-political similarities. Both have regimes favouring market forces with an emphasis on individual choice, especially in higher education policy. Both share similar goals for and problems with higher education despite differences in their systems. Both are committed to increasing student access and success in higher education, for reasons of economic growth, social control, and social justice. Simultaneously, they face major class, racial and ethnic differences in student access and success in higher education. Our study suggests limiting loan aversion may play a role in resolving these challenges, and such challenges evident in other high-income countries.

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DATA AVAILABILITY STATEMENT

US and English data available upon request to the authors.

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ENDNOTES

- ¹ Exchange rate £1GBP = \$1.38 on January 13, 2022.
- ² These tuition amounts are in 2016 US dollars and have been adjusted for inflation.
- ³ The parameters of the student loan system have changed over time (Belfield, Britton, Dearden, et al., 2017). In February 2022, the Government announced further changes to the parameters of student loans for new undergraduate entrants from 2023 aimed at reducing public expenditure on higher education. The changes include a reduction in the loan repayment threshold to \$34,500; the abolition of real interest rates with the rate reduced to inflation; and an extension of the write-off period from 30 to 40 years. Consequently in future more graduates will be brought into the student loan repayment system and all graduates will be making higher repayments each month and over their lifetime, and most will be repaying their loans for longer. More graduates will repay off their loans in full so by 2026/27 it is estimated that for every £100 the government lends a student it will get back £81.
- ⁴ The coefficient of reproducibility for this scale is 98%.
- ⁵ The NPD is a database of pupils in all public-funded schools in England and Wales. The ILR includes data about learners in further education colleges, sixth form colleges and others not included in the NPD.
- ⁶ Based on eligibility for free school meals or being in care.
- ⁷ The weighting took into account first the oversampling of disadvantaged pupils; secondly, non-response modelling by gender, birth year, ethnicity, achievement score, disadvantage flag for the NPD and ILR students, and gender and qualification type for private school pupils; and thirdly, a calibration of the whole dataset (all respondents) to available population totals: gender*school type, FSM status*school type, ethnicity*school type, school type.
- ⁸ The standard deviation of the loan aversion scale across the sample is 0.845, so a 0.441 change corresponds to 0.522 standard deviations.

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