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Student (dis)satisfaction in UK higher education: teaching-only contracts, esteem uncertainty and research intensity

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ABSTRACT

This study investigates the impact of teaching-only contracts on student satisfaction in UK Higher Education, with a focus on esteem uncertainty through the lens of asset specificity. Utilising an institutional-level student dissatisfaction index, we analyse the combined effects of teaching-only contracts, faculty compensation and research intensity. The findings suggest that while teaching-only contracts can enhance student satisfaction by encouraging pedagogical innovation, their positive impacts are at risk of being diminished by issues of esteem uncertainty, especially due to limited opportunities for career advancement and institutional focus on research. Our study provides valuable insights for Higher Education policymakers, underlining the importance of addressing the esteem-related challenges academic staff face. By incorporating these factors into policy decisions, it's possible to bolster educational quality and improve student experiences, ensuring that the advantages of teaching specialisation are not undermined by wider institutional practices.

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Teaching-only contracts; esteem uncertainty; NSS; student satisfaction; Higher Education

1. Introduction

Over the past few decades, the UK Higher Education (HE) sector has placed an increasing focus on enhancing teaching methods and quality, as evidenced by a series of reports and initiatives aimed at promoting excellence in teaching. This is highlighted by seminal works such as the Hale Report (Report of the Committee on University Teaching Methods, 1964) and the Dearing Report (National Committee of Inquiry into Higher Education 1997), alongside the creation of pivotal institutions and programmes like the Institute for Learning and Teaching in Higher Education, the Learning and Teaching Support Network, the Higher Education Staff Development Agency, Centres of Excellence, National Teaching Fellowships, and the Teaching Quality Enhancement Fund National Coordination Team, culminating in the establishment of Advance HE. These efforts underscore a move towards prioritising teaching quality, with a now-standard expectation for UK academics to seek Advance HE teaching qualifications.

In addition, the UK HE sector has evolved over the past decades, as the focus in the late 1990s by the UK Government of massifying the sector and heavily encouraging late teens to choose university (see Cook, Watson, and Vougas 2019). The introduction of fees accelerated this effect, creating a 'consumer culture' with students increasingly demanding 'value for money' (see Cook, Watson,

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and Vougas 2019). This, in turn, led to metricisation and categorisation in order to signal the quality of both the university and the teaching and league tables covering all areas of university provision abounded, for example, the Research Exercise Framework (REF) to signal research quality, the Teaching Excellence Framework (TEF) to signal teaching quality, and of course the National Student Survey (NSS).

The marketisation of UK higher education (HE) has significantly altered staffing models and academic practices, often exacerbating inequalities between teaching and research roles. The shift towards a market-driven approach, influenced by neoliberal policies, has prioritised metrics such as student satisfaction, employability, and league table rankings (Brown & Carasso, 2013). This emphasis has led to the bifurcation of academic staff into research-intensive and teaching-focused roles, creating disparities in status, job security, and career progression (see Gros et al. 2020; McKinley et al. 2021; or early studies from Fanghanel, 2012; Archer, 2008). This has led to an increased, if surface, focus on the scholarship of teaching and learning in terms of Boyer's (1990) seminal work and to what Whitchurch (2009) and later White, White, and Borthwick (2021) refer to as 'blended professionals', with Obexer (2022) more recently referring to academics being 'lost in third space'.

However, despite these developments, the traditional emphasis on research over teaching has significantly shaped academic priorities, as detailed in the analyses by Coate, Barnett, and Williams (2001), Zubrick, Reid, and Rossiter (2001), Van Note Chism (2006), Cretchley et al. (2014) and Bamber, McCormack, and Lyons (2023). Even though tuition fees now account for a substantial portion of university revenue – 53% in 2021 (HESA 2022), this research-centric orientation continues to dominate career advancement and institutional prestige. Such prioritisation of research facilitates the development of a research-led teaching narrative, as highlighted by Hay, Weller, and Ashton (2015), where cutting-edge scholarly insights can directly inform and enrich the curriculum. This approach suggests that students greatly benefit from being instructed by academics who are actively contributing to their fields, underscoring a symbiotic relationship between research and teaching quality. However, this scenario also points to the necessity for a more equitable valuation of teaching alongside research. The key challenge involves recognising the merits of research-led teaching while simultaneously advocating for a recalibration that positions teaching on equal footing with research. This adjustment implies a strategic shift in the sector's stance, aiming to harmonise the contributions of both areas to the academic mission. The goal is to ensure that enriching student learning through research-led pedagogy is complemented by a steadfast dedication to teaching excellence.

This rebalancing might already be underway, evidenced by the increased adoption of teaching-only contracts. From 2014–2015 to 2021–2022, the sector witnessed a significant shift in the contracting methods for academics. The proportion of dual teaching and research contracts decreased from 49% to 43%, while teaching only contracts have increased from 51,970 to 81,080. This data can only be sorted by employment function, and *may* include PhD student teaching, however, it remains that teaching only contracts increased in this period by over 64% (see HESA 2024). Our paper conducts an empirical investigation into how this shift might influence the quality of the student experience. One theory suggests that such contracts, by allowing educators to focus solely on teaching without the demands of research, might enable a '*sophisticated division of labour*' akin to the commercial sector (Sidorkin 2012). This approach posits that educators, liberated from research pressures, can fully commit their skills to teaching, potentially enhancing student outcomes through increased engagement in pedagogical innovations. Our analysis will therefore examine the nature of these innovations, which may include methodologies such as flipping the classroom (Cook et al. 2021), co-creation (Bovill 2020), e-learning (Alpert, Couch, and Harmon 2016; Cook, Watson, and Vougas 2019; Kentnor, 2015), and blended learning (Alpert, Couch, and Harmon 2016; Kentnor, 2015; Figlio, Rush, and Yin 2013).

Despite this potential, prevailing scepticism questions teaching-only contracts effectiveness in genuinely shifting the cultural focus towards teaching improvements rather than simply accommodating the increasing number of students (Macfarlane 2021). For instance, the rise in teaching-only

contracts could merely signify a broader trend towards casualisation, where the strategic employment of non-permanent staff is aimed at managing costs in an environment of growing student populations. Such a trend might result in a disconnect between the adoption of teaching-only contracts and the enhancement of the student experience. However, this paper proposes to examine a third complicating factor in the impact of teaching-only contracts: esteem uncertainty.

Esteem uncertainty in academia refers to the inconsistency in how teaching roles are valued and acknowledged. Such uncertainty continues despite of, and maybe because of, the creation of organisations to promote teaching excellence. In the UK AdvanceHE was established to recognise outstanding teachers via National Teaching Fellowships (NTF) and a more formal Fellowships scheme. However, such awards have struggled to gain impact, transferability, or indeed, consistency of utilisation across different institutions and countries, and esteem uncertainty remains (see Bamber, McCormack, and Lyons 2023). Recent work by Arico et al (2024) reported that over 30% of surveyed respondents believed that, as teaching-track economists, they were hired to help research active staff reduce their workloads. In addition, their findings suggest that there remains a 'gap between what UK teaching-track economists spend their time on and what they need to be doing for promotion' (Arico et al 2024 page 326 and also see Harland and Wald 2018).

Through the Scholarship of Learning and Teaching (SoTL) literature, we can gain further insight into this issue. This body of work outlines two central challenges: clear definition of SoTL remains elusive, and its application in supporting teaching-only pathways is inconsistently implemented across HE. Scholars such as Vardia and Quin (2011) Smith and Walker (2024) and Arico et al (2024) all highlight the confusion over what constitutes SoTL, leading to varied criteria for career pathways in countries like the UK and Australia. Vardia and Quin (2011) observe a departure from traditional scholarship definitions, while Smith and Walker critique the inconsistencies in these definitions across different academic levels and question the feasibility of fulfilling scholarly activities under teaching-only contracts.

The debate extends with Bennett et al. (2018), Chalmers (2011), and Canning and Masika (2022) also reporting on the low esteem and uncertainty surrounding teaching-only positions. Calls for a clearer definition of 'scholarship' emerge, yet the proliferation of diverse proposals only seems to deepen the uncertainty. Cranton (2011) advocates for an expansion of SoTL to encompass critical reflections on teaching norms and values, contrasting with Canning and Masika's (2022) view that SoTL is already overly broad, suggesting that further clarification might not be straightforward. Moreover, an interesting review of the scholarship of teaching and learning by Tight (2018) concludes: 'in 30, 40 or 50 years' time, the scholarship of teaching and research will be little more than a historical footnote, scarcely remembered by anyone' (Tight 2018, page 73).

The practical consequences of esteem uncertainty in the academic sector are significant, affecting the career trajectories and visibility of individuals in teaching-only positions. Ambler, Huxley, and Peacey (2023) and McIntosh et al. (2022) delve into the limited advancement opportunities for staff in these roles, noting the stark statistic that less than 1% of Professors occupy teaching-only positions. This issue is compounded by the 'invisibility' of teaching-focused staff, who, overshadowed by their research-focused counterparts, often carry a disproportionate burden of teaching and administrative responsibilities. The sector's reliance on Student Evaluations of Teaching (SETs) as a primary measure of teaching quality – despite criticisms that SETs are flawed, potentially discriminatory, and could incentivise poor practice (Cook, Watson, and Webb 2024; Gourley and Madonia 2021; Heffernan 2022; Linse 2017; Stroebe 2020) – adds another layer of complexity. This reliance contributes to an uncertain evaluation framework, potentially justifying Canning and Masika's (2022) controversial suggestion to abandon SoTL altogether. The broader implications highlight the challenges teaching-focused academics face in achieving recognition and advancement, underscoring the need for systemic changes to address the valuation and recognition of teaching within the HE landscape.

To assess the impact of esteem uncertainty on the student experience in the context of teaching-only contracts, this paper is organised as follows. Section 2 presents a theoretical framework

that critically evaluates the widespread belief that teaching-only contracts, through the application of an economic division of labour in higher education, will automatically result in improved outcomes. This theoretical discussion sets the stage for the empirical methodology then introduced in Section 3. In this section, we utilise data from the National Student Survey (NSS) to construct a fuzzy index measure of student dissatisfaction for UK HE institutions. Based on this approach, our regression results and hypothesis tests are then presented in Section 4. Section 5 wraps up with strategic recommendations for better employing teaching-only contracts to enhance educational outcomes.

2. Theoretical insights

To explore the effect of esteem uncertainty on teaching-only contracts for student experience enhancement, we draw from the concept of asset specificity, as outlined in Williamson's '*theory of the firm*' (Riordan and Williamson 1985; Williamson 1981). This theory suggests that highly valuable and irreplaceable assets, due to their unique characteristics and the challenges in acquiring similar assets from the market, should be tightly incorporated into organisations. Riordan and Williamson theorise on whether it is more economical for a firm to make those assets required for trade or buy them in the marketplace. The more specialised the asset is, the higher the assets 'specificity' and therefore the more expensive and difficult to find in the marketplace; and, as a result, they argue it becomes more economical to bring the production of the asset inside the firm:

Accordingly, whereas internal organisation is at a transaction cost disadvantage to the market where asset specificity is slight, this disadvantage decreases and is eventually reversed as the condition of asset specificity deepens.
(Riordan and Williamson 1985, 368)

The body of literature on asset specificity has primarily been shaped by three theories: transaction cost economics (TCE), the resource-based view (RBV), and relational exchange theory (RET) (see De Vita et al., 2011). These theories emphasise the value of internal resources, with knowledge flows limited, and asset specificity unexplored (see Geyskens, Steenkamp, and Kumar 2006; Lichtenthaler and Lichtenthaler 2009; Odagiri 2003). Focusing on TCE the transaction cost approach equals an academic's personal time to achieve maximum impact for promotion or esteem. The internal rules predict a certain type of behaviour and this is to be contrasted with the marketplace, which is proxied by student feedback. In simple terms, the two polar mechanisms are to comply with internal edict (fully comply with internal rules) or undertake an individual innovative approach reliant on pedagogical underpinning (and later feedback from students, see Coase 1937, Williamson 1975). Asset specificity has been utilised across a number of disciplines, see for example Zaheer and Venkatraman's (1994) paper on the 'Determinants of Electronic Integration in the Insurance Industry' or, for a broader review, see Zheng et al. (2021) or Wang et al (2019).

Focusing upon the notion of esteem uncertainty, we identify its connection with asset specificity on two fronts: asset valuation and institutional-level decision-making. Esteem uncertainty arises from the institution's failure to adequately value and recognise teaching roles, paralleling the valuation challenge faced by specific assets. This comparison suggests that teaching roles, similar to specific assets, require a strategic integration within the academic framework to address their undervalued status.

Our reinterpretation of Williamson's theory highlights the unique nature of teaching practices and roles, likening them to highly specific assets that hold unique value and are custom-fit for their academic environments. These assets include a Professor's niche expertise, a Lecturer's innovative teaching methods, or the distinctive mentorship relationships between teachers and students. Each is crucial to the educational mission, embodying qualities that cannot be easily replicated or replaced, thus underscoring their irreplaceable role within academia. However, the presence of esteem uncertainty introduces complexity. Academics face a dilemma: conform to the expectations

of their institutions or pursue independent innovation in teaching, where subsequent rewards might tend to zero. Esteem uncertainty often nudges academics toward compliance, prioritising alignment with established norms at the potential expense of educational innovation. This tension reveals how the recognition and valuation of teaching as a specific asset within universities can influence and potentially constrain academic behaviour.

Therefore, we propose a shift from Williamson's original '*make-or-buy*' framework to a '*comply-or-innovate*' approach. This switch, while, like the *make-or-buy* decision, is not perfect, it allows us to develop a new perspective that helps us understand the decision-making process for academics caught between adherence to institutional standards and the pursuit of pedagogical advancement, as visually depicted in Figure 1. In our approach, part (b) in the figure shows how we substitute the internal versus external *make-or-buy* decision with *comply-or-innovate*. This dichotomy underscores the choice between integration within the existing system and the pursuit of novel teaching approaches. The net benefit for the academic from independent innovation, rather than complying with internal guidelines, is dependent on competing production and governance factors. These factors are also a function of the University's uniqueness (that is, the extent that it's learning and teaching strategy differs from practices utilised elsewhere in the sector). Internal promotion gains may come from complying with the University's strategy whereas external benefits may emanate from innovating and then using the innovative approach to move to another university.

The significance of institutional factors in HE for either fostering or impeding teaching innovation has been thoroughly examined in the literature, with notable contributions from Hasaneffendic et al. (2017), Degn (2016), and O'Meara, Terosky, and Neumann (2008). These studies highlight the role of institutional constraints and the prevailing academic culture as barriers to the development of teaching practices, emphasising a crucial connection between institutional frameworks and the recognition of teaching efforts. Aiming to encapsulate the complexity detailed in Williamson's framework, our model zeroes in on the concept of '*net benefit from creation*'. This determines an academic's propensity for pedagogical innovation – if the net benefit is positive – or for maintaining existing practices without innovation if the net benefit is negative. To further explore this dynamic, as illustrated in Figure 2, we break down the influence of esteem uncertainty on academic behaviour into two components: Production Costs and Governance.

Beginning from a point where esteem uncertainty is low and its effect on the net benefits from creation is neutral, the Production Costs Line (ΔP) slowly moves downward, entering negative territory, as esteem uncertainty within the HE institution rises. This delineation captures how the direct costs – encompassing time, effort, and material resources – associated with developing and implementing innovative teaching methods become a significant burden. In environments characterised by high esteem uncertainty, where the value and recognition of teaching efforts are particularly

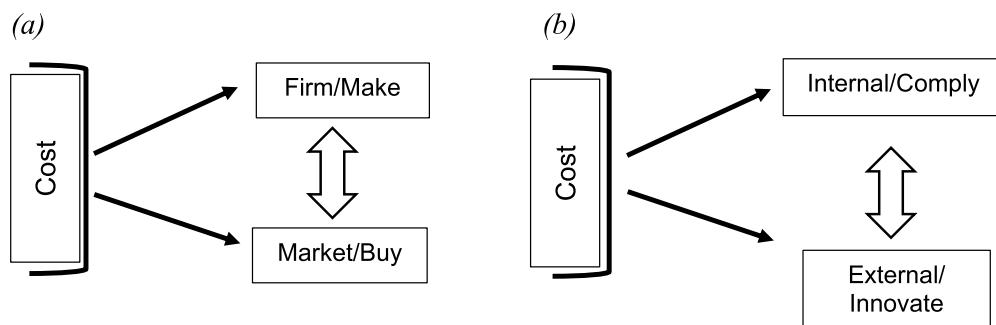


Figure 1. Adapting the Riordan & Williamson asset specificity approach. (a) Riordan & Williamson Approach; (b) Higher Education Approach.

The Pedagogical Decision Point

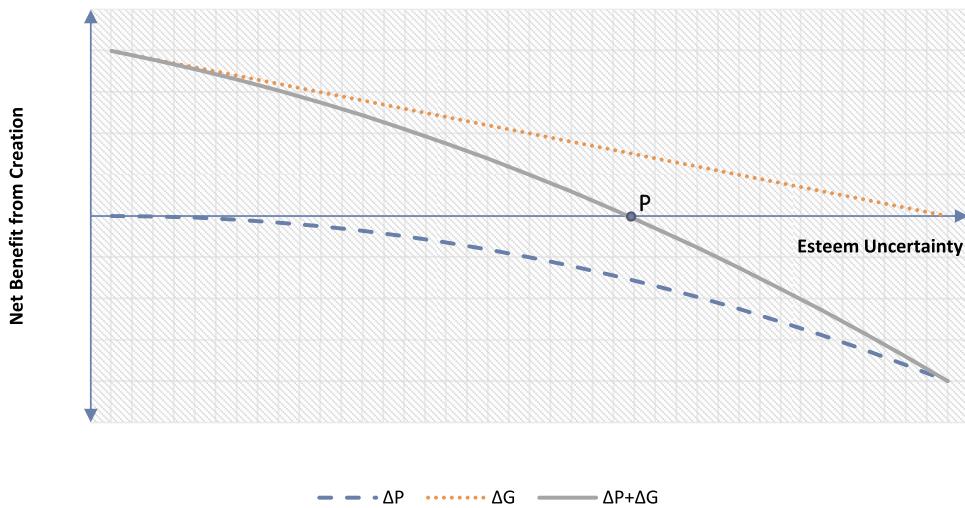


Figure 2. The pedagogical decision point.

ambiguous, these escalating costs directly detract from the net benefits of innovation. Academics, confronted with this increasing cost burden, will naturally gravitate towards more resource-efficient strategies. This includes leveraging readily available textbook resources or recycling materials from previous courses, actions that stem not from a reluctance to innovate but from a rational adaptation to a context where the potential rewards for innovation are mired in uncertainty, or workload levels, as reported by Arico et al (2024). Consequently, this pragmatic shift towards minimising resource expenditure by relying on established materials rather than venturing into the creation of bespoke, innovative content becomes a strategic response to the amplified financial and personal investments demanded by an unclear institutional valuation of teaching innovation (see, for example, Lucas 2006).

The Governance Effects Line (ΔG) tracks how the allure of indirect benefits from pedagogical innovation – such as career advancement and professional recognition – fades as esteem uncertainty in HE increases. Initially, when uncertainty is low, these incentives are compelling, offering clear prospects for career progression and accolades, thereby fostering a climate that rewards innovative teaching. However, as uncertainty grows, the line dips, indicating a decline in these motivational forces. This decrease suggests that while the possibility of rewards persists, their perceived value and likelihood diminish, weakening the connection between innovation and career advancement. Academics may then lean towards the safer route of traditional teaching methods, recalibrating their expectations and approaches in light of reduced incentives for innovation, leading to a more cautious engagement with new pedagogical strategies.

To synthesise the insights from both Production Costs and Governance Effects, Figure 2 combines these elements to illustrate the overall net impact on the incentive for pedagogical innovation against the backdrop of esteem uncertainty. The intersection of these lines with the esteem uncertainty axis is identified as the '*Pedagogical Decision Point*' (P). This critical juncture marks the threshold of esteem uncertainty beyond which the costs and diminishing indirect benefits collectively influence academic behaviour towards teaching innovation. To the left of this point, esteem uncertainties are sufficiently low, indicating that the environment is conducive to pedagogical creation; the net benefits of innovation, despite the costs, are bolstered by the indirect benefits associated with career progression and recognition. Conversely, to the right of P, esteem uncertainty reaches levels that significantly dampen the incentives for innovation.

Here, the cumulative impact of higher direct costs and the weakened strength of governance effects push academics towards a more conservative outlook, where the risks and uncertainties associated with pedagogical innovation are deemed too great, leading to a preference for adhering to established teaching practices over exploring new, potentially unrewarded pedagogical strategies.

In summary, our theoretical discussion has illustrated how esteem uncertainty can negate the motivation for innovation among teaching staff. However, considering the impact of esteem uncertainty likely differs across the sector – shaped by how successfully institutions support pedagogical innovation to lessen staff burdens and by their human resource policies that incentivise innovative teaching – it becomes crucial to empirically test the effects of esteem uncertainty. This testing is necessary to determine whether, despite the challenges posed by esteem uncertainty, teaching-only contracts might still enhance the student experience overall, highlighting the need for an evidence-based approach to understanding the conditions under which innovation in teaching is fostered or hindered within universities.

3. Empirical methodology

To assess the quality of student experiences, we utilise 2021–2022 NSS data, aiming to fully leverage institutional data to maximise available independent variables. This timeframe is particularly relevant as it precedes the removal of the ‘summative satisfaction’ question, which could ostensibly serve as a natural dependent variable for measuring student experience. Nevertheless, this approach has been met with significant criticism regarding its effectiveness. For instance, Attwood (2010) has labelled it a ‘statistically laughable exercise in neoliberal populism’, while Harvey (2008) has condemned it as ‘superficial, expensive, heavily manipulated, and methodologically useless’. Yet, for our purposes, a more pressing issue is the lack of variation in outcomes across institutions, complicating institutional-level analysis and prompting researchers to focus on subject-level empirical analysis (Agnew et al. 2016; Cheng and Marsh 2010; Langan, Dunleavy, and Fielding 2013; Vaughan and Yorke 2009). To circumvent this challenge and the problem of limited variability in the dependent variable, we have opted to use the dissatisfaction index methodology proposed by Cook et al. (2023). This approach allows us to utilise all student feedback, facilitating clearer differentiation across universities.

Of note, of course, is the impact of COVID-19 on the data. Our analysis indicates that student dissatisfaction has increased compared to 2019 levels. However, we find that this rise in dissatisfaction does not affect the nature of our hypothesis tests. It is important to acknowledge that while this study focuses on different issues, further work overtime is necessary to ascertain the true effects of COVID-19 on student experiences. This broader analysis is beyond the scope of our current paper but remains a crucial area for future research.

To develop the dissatisfaction index, we generate dissatisfaction outcomes for all 26 NSS questions, covering eight essential categories. For each question, we construct a dummy variable, marking a dissatisfaction score whenever an institution does not achieve positive outcomes exceeding their benchmark score. These benchmark scores, included within the NSS data, enable equitable comparisons across institutions by adjusting for variations in student populations. With up to 26 dissatisfaction scores at our disposal, the next step involves deciding how to aggregate these into a cohesive index. To accomplish this, we implement a two-step weighting process specifically designed to circumvent problems like double-counting:

- *Outlier Assignment:* The first step involves assigning weights based on the coefficient of variation (CV) for the dissatisfaction scores across institutions. The CV, a measure of relative variability, highlights institutions with significantly divergent levels of dissatisfaction, pinpointing areas in need of improvement. Institutions exhibiting outlier dissatisfaction scores are thus emphasised, guiding focus towards those with the most pronounced need for enhancement.

- *Correlation Control:* To mitigate the effects of multicollinearity – stemming from strong correlations between dissatisfaction scores for different NSS questions – a secondary set of weights is also computed. This system averages the correlations between dissatisfaction measures and applies adjustments to diminish the impact of multicollinearity. The formula for these weights, is defined as follows:

$$w_k^b = \left[\left(\frac{1}{1 + \sum_{k'=1}^K \rho_{k,k'} | \rho_{k,k'} < \rho_H } \right) \left(\frac{1}{\sum_{k'=1}^K \rho_{k,k'} | \rho_{k,k'} \geq \rho_H } \right) \right]$$

where $\rho_{k,k'}$ represents the correlation between dissatisfaction measures k and k' . Betti and Verma (2008) follow a 'largest gap criterion', where the threshold ρ_H is set according to the largest gap between the ordered set of correlation values. However, given this is represented by the correlation with the variable itself, the expression is simplified to the inverse of the average of dissatisfaction correlations (including the variable concerned itself). This ensures that the weighting system is unaffected by the inclusion of dissatisfaction measures that are entirely uncorrelated with k .

Using this dual-weighting system allows us to merge our dissatisfaction scores into an index that ranges from 0 to 1, as described by Cook et al. (2023). By analysing the entire group of higher education institutions that participate in the National Student Survey (NSS), we have a sample of 362 institutions. From this, we calculate an average dissatisfaction score of 0.3816. Our next step is to determine the feasibility of accurately evaluating the effects of teaching-only contracts. This process begins by identifying the control variables included in our analysis. We sourced data for these control variables from the Higher Education Statistics Agency (HESA), the Office for Students' Teaching Excellence Framework (TEF), and the Research Excellence Framework for 2021 (REF2021). It's important to highlight that the coverage of this data significantly limits our sample size.

Missing data reduces our sample size from 362 institutions to 138, as some institutions are excluded due to the stringent control variables we've applied. Although this reduction in sample size increases our average dissatisfaction score to 0.4514, it does not compromise the integrity of our index. The institutions excluded tend to be heterogeneous, such as colleges with very small populations. Arguably, this exclusion enhances the robustness of our analysis, as the remaining sample is more homogeneous and better suited for regression analysis. Thus, the control variables not only refine the dataset but also improve the reliability of subsequent regression analysis by focusing on a more consistent set of institutions. In addition, we also investigated whether restricting our index according to NSS question 'themes', which might arguably be more closely linked to providing a proxy for teaching quality, but this failed to yield any significant findings.

To ensure our analysis of NSS outcomes is robust, we have carefully selected control variables based on previous empirical evidence. Each variable is supported by key research, allowing us to explore the broad spectrum of factors influencing student satisfaction. These variables include:

- *Inflation:* In line with Cook et al. (2023), who identified a positive relationship between student satisfaction and degree classification, we incorporate a 'grade inflation' measure. This measure flags institutions with a rise in the proportion of first-class degrees from the previous year, aiming to evaluate its influence on student satisfaction. This approach could help control for potential gamification effects, wherein the challenge of earning a degree may be modified to boost student satisfaction.
- *Size:* Lenton (2015) indicates that Staff-Student Ratios significantly impact NSS outcomes, where a smaller ratio tends to enhance favourable responses. However, this analysis is conducted at the discipline level, which allows for specific contextual considerations. In contrast, our University-

level analysis averages these ratios across the institution, potentially obscuring significant departmental or course-level variations. Therefore, we argue that it is more appropriate for discipline-specific studies. Instead, we use overall staffing numbers as a proxy for institution size, acknowledging its complex impact on the student experience. Larger staff numbers might improve experiences by enabling smaller class sizes, whereas smaller institutions could offer more personalised interactions, fostering community spirit and potentially reducing dissatisfaction.

- *Outreach*: Reflecting on Cook et al.'s (2019) findings on the significance of social class in the valuation of degrees, we include an outreach dummy variable for Universities exceeding their HESA's benchmark for students arriving from state schools. The impact of this variable on student satisfaction is theoretically ambiguous, considering possible attitudinal differences towards HE and its perceived value.
- *Employment*: Lenton (2015) highlights student employability as a significant factor influencing student satisfaction. Accordingly, we have incorporated this element as a control in our analysis. Using TEF data on graduate outcomes, we employ a dummy variable to identify institutions that surpass benchmarks for high graduate employment rates. Institutions achieving superior employment outcomes may focus on practical, career-oriented education, potentially increasing student satisfaction by demonstrating the practical benefits of their programmes.
- *Casualisation*: Williams (2021) observes that an increase in the proportion of casual teaching correlates with a decrease in student satisfaction. Thus, we include this factor in our analysis. Our variable quantifies the proportion of academic staff on fixed-term contracts, noting that high turnover can disrupt teaching continuity, hinder the development of meaningful faculty-student relationships, and reflect a prioritisation of cost-saving over academic quality. These issues can negatively affect the educational experience and reduce student satisfaction. However, this measure does not account for fixed-term contracts potentially linked to research funding.

With these control variables in place, we can effectively isolate the impact of teaching-only contracts on student dissatisfaction. Our methodology uses two models to examine how employment practices influence student experiences. Model 1 introduces two key variables: the proportion of faculty on teaching-only contracts (TeachingOnly) and an interaction term (TeachingOnly \times LowPaySkew). HESA provides salary data in bands (e.g. Contract salary $<$ £20,092; Contract salary \geq £20,092 and $<$ £26,341; Contract salary \geq £26,341 and $<$ £35,326; Contract salary \geq £35,326 and $<$ £47,419; Contract salary \geq £47,419 and $<$ £63,668; Contract salary \geq £63,668). Instead of applying a standard low-pay classification, we use the £47,419 threshold as a middle band. To define LowPaySkew, we calculate the proportion of teaching staff earning below £47,419 relative to those earning above this threshold. A dummy variable is then created to flag institutions where a higher proportion of teaching staff fall into the lower salary range. We calculate the proportion of teaching staff earning below £47,419 compared to those earning above it and create a dummy variable for institutions where a higher proportion of teaching staff are in the lower salary range.

One concern is that lower pay might simply reflect less experience, affecting student satisfaction. However, evidence shows that teaching-only staff face fewer promotion opportunities compared to research-focused peers, regardless of pay (Arico et al., 2024). Teaching-only contracts often come with more limited career advancement, so higher pay does not necessarily indicate seniority or improved student outcomes. Our LowPaySkew measure reflects this, recognising that pay alone is not a sufficient indicator of career progression or recognition in teaching roles.

Bringing our approach together, in our theoretical framework, teaching roles are viewed as specialised assets that are integral to the academic mission but undervalued in many institutions, especially when research is prioritised. Asset specificity implies that the more tailored and specialised these roles are, the more important it is for institutions to recognise and reward them appropriately. The empirical model uses variables like the proportion of teaching-only contracts and LowPaySkew

to test whether institutions that undervalue these specialised teaching roles – through lower pay and limited career advancement – experience higher student dissatisfaction. This reflects the theoretical expectation that when these specific assets (teaching roles) are not adequately integrated or valued, the educational outcomes, including student satisfaction, suffer.

We explore two hypotheses:

- Hypothesis 1 (**H1**) proposes a negative correlation between the proportion of faculty on teaching-only contracts and student dissatisfaction, suggesting that faculty devoted solely to teaching may enhance the educational environment through increased engagement and quality instruction. We represent this hypothesis in our analysis as $H1 : \beta_{TeachingOnly} < 0$, with $\beta_{TeachingOnly}$ denoting the coefficient for the *TeachingOnly* variable in our regression model. A negative coefficient here would indicate that an uptick in teaching-only contracts correlates with improved student satisfaction.
- Hypothesis 2 (**H2**) explores the combined effect of the proportion of faculty on teaching-only contracts and the tendency for these positions to offer lower pay, predicting a positive relationship with student dissatisfaction. This hypothesis postulates that although teaching-only contracts might inherently improve the student experience, any such potential benefits are likely diminished or even nullified when these roles predominantly feature lower salaries. The concern is that challenges related to career progression and esteem uncertainty among lower-paid, teaching-focused faculty could detract from the positive impacts of their focused teaching efforts. Thus, we propose: $H2 : \beta_{TeachingOnly \times LowPaySkew} > 0$. Here, $\beta_{TeachingOnly \times LowPaySkew}$ denotes the coefficient for the interaction term *TeachingOnly* \times *LowPaySkew* in our regression model. A positive coefficient would indicate that student satisfaction is negatively affected when teaching-only contracts are coupled with a bias towards lower compensation.

An integral aspect of our analysis is understanding how research activities might influence the student experience, either through direct engagement in research-led teaching or indirectly by shaping the implementation of teaching-only contracts. Such dynamics could either promote further investment in pedagogical development or, conversely, limit these opportunities due to an overburdened workload for faculty. To account for these potential influences, we include a rudimentary proxy – a dummy variable for *Russell Group* universities, recognised for their research intensity and prestigious rankings. However, this simple binary classification may not capture the full complexity of research's impact on teaching quality and student satisfaction. The multifaceted relationship between research intensity, faculty contract types, and their collective effect on the educational environment necessitates a more sophisticated analysis. Recognising the limitations of our initial proxy therefore motivates the development of our second model.

To better understand the impact of research intensity on student dissatisfaction, Model 2 categorises universities based on three factors: the division of labour between teaching and research activities; compensation for teaching contracts, using the previously described *LowPaySkew* measure; and research performance, proxied by Grade Point Averages (GPAs) from REF2021 data. This classification allows for a detailed analysis of the relative balance between teaching and research across a select sample of institutions:

- Baseline: Represents universities with a low utilisation of teaching-only contracts, defined as having a proportion of teaching-only contracts in the first quartile. These institutions serve as our foundational comparison group, indicating minimal division of labour between teaching and research. All other categories comprise institutions in the top three quartiles, reflecting a greater division of labour.

- Research-Seeker: Identifies universities employing a higher-than-median proportion of teaching-only contracts at lower pay scales and achieving below-median research intensity. These can be categorised as institutions with low teaching esteem and low research performance.
- Research-Leader: Similar to Research-Seekers in terms of compensation but distinguished by higher-than-median research performance, categorising them as institutions with low teaching esteem but high research output.
- Value-Innovator: These institutions are notable for offering better compensation for teaching-only contracts while maintaining below-median research intensity, characterising them as high teaching esteem establishments with lower research performance.
- Pioneer: Characterised by generous compensation for teaching-only contracts and a strong, above-median commitment to research, potentially exemplifying an ideal balance of high teaching esteem and robust research performance.

Hypothesis 3 (**H3**) introduces a more complex narrative, suggesting that although teaching-only contracts can enhance student satisfaction, their positive impact may be undermined by the challenges of high research intensity, which can lead to increased workloads and esteem uncertainty concerns. However, Universities that actively tackle salary disparities and improve career progression for teaching-only staff, especially those in the *Pioneer* category, can mitigate or even overturn these adverse effects. This is attributed to addressing esteem uncertainty by valuing teaching roles equally with research roles. Model 2 therefore offers a more comprehensive framework to examine how University policies regarding teaching-only contracts influence student satisfaction, with a specific focus on overcoming the esteem-related challenges faced by teaching-focused faculty.

4. Empirical results

To analyse our student dissatisfaction index, with values ranging from 0 to 1, we select the Tobit regression model for its adept handling of censoring at both dataset extremes. This model aptly accommodates the dissatisfaction index's continuous yet limited nature. The Tobit model's application is well-matched with the theory that student dissatisfaction acts as a latent variable constrained within a definite range, aligning with the fuzzy deprivation methodology. This methodological choice enables a comprehensive analysis of the factors affecting student dissatisfaction levels across institutions, utilising the full breadth of data, especially those at the index's boundaries. To ensure our findings' robustness, we also conducted preliminary analyses with alternative models, such as the Fractional Logit model. While these additional tests slightly modified the estimates, they did not alter their significance, affirming the Tobit model's suitability for our research objectives. Our primary empirical findings are detailed in [Table 1](#):

Starting with the variables *Size* and *Outreach*, which did not show a significant impact on dissatisfaction in either model, it's crucial to understand that their lack of statistical significance doesn't automatically render them irrelevant. The non-detection of an effect might stem from the limitations inherent in the proxy measures employed, possibly failing to encapsulate the full breadth of these dimensions. For example, the use of overall staffing numbers as a proxy for *Size* might not precisely convey how the size of an institution influences student experience or satisfaction. As such, the potential impact of these variables on student dissatisfaction shouldn't be outright dismissed; they might affect dissatisfaction through channels not explored in our study.

The negative link between *Inflation* and dissatisfaction (-0.14182^*) in Model 1 suggests that when grade inflation increases, dissatisfaction decreases. This might mean students enjoy the short-term boost of higher grades but may overlook the long-term problems, such as the diminishing value of academic qualifications and the challenge of recognising real academic success. Although this relationship wasn't confirmed in Model 2's smaller sample, it still hints that students might value immediate gratification from higher grades without fully understanding the consequences of grade inflation, like devaluing academic achievements and making it harder to identify genuine

learning. This could turn education into more of a game, focusing on grades rather than true learning and growth. Alternatively, this correlation could also indicate real improvements in teaching methods or course content that genuinely enhance student performance. The challenge is distinguishing between these scenarios, especially since the effects of perceived grade inflation and actual educational improvements might overlap. This complexity underscores the need for more detailed research to unravel these intertwined aspects. Future studies could look at long-term changes in educational quality and student outcomes or explore students' perceptions of grade inflation compared to real advancements in education.

The *Employment* variable in Model 1 and Model 2 reveals a minor yet significant positive link with dissatisfaction (0.00016** and 0.00019**, respectively), contrary to our initial expectations. This surprising finding could point to a mismatch between student expectations of future employment opportunities – perhaps influenced by the University's reputation or promotional activities – and the actual outcomes determined by institutional practices and the broader job market. Such dissatisfaction may arise when the reality falls short of students' high expectations, indicating a discrepancy between the employment prospects expected and those realised. This observation highlights the need for more in-depth investigation. Specifically, further studies should examine how the adjustment and alignment of student expectations with the realistic possibilities of post-graduation employment can influence student satisfaction levels. Conducting this research could provide educational institutions with crucial insights into how to effectively manage student expectations, possibly mitigating dissatisfaction and offering clearer insights into the dynamics between employment prospects and student satisfaction.

While only observed in Model 1, the *Causalisation* variable's positive correlation with dissatisfaction (0.00367**) highlights the potential negative impact that a reliance on fixed-term contract staff has on student satisfaction. This correlation raises concerns about the stability of the teaching workforce and its effects on the quality of education and student support. Students might view this dependence as a sign of institutional instability or a reduced commitment to their educational journey, which could adversely affect their overall satisfaction. This scenario suggests that educational institutions should reevaluate their staffing models, focusing on the balance between fixed-term and permanent staff to address these concerns. By increasing the stability of the teaching

Table 1. Tobit analysis of the dissatisfaction index.

Variable	Model 1	Model 2
Constant	0.34243***	0.66233***
Inflation	-0.14182*	-0.02153
Size	-0.00026	-0.00047
Outreach	-0.01948	-0.02740
Employment	0.00016**	0.00019**
Causalisation	0.00367**	-0.00206
TeachingOnly	-0.00489***	
TeachingOnly*LowPaySkew	0.00243**	
Russell Group	0.05940	
Proxy Types		
Baseline ($= 1_{P \leq Q_1}$ where P is the proportion of teaching-only contracts)		-
Research-Seeker ($= 1_{(P > Q_1) \wedge (LowPaySkew > Q_2) \wedge (GPA \leq Q_2)}$)		-0.16727*
Research-Leader ($= 1_{(P > Q_1) \wedge (LowPaySkew > Q_2) \wedge (GPA > Q_2)}$)		0.05682
Value-Innovator ($= 1_{(P > Q_1) \wedge (LowPaySkew \leq Q_2) \wedge (GPA \leq Q_2)}$)		-0.24836***
Pioneer ($= 1_{(P > Q_1) \wedge (LowPaySkew \leq Q_2) \wedge (GPA > Q_2)}$)		-0.19834*
Sigma	0.30174***	0.31621***
Log-Likelihood Function	-54.706	-33.498
Akaike Information Criterion	129.4	99.0
Observations	138	108

Note: *, ** and *** are significant at 10%, 5% and 1% respectively. Our sample size has been restricted to eliminate missing data.; Further details of the determination of all variables are provided in the appendix.

workforce, institutions could enhance the consistency and quality of teaching and support, potentially leading to reduced student dissatisfaction.

We now move on to our hypothesis tests. The strong negative relationship between the *TeachingOnly* variable and dissatisfaction (-0.00489^{***}) in Model 1 confirms our first hypothesis (**H1**), which proposes that contracts focusing solely on teaching positively affect student satisfaction. This result suggests that when faculty members are dedicated exclusively to teaching, it could improve the quality of instruction, leading to higher student satisfaction. Students appreciate the full attention and expertise of faculty who aren't juggling teaching with research responsibilities, perceiving this as indicative of a superior educational experience, which in turn boosts their satisfaction. On the other hand, the interaction term *TeachingOnly* \times *LowPaySkew*, showing a significant positive effect on dissatisfaction (0.00243^{**}), supports our second hypothesis (**H2**). This hypothesis suggests that while teaching-only contracts generally enhance student satisfaction, this benefit decreases when these positions are relatively poorly paid. This important finding demonstrates that the positive impact of teaching-only contracts is conditional and can be significantly reduced if these roles offer limited opportunities for advancement and compensation.

In Model 1, our Russell Group dummy variable is found to be insignificant, indicating that there's no evidence to suggest that these institutions perform better. This finding encourages the use of Model 2, which breaks down University outcomes into more detailed interactions among the use of teaching-only staff, low pay skew, and research intensity. In line with our third hypothesis (**H3**), we uncover more complex relationships and confirm the positive effects of employing teaching-only staff. However, these benefits can be significantly influenced by how institutions manage esteem uncertainty. This impact is seen on two fronts. First, career progression opportunities can enhance these positive effects. For instance, *Value-Innovators*, which employ more teaching-only staff who receive relatively high wages, outperform their *Research-Seeker* counterparts (-0.24836 versus -0.16727). Second, the level of research intensity, as indicated by the insignificant estimate for *Research-Leader*, can negate the benefits of using teaching-only contracts. This might suggest that teaching-only staff are often employed primarily to alleviate the teaching burdens from researchers, not necessarily to improve teaching quality. The *Pioneer* result remains negative and significant (-0.19834), illustrating that this outcome can be avoided. Ultimately, this suggests that strategies promoting equal esteem for both teaching and research roles are likely to maximise overall outcomes.

Overall, due to poor strategies adopted at the institutional level, our empirical analysis suggests that the influence of teaching-only contracts on student satisfaction might be minimal. Indeed, findings from the Fractional Logit model indicate that, under certain conditions, teaching-only contracts could even exacerbate student dissatisfaction. This highlights the intricate dynamics involved, underscoring the importance of a comprehensive understanding and integration of teaching-only roles within the academic framework to actualise their potential benefits. The insights gained underscore the complexity discussed in Section 3, where esteem uncertainty – related to the acknowledgement and career progression of teaching-only positions – markedly diminishes the effectiveness of these contracts in enhancing student satisfaction. This evidence significantly contributes to the theoretical discussions, demonstrating that without adequately addressing esteem uncertainty, the expected advantages of teaching-only contracts in improving student outcomes might not be fully realised.

5. Conclusions

Our investigation explored how esteem uncertainty affects the potential benefits of teaching-only contracts in enhancing the student experience. While teaching-only contracts are designed to improve student outcomes by allowing staff to focus on teaching, the positive effects can be limited by esteem uncertainty, particularly related to career progression and recognition for teaching-focused academics. Importantly, we find that esteem uncertainty needs to be modelled carefully,

as simpler explanations – such as the assumption that seniority and higher pay automatically lead to increased student satisfaction – are inconsistent with the evidence. Research shows that teaching-only staff face limited promotion opportunities, regardless of pay, suggesting that factors beyond seniority are crucial in shaping student satisfaction.

Our study provides empirical support for the significant impact of esteem uncertainty on student satisfaction, a theme central to our hypotheses and explored via two empirical models. We do face some challenges regarding the scope of our empirical investigation. For example, we are unable to disentangle the proportion of teaching carried out by Graduate Teaching Assistants and ascertain the proportion of fixed contracts characterised by research-funded projects. Despite these data limitations, our findings support all three of our hypotheses. We reveal that the benefits of teaching-only contracts, intended to enhance student satisfaction by allowing faculty to specialise in teaching, can be nullified when these roles are mainly adopted to cope with the growing demands of HE within a cost-saving strategy. This outcome aligns with our first hypothesis (**H1**), which suggests that teaching-only contracts positively influence student satisfaction. Moreover, the situation worsens when teaching-only positions become casualised, leading to low pay and job insecurity. This condition corroborates our second hypothesis (**H2**), indicating employment terms diminish the effectiveness of teaching-only roles, potentially harming student satisfaction significantly. Lastly, our findings stress the need for Universities to carefully strategise around the dual challenges of teaching and research commitments and contractual faculty conditions, as proposed in our third hypothesis (**H3**). The interplay of these factors, as analysed in our models, shows that the success of teaching-only contracts in improving student satisfaction crucially depends on removing esteem uncertainty.

Regarding practical implications, our findings emphasise the need for HE institutions to carefully consider their strategic approach to faculty contracts, ensuring that efforts to optimise costs do not undermine the quality of education and student satisfaction. This involves creating transparent and equitable career paths for teaching-only staff, akin to those of their research-focused colleagues, to mitigate esteem uncertainty. Recognising and rewarding teaching excellence, involving teaching-only faculty in decision-making, and clearly communicating their value are essential steps. Without such measures, the utilisation of teaching-only contracts as a cost-saving response to the massification of HE risks not only neutralising their potential benefits but may indeed result in negative outcomes for the student experience. Addressing these concerns head-on can enable institutions to harness the intended advantages of teaching-only contracts effectively.

Our analysis exposes a sector caught in a double bind: the relentless chase for student enrolment under economic pressures, including a significant reduction in the real value of tuition fees, propels institutions towards cost-cutting strategies. This financially driven approach, while intended to navigate financial challenges, risks degrading the student experience when the commitment to teaching excellence is merely nominal. The journey from theoretical exploration to the practical deployment of teaching-only contracts leads to a compelling conclusion: '*Bad economics begets bad policy*'. This principle is starkly illustrated by our findings, showing that when the pursuit of economic efficiency takes precedence over the inherent value of teaching, it results in not only diminished educational quality but also reinforces a cycle of flawed policy choices.

Disclosure statement

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