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To cite this article: Golo Henseke (09 May 2025): Contextualising the extrinsic outcomes of higher education during mass expansion: an introduction, *Studies in Higher Education*, DOI: [10.1080/03075079.2025.2487216](https://doi.org/10.1080/03075079.2025.2487216)

To link to this article: <https://doi.org/10.1080/03075079.2025.2487216>



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Published online: 09 May 2025.



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Contextualising the extrinsic outcomes of higher education during mass expansion: an introduction

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ABSTRACT

This Special Issue explores the extrinsic outcomes of higher education in the context of global mass expansion, focusing on the interplay between individual attainment and economic and societal structures. While tertiary enrolment rates have more than doubled over the past two decades, disparities in graduate outcomes persist, reflecting systemic inequities and structural barriers. The present paper underscores the contingent nature of higher education's contributions to economic productivity, the public good, and social mobility by synthesising theoretical perspectives, empirical evidence, and cross-national comparisons. The paper advocates for recalibrating the metrics used to evaluate higher education, extending beyond monetary returns to better capture broader and long-term impacts. By advancing a cross-national perspective, the Special Issue seeks to inform policies that enhance equity, adaptability, and the transformative potential of higher education in a rapidly evolving global context.

ARTICLE HISTORY

Received 15 January 2025

Accepted 26 March 2025

KEYWORDS

Higher education expansion; socioeconomic stratification; graduate outcomes; economic productivity; social trust

Importance of graduate outcomes in expanding higher education systems

This introduction to the Special Issue examines the extrinsic outcomes of higher education during mass expansion, focusing on how these outcomes are shaped by social structures and economic systems. These extrinsic outcomes are closely linked to structural inequalities, as the benefits of higher education are not distributed evenly across socioeconomic and demographic groups, nations or time, reflecting and sometimes reinforcing existing stratification. In the following sections, readers will find an analysis of theoretical frameworks that help conceptualise higher education's external contributions, original empirical analyses of economic impacts, societal benefits and socioeconomic stratification, and a contextualisation of the special issue contributions within this broader landscape.

In the span of just two decades, higher education has undergone a profound transformation. Global tertiary enrolment rates have surged from 19% in 2000 to over 43% in 2023 (World Bank 2025), driven by policy reforms, middle-class aspirations, and the pursuit of global competitiveness (Marginson 2016a). About 254 million students were enrolled in tertiary institutions in 2024; more than double the figure 20 years ago (UNESCO 2025). This rapid expansion has reshaped access to education, but its alignment with labour market outcomes and societal benefits remains tenuous.

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What happens when education becomes a global mass phenomenon? Contrary to optimistic narratives of universal opportunity, the contributions in this Special Issue explore a more nuanced landscape. Higher education is simultaneously a powerful mechanism for social advancement (e.g. Stern 2024) and a potential reinforcer of existing inequalities (Brown, Lauder, and Cheung 2020). Understanding this balance matters. On one hand, while a more credentialed workforce has emerged, the alignment between educational attainment and graduate outcomes remains tenuous. On the other hand, Lauder and Mayhew (2020) identify a growing reliance on financial returns as the primary metric of higher education's success, often at the expense of broader societal contributions. However, as highlighted by Valero and Van Reenen (2019), universities contribute to the human and social capital on which societies depend.

The paradox of massification underscores the need for a deeper examination of higher education's extrinsic outcomes. Unlike intrinsic outcomes – such as the quality of teaching and the advancement of knowledge – extrinsic outcomes are co-produced through interactions between higher education systems and external societal actors, including employers, governments, communities, students and graduates. These outcomes are dynamic and context-dependent, shaped by national policy environments, global economic trends, individual circumstances or various forms of capital (Marginson et al. 2023). As a result, higher education's contributions, whether to individual outcomes or the public good, will be uneven and contingent.

This Special Issue confronts these paradoxes head-on. We ask: In an era of unprecedented educational access, who truly benefits? How do structural inequalities persist and transform through education? What are the real, often invisible ways universities contribute to – or challenge – existing social systems? To illustrate, this introduction integrates macro-level data and cross-national micro-level findings to explore the complex relationship between higher education and broader social and economic systems. It employs multiple case studies that highlight how individual outcomes are nested within institutional structures and broader socioeconomic systems. As a whole, the Special Issue aims to highlight the structural inequities inherent in higher education systems and the often tenuous and multi-faceted mapping of higher education participation to labour market outcomes and economic systems.

The paper proceeds through interconnected stages: It begins with a brief summary of the historical development of higher education expansion globally before examining conceptual approaches to understanding higher education extrinsic contributions, providing a framing of the contributions in the Special Issue. The discussion then shifts to methodological challenges in measurement before exploring how socioeconomic inequalities affect the stability of graduate career destinations, one of the key extrinsic outcomes of higher education. Building on this foundation, the empirical analyses section presents findings on three critical dimensions: macroeconomic productivity contributions, socioeconomic stratification in access and outcomes, and the connection of higher education with the public good. This empirical evidence provides the framework for understanding the special issue contributions that follow.

Background

Historical context and global patterns of growth

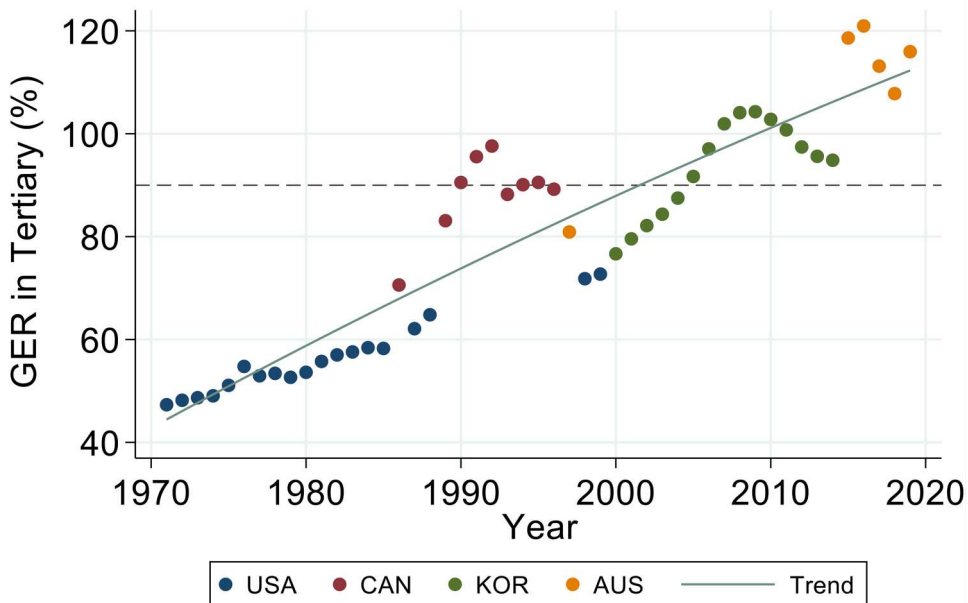
Before discussing the extrinsic outcomes associated with higher education, we examine how systems of higher education have evolved in the long term. This historical context is essential for understanding how structural inequalities persist despite massification.

Higher education expansion began in the USA prior to WWII before gathering pace globally in the 1950s, motivated by nation-building and economic modernisation (Trow 2007). By the late twentieth century, massification was propelled by a growing middle class, policy reforms emphasising knowledge economies, and the pursuit of global competitiveness (Marginson 2016b). However, this expansion has not uniformly democratised access or outcomes, often reproducing and sometimes amplifying existing social hierarchies (Carpentier 2021).

The transition from elite to mass access reflects diverse regional trajectories, each shaped by unique socioeconomic and political contexts that influence how extrinsic outcomes are distributed. East Asia's 'education fever', channelled through neoliberal policy frameworks, reflects the high societal value placed on higher education as a pathway to individual advancement and national economic advantage (Dittrich and Neuhaus 2023; Mok and Marginson 2021). Yet this expansion has often reinforced existing hierarchies rather than equalising opportunities (Lee 2022). In Europe, the Bologna Process harmonised higher education systems, prioritising mobility and employability within the continent, but with consequences for educational stratification that remain inadequately understood (Kroher et al. 2021). Meanwhile, the United States exemplifies the dualities of accessibility and inequality, with a system that, while inclusive in terms of overall participation rates, often perpetuates and even amplifies socioeconomic disparities (Chetty et al. 2020).

These regional variations underscore that higher education expansion does not automatically translate to equitably distributed extrinsic outcomes. Quantitative growth in enrolment has often coincided with qualitative stratification, as systems differentiate horizontally (by field of study) and vertically (by institutional prestige), channelling students from different socioeconomic backgrounds into pathways with unequal labour market returns and societal recognition; effectively maintaining inequality (Lucas and Byrne 2017).

Global trends in tertiary enrolment ratios demonstrate the ongoing momentum toward universal access (Figure 1). The world leader in tertiary education enrolment has changed from the USA and Canada to South Korea and, more recently, Australia. The trend towards broader tertiary education systems at the global frontier is unbroken, as indicated by the linear line-of-best fit in the chart, consistent with evidence elsewhere (Barakat and Shields 2019). Gross enrolment ratios continue to rise; 42 countries in 2015–2019 reported gross tertiary enrolment rates above 50%, compared to only four in 1990–1994. By the 2020s, systems achieving universal access (GERT >90%) included Argentina, Australia, Austria, Chile, Cyprus, Finland, Greece, Hong Kong, Latvia, Macao, Norway, Singapore, South Korea, Spain, and Turkey. Canada was the first country to achieve universal access in 1991. By 2035,



GER >100% due to the inclusion of international, over-aged and under-aged students

Source: UNESCO Institute of Statistics

Figure 1. World leading systems of tertiary education since the 1970s.

projections indicate that one in five adults worldwide will have attained tertiary education (KC et al. 2024). There is little reason to assume that this continued expansion of higher education will decouple from the ongoing stratification in graduate outcomes (Suleman, Videira, and Teixeira 2024).

The global expansion of higher education has intensified scrutiny of its extrinsic contributions, particularly in relation to graduate outcomes. As enrolments have surged, so too has the imperative to assess higher education's evolving role in modern societies. However, as this Special Issue explores, its contributions remain contingent and uneven, shaped by systemic inequities, structural constraints, and institutional variations. The next section connects these observations with ongoing scholarly debates about higher education's extrinsic contributions.

Conceptualising extrinsic contributions

To unpack the complex role of higher education in modern societies, this introduction draws upon Marginson et al. (2023) differentiation between higher education's intrinsic and extrinsic contributions. The *extrinsic contributions* of higher education are varied and multidimensional, emerging through interactions between higher education systems and broader societal actors. These contributions span multiple domains: economic productivity, social mobility, civic engagement, public health, cultural development, and social transformation. Critically, they are usually not discrete, easily measurable outcomes but complex, intertwined processes co-produced by educational institutions, workplaces, communities, and individual graduates. Rather than attempting to isolate monocausal mechanisms, this approach focuses on mapping the rich, contextual variations of these contributions. Extrinsic outcomes are not fixed or uniform, but dynamic and deeply contextual. Their significance lies in their empirical complexity and variability across different social and economic environments. Figure 2 visually represents the relationships between higher education's extrinsic outcomes and the structural factors that shape them.

The alignment between educational attainment and these outcomes varies significantly across contexts and is influenced by macroeconomic conditions, institutional configurations, and

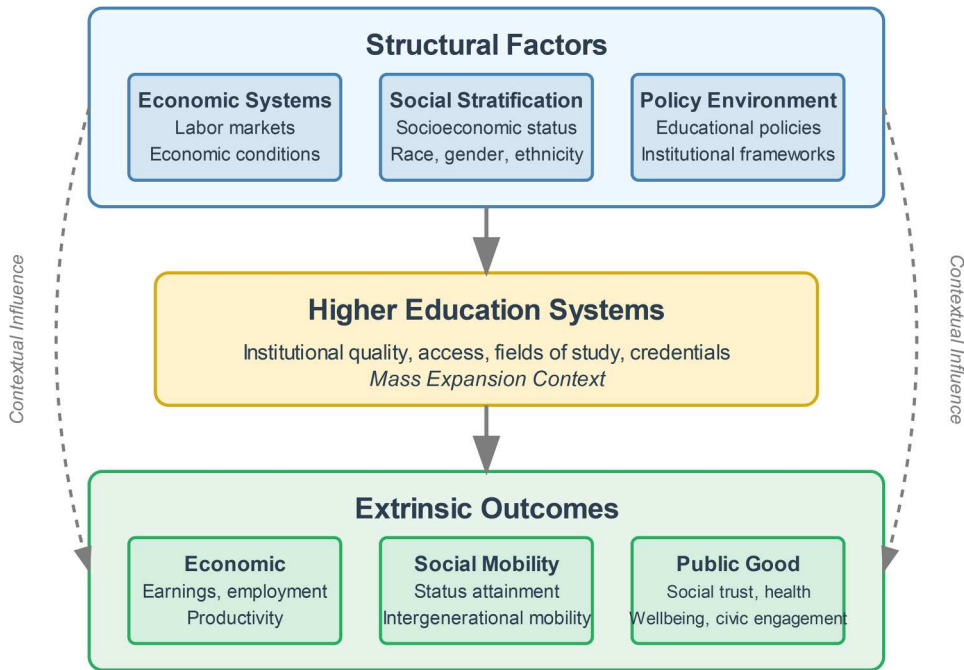


Figure 2. Conceptual framework: higher education's extrinsic outcomes and structural factors.

broader social dynamics. Economic downturns often exacerbate graduate mismatch (Wachter 2020), while structural inequalities perpetuate disparities in access and outcomes (e.g. Araki 2025; Helland, Strømme, and Thomsen 2024). The correlation between education expansion and economic growth remains tenuous (Delgado, Henderson, and Parmeter 2014), and evidence on social returns is decisively mixed, varying with contexts and empirical approaches (Willeck and Mendelberg 2022; Xue, Cheng, and Zhang 2021). These complexities underscore the need for longitudinal, cross-national studies that can systematically map how higher education's extrinsic contributions emerge and transform across different social and economic environments.

Measuring extrinsic outcomes: challenges and limitations

Quantifying the extrinsic contributions of higher education is fraught with methodological and conceptual challenges. Standard metrics such as employment rates, earnings, and occupational status offer a relevant but incomplete picture of graduates' trajectories. While these indicators align with prevailing economic and policy frameworks, they tend to neglect what makes higher education unique (Ashwin 2025).

The complexity arises from the multidimensional and interconnected nature of higher education's individual and societal contributions. Individual-level contributions encompass, for example, graduates' professional development, personal mobility, and economic positioning, which build on and develop experiences, skills, knowledge and other individualised forms of capital. Collective outcomes emerge through diffuse processes of social transformation and 'spillovers' between individuals and collectives, including civic engagement, social trust, and broader societal shifts that cannot always be easily assessed through conventional metrics.

Moreover, the utility of economic indicators is constrained by their often indirect relationship with higher education experiences. It is one thing to note that graduates experience lower unemployment rates and higher average earnings than non-graduates; it is another to determine precisely the unique contribution of higher education to these outcomes or follow how these differences unfold throughout a career, across diverse social contexts, or in varying economic climates (Fryer 2022). Even summative measures of skill mismatch or over-qualification obscure how individuals apply university-acquired knowledge in their careers (Cultrera et al. 2022). Methodological individualism, which is baked into many studies of education and work, further limits our ability to assess the contributions of education (Auerbach and Green 2024).

Data availability, or the lack thereof, also complicates analyses. Many studies have to rely on cross-sectional datasets, limiting insights into personal developments and intergenerational impacts (European Commission 2020). Disparities in data collection practices across regions hinder cross-national comparisons, while the absence of harmonised measurement and assessment frameworks exacerbates inconsistencies (Martin 2018). Additionally, socioeconomic factors and disciplinary variations complicate outcome system-level evaluations, with resource and quality disparities among institutions shaping graduates' opportunities (Britton et al. 2022; Cavaglia et al. 2024).

Despite these challenges, economic measures remain central to understanding higher education's impact, particularly in massified systems where economic returns can be a primary motivator for participation. However, given the contingent nature of higher education's extrinsic contributions, these outcomes are rarely equally distributed. Therefore, after having established how extrinsic outcomes are conceptualised and measured, we next turn to examine known patterns of social stratification and unequal 'returns'.

Socioeconomic inequalities and varied returns

Higher education occupies a paradoxical position in modern societies, serving as a mechanism for social advancement and a source of persistent inequity. The Organisation for Economic Co-operation and Development (OECD) computes that workers with tertiary qualifications earn, on average, 56%

more than those who hold upper secondary education. This premium translates into lifetime net financial returns of approximately PPP-\$343,000 for men and PPP-\$292,700 for women (OECD 2024a), yet the distribution of these benefits is far from equitable (Farquharson, McNally, and Tahir 2024). For instance, in England, while the average graduate pay premium is generally positive across social backgrounds, gender and ethnicities, it is particularly high for privately educated graduates (at age 30, 29% vs 7% for men, 36% vs 27% for women) and South Asian students, but lower for Black women (Britton, Dearden, and Waltmann 2021). Factors related to higher education (institution, field of study, degree class) explain some but not all of these differences (Duta, Wielgoszewska, and Iannelli 2021).

Tertiary education often functions as a ‘middle-class destination,’ affording substantial returns to those who can navigate its corridors effectively (e.g. Ingram et al. 2023). Longstanding inequalities based on socioeconomic status, gender, and ethnicity continue to shape who gains entry and who reaps the full benefits of a university degree (Brown, Lauder, and Cheung 2020). Low-income and first-generation students remain severely underrepresented in elite institutions that traditionally provide direct routes to high-earning and high-status occupations (Britton et al. 2022; Campbell et al. 2022; Henderson, Shure, and Adamecz-Völgyi 2020). Even for those who can access selective universities, financial constraints, limited social capital, and reduced networking opportunities can jeopardise completion and limit post-graduation prospects (Jack 2019). Moreover, students with diverse backgrounds – working-class, mature, disabled, or having caregiving responsibilities – face intersecting forms of disadvantage that magnify these challenges (Ingram et al. 2023). For example, again referring to English data, female graduates whose parents had not completed higher education earned about 7% less than graduates whose parents had a university degree. No such difference in graduate earnings by parental education is evident for men (Adamecz-Völgyi, Henderson, and Shure 2023).

Moreover, socioeconomic disadvantage is not a universal category but a contextual construct that changes with national social fault lines, dimensions of inequalities, and measures. For example, area measures of educational attainment or deprivation, often deployed for monitoring widening access in English higher education institutions, provide a very different, much murkier picture of who faced disadvantage than individual-level measures (Boliver, Gorard, and Siddiqui 2022). Even at the individual level, measures of disadvantage based on parental education, specifically whether someone is the first in the family to attend university, will generally classify a significantly larger share as disadvantaged than definitions based on indicators of childhood poverty (Jerrim 2021). Generally, disadvantage, inclusion and diversity in higher education systems need to be understood within specific national and historical contexts. While shared mechanisms are at play, including differences in economic, cultural or social capital, physically inaccessible university systems, software, and learning materials, inflexible teaching schedules, or the quality and availability of outside options, path-dependent local institutional configurations will determine who can go to university and who stands to benefit most.

Such inequities underscore the imperative to reassess higher education’s role in promoting what Marginson (2011) describes as the ‘public good.’ While policymakers and supranational bodies have long touted universities as engines of equal opportunity, structural inequities in admissions, teaching quality, and labour market outcomes continue to disadvantage marginalised groups. These patterns persist across nations, although the extent to which inequity is magnified or mitigated varies by country. Indeed, while some systems appear more attuned to bridging socioeconomic and gender gaps, others can appear mired in centuries-old hierarchies (Chetty et al. 2020).

Bridging the gap

The preceding discussion underscores the multifaceted and context-dependent nature of higher education’s extrinsic outcomes. While access to higher education has expanded, the translation of educational attainment into meaningful economic and social outcomes remains uneven. This

unevenness stems from systemic inequalities, mismatches between education and labour market demands, and variations in institutional quality and national policy frameworks.

Expanding on these insights, this Special Issue brings together contributions that examine the extrinsic outcomes of higher education across different national, institutional, and labour market contexts. These studies illuminate how higher education systems interact with societal structures and economic imperatives, providing critical insights into the dynamics of graduate outcomes, labour market integration, and systemic inequities.

To frame these contributions, the subsequent case studies examine three critical dimensions of higher education's extrinsic contributions: the relationship between tertiary attainment and macroeconomic productivity, the stratification of educational access and graduate outcomes by socioeconomic background, and the effect of tertiary education on social trust as a contribution to the public good. These case studies provide illustrative examples of the contextual nature of higher education's contributions rather than comprehensive analyses, serving to frame the more detailed investigations in the special issue contributions.

Case study 1: the effect of tertiary education on macroeconomic productivity

Higher education is seen by some as a driver for economic development, consistent with predictions from human capital theory (Li et al. 2024). This case study uses macroeconomic data from the Penn World Table (PWT) 10.01 to assess the relationship between tertiary education and national productivity. PWT combines macro-data on income, output, input and productivity levels, covering 183 countries between 1950 and 2019 (Feenstra, Inklaar, and Timmer 2015). PWT is combined with measures of educational attainment from the 2021 September Update Barro-Lee Educational Attainment Data (BL). BL provides educational attainment estimates for 146 countries from 1950 to 2015 in 5-year steps, differentiating between qualification levels (Barro and Lee 2013). To capture variations in foundational skill levels, we draw on harmonised country-level test scores in mathematics and sciences from international secondary student assessments (Lee and Lee 2024).

The analysis employs a macroeconomic framework, commonly called a Cobb – Douglas production function, to estimate the contribution of tertiary education to national output. This model posits that output per worker is a function of physical capital, labour, and the quality of that labour, often operationalised as schooling capital. Specifically, average years of secondary and tertiary education are modelled as separate factors, allowing for the estimation of their distinct impacts.

The model is specified in a log-linearised form to facilitate statistical estimation and interpretation, with the key parameter of interest being the percentage change in output per worker associated with a one-year increase in tertiary education across the workforce. Country and time-fixed effects are included to control for unobserved heterogeneity, such as variations in institutional quality, technological change, or economic cycles. This macro-level approach is the analogue to the frequently deployed micro-level earnings regression (Pritchett 2006).

Table 1 reports the cross-country findings. University-level education has a stronger and more statistically robust association with macro-level productivity than schooling. Row 1 controls for time-constant country-level differences, period effects, and physical capital per worker, finding that an additional year of university education across countries' workforces predicted a 47% ($= 100 * [\exp(0.383) - 1]$) uplift of output per worker on average. Increasing the length of time between observations from 5 years to 10 years in Row (2) to reduce the consequence of measurement errors or taking long differences in the dependent and independent variables over stacked 20-year periods in Row (3) does not lead to substantively different results; some fluctuations in the point estimates notwithstanding.

Multiplying the coefficient of university education in Row (3) with the average change in higher education years in the population 15 or older of 0.18 predicts a 0.051 increase in log output per worker: about 13% of the average change in the dependent variable over 20-year periods. In

Table 1. Effect of tertiary education on output per worker (122 countries).

Specification	Dep. Var.	School years	University Years	Capital Endowment	Notes
(1) Levels + country & year FE	$\ln y_{it}$	0.038	0.383(***)	0.598(***)	Baseline full panel, 5-year intervals. $N = 1403$.
(2) Levels + country & year FE, 10-year intervals	$\ln y_{it}$	0.058(*)	0.451(***)	0.604(***)	Observations every 10 years only. $N = 693$.
(3) 20-year differences + year dummies	$\Delta_{20} \ln y_{it}$	0.036	0.284(**)	0.580(***)	Long differencing. $N = 915$.

Notes:

1. (*), (**), (***) denote statistical significance at the 5%, 1% and 0.1% levels, respectively.

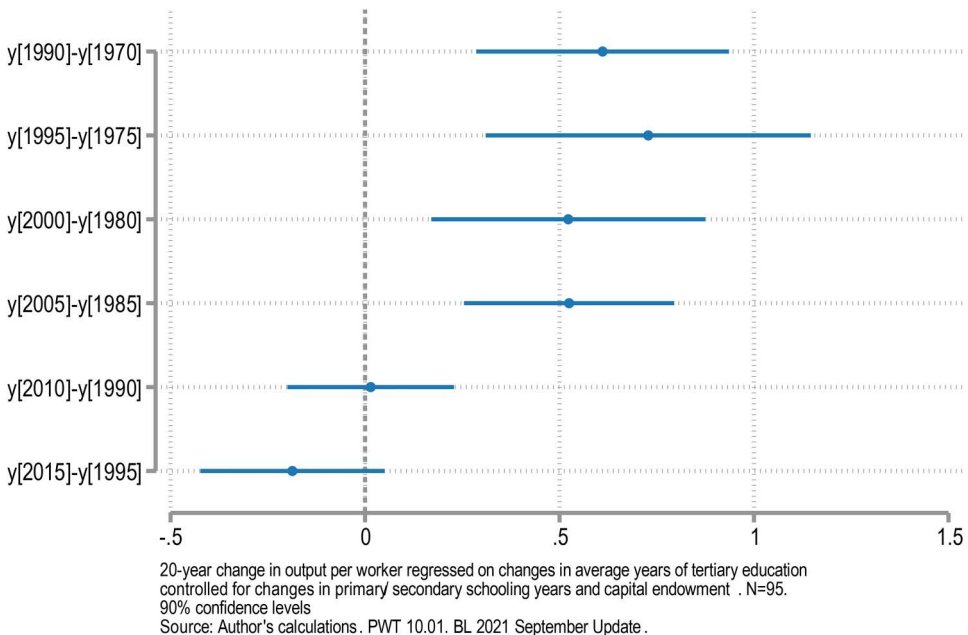
2. Coefficients approximate semi-elasticities for school and college years: e.g. 0.383 implies $+46.7\% = 100 \cdot [\exp(0.383) - 1]$ output per worker for one additional year of college education on average across the workforce.

3. Source: Author's calculations.

other words, the average effect of higher education expansion on economic productivity was noticeable but quantitatively moderate.

Table 1 documents a significant relationship between higher education and macro-level output per worker across countries. However, temporal analyses reveal significant shifts in the productivity contribution of tertiary education (Figure 3). For the periods up to 2005–1985, an additional year of university training of the entire workforce was associated with an 82% ($p = 0.005$) uplift of output per worker across countries. This relationship weakened significantly in the post-2005 period ($p = 0.003$), with growth effects that were statistically indistinguishable from zero. This decoupling aligns with broader disruptions in the global economy during and after the Great Recession, highlighting the contingent nature of higher education's economic contributions.

Cross-national analyses further underscore the importance of contextual factors. Specifically, we tested how the contribution of higher education to economic growth differed between countries whose students did relatively well in international standardised tests at the end of lower secondary education and those whose students performed less well in these tests. We split the countries along


Figure 3. Growth contribution of tertiary education over time.

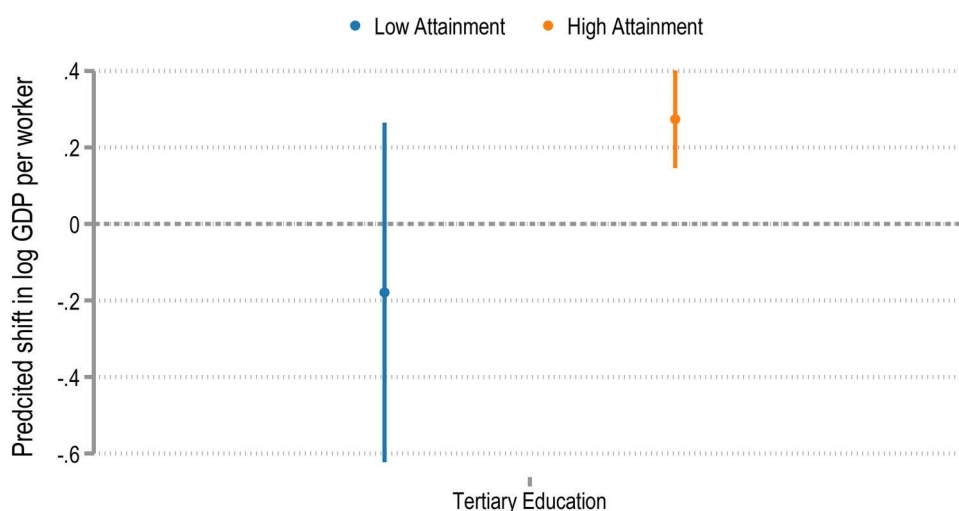


Figure 4. Effect of tertiary education on output per worker differentiated by school attainment.

the mean test performance into a low-attainment (test score <460 on average) and a high-attainment group (test score ≥ 460). In countries where secondary school students achieved relatively high proficiency levels, the average effect of higher education on economic output was positive and significant (Figure 4). In contrast, higher education expansion did not consistently correlate with output growth in countries with lower student performance. The difference in the effect of tertiary education on economic growth between the two country groups was statistically significant ($p = 0.006$), suggesting that the quality of foundational education plays a critical role in governing how effectively tertiary education translates into productivity growth.

While a comprehensive analysis of economic system variations is beyond this introduction's scope, these findings highlight the importance of institutional context in mediating and moderating higher education's economic contributions. While higher education can be a powerful driver of national productivity, its impact is mediated by external factors such as foundational skill levels, labour market structures, and broader economic stability. Developing these themes on a regional level, Cattani and colleagues, in this Special Issue, analyse the local labour market implications of sustainability-oriented curricula in Italian higher education. Their findings highlight the regional concentration of 'green-labelled' degree holders and the potential of these programmes to align higher education more closely with labour market demands. However, they caution against the risk of reinforcing regional disparities and graduate inequalities through the uneven expansion of sustainability-focused education.

Case study 2: socioeconomic inequalities in attainment and outcomes

The second example explores the stratification of access to higher education and the socioeconomic disparities in graduate outcomes. Using micro-level data from the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) and the European Social Survey (ESS) (ESS ERIC 2024). Combined, the studies cover tertiary attainment and labour market outcomes across 42 countries. ESS and PIAAC provide repeated, harmonised, cross-national data on educational attainment, socioeconomic background, and employment outcomes. PIAAC's first cycle was conducted between 2011 and 2018, and its second cycle was fielded in 2022–2023 (OECD 2024b). ESS has been conducted every other year across European countries since 2002. From ESS, we extract information from rounds 9, 10, and 11, combining years 2018, 2020 and 2023. The analysis focuses on

individuals aged 35–44, likely to have completed their education and established themselves in the labour market. The primary measures are:

1. *Attainment Gap*: The percentage difference in tertiary education attainment rates between individuals whose parents have and have not completed tertiary education.
2. *Success Gap*: The percentage difference between these two groups in the likelihood of employment in professional or managerial roles.

The disaggregation by parental education allows for an assessment of intergenerational inequalities. At the same time, cross-national comparisons reveal the extent to which these inequalities are mitigated or exacerbated by national contexts.

The findings plotted in [Figure 5](#) are not entirely surprising, displaying substantial disparities in access to higher education and, to a smaller extent, in subsequent labour market outcomes.

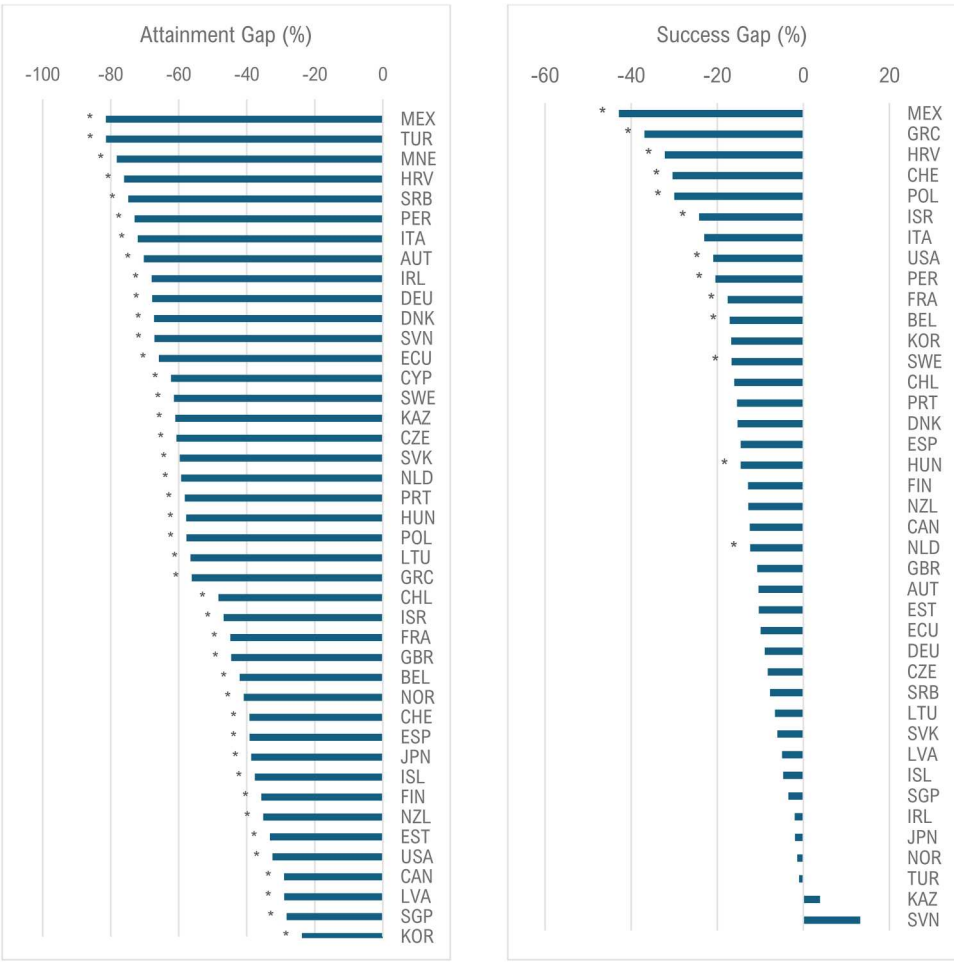


Figure 5. Socioeconomic inequalities in tertiary education attainment and graduate destinations.

Notes: (*) denotes statistical significance at $p < 0.05$. Coefficients measure percentage gaps in tertiary attainment and professional or managerial employment among graduates between respondents with graduate and non-graduate parents. Age 35–45. PIAAC 2023: BEL, CAN, CHE, CHL, CZE, ENG, ESP, EST, FIN, FRA, HUN, ITA, JPN, KOR, LVA, LTU, POL, PRT, SGP, SVK, USA. 2017: ECU, KAZ, MEX, PER. 2015: NZL, TUR. ESS2018–2023: AUT, HRV, CYP, DNK, DEU, GRC, ISL, IRL, MNE, NLD, NOR, SRB, SVN, SWE. Source: Author's calculations. Public Use Files PIAAC 1st and 2nd Cycle. ESS rounds 9, 10 and 11.

These inequalities persist across diverse national contexts and highlight the stratified nature of tertiary education systems.

Individuals from non-graduate family backgrounds face significant barriers to attaining tertiary education. Across the 42 countries analysed, the median attainment gap, the percentage difference in tertiary education attainment rates between those with and without tertiary-educated parents, was 58%. This indicates that individuals from non-graduate families were, on average, less than half as likely to achieve tertiary qualifications as their peers from graduate families.

However, the extent of these disparities varies widely. The attainment gap in South Korea, Singapore, Latvia, and Canada is relatively modest, remaining below 30%. These systems appear to provide more equitable pathways for individuals from less privileged backgrounds. By contrast, countries such as Mexico, Turkey, and the Balkan nations of Montenegro, Croatia and Serbia exhibit attainment gaps exceeding 70%, reflecting profound structural barriers to accessing tertiary education.

Even when individuals from non-graduate family backgrounds succeed in attaining tertiary education, they can face additional disadvantages in the labour market. The findings in [Figure 5](#) show significant gaps in access to high-status professional and managerial roles between graduates from non-graduate and graduate family backgrounds. This ‘success gap’ highlights parental education’s enduring influence on graduates’ career trajectories.

In 13 of the 42 countries analysed, first-generation graduates were statistically significantly less likely to work in professional or managerial roles than their peers whose parents held tertiary qualifications. The magnitude of this disparity varied, again, markedly. In countries such as Mexico, Greece and Croatia, the success gap exceeds 30%, indicating significant barriers for first-generation graduates in translating their educational attainment into high-status employment. Conversely, countries like Norway, Japan, and Ireland demonstrate minimal success gaps, suggesting more equitable labour market integration for graduates irrespective of family background.

These findings highlight the complex and fluid relationship between higher education and social inequality. While tertiary education remains predominantly a middle-class destination globally, its ability to function as a mechanism for upward mobility depends significantly on national contexts, which include the prevailing economic conditions. Even in more accessible systems, disparities in career outcomes reveal that equity in access does not necessarily translate into equity in occupational position. Conversely, in countries with high attainment gaps, such as Italy and Mexico, higher education appears to reinforce, rather than mitigate, existing social stratifications.

Understanding patterns of inequalities in graduate outcomes requires further investigation into the interplay of institutional quality, economic structures, and societal norms. While access to higher education has expanded globally, the persistence of sociodemographic gaps in attainment and success highlights the limitations of massification to achieve equity. Luchinskaya and Tzanakou in this Special Issue investigate the importance of prior work experience in shaping graduate outcomes, drawing on rich, longitudinal data from the English Futuretrack survey. Their study uncovers socially patterned access to a hierarchy of work experiences, demonstrating how such experiences act both as signals of unobserved abilities and opportunities for skill development in a stratified system of higher education and segmented labour markets.

Case study 3: higher education and the public good

The global expansion of higher education is often justified, at least in part, by its presumed contribution to the public good. Beyond economic growth, individual earnings and high-status employment, higher education is frequently posited to cultivate a more trusting, engaged, and cohesive citizenry (Brewis and Marginson 2025). Yet, the assumption of a uniform, universally positive relationship between higher education and social outcomes deserves critical scrutiny. Specifically, are the social returns to higher education, like their economic counterparts, contingent, shaped by the intersecting forces of individual characteristics and societal contexts? For instance, existing research on the relationship of education

with social trust reveals overall mixed patterns from a global perspective, pointing towards a context-specific contribution of education to the formation of social trust (Wu 2021).

This case study, drawing on data from the European Social Survey (ESS) (ESS ERIC 2024), focuses on social trust as a dimension of the public good. Social trust, defined here as a composite measure encompassing perceptions of fairness, helpfulness, and general trustworthiness of others (Cronbach's $\alpha = 0.78$; scale from 0 to 10), is foundational to well-functioning democracies and thriving communities (Schilke, Reimann, and Cook 2021). It is the social glue that binds individuals together, enabling cooperation and collective action. The average of the social trust scale across the entire ESS sample was 5.3 (SD = 0.91).

We construct a pseudo-panel dataset, aggregating individual-level ESS data (from rounds 1 (2002) to 11 (2023)) into country-age-gender-survey round cells across European nations that have contributed to multiple waves of ESS. Using fixed-effects models to account for country-specific factors, we examined how changes in higher education attainment within demographic groups relate to changes in social trust measures. Crucially, we examine whether the association between tertiary education attainment (measured as the percentage of individuals within each cell holding a tertiary qualification) and average social trust varies systematically across age groups and between men and women.

The results, illustrated in Figure 6, represent the predicted change in average social trust associated with a *one percentage point increase* in tertiary education attainment within each country-age-gender cell.

The pattern reveals a clear and consistent age gradient, with the association between tertiary education and social trust becoming progressively stronger for older age groups. This gradient is particularly pronounced for women. While the association is negligible and statistically insignificant for younger adults (25-34), it becomes positive and statistically significant for those aged 35 and older, culminating in a more substantive, positive association for women aged 65-74. For this group, a one percentage point increase in tertiary attainment is associated with a 0.014-unit increase in average social trust. Given that, on average, tertiary education attainment rose by about 20 percentage points over our observation period, this translates to a modest shift in social trust levels.

These findings further underscore the contingent nature of higher education's contributions. The social returns to higher education, at least in terms of fostering social trust, are neither large nor uniformly distributed. They are demonstrably shaped by the life course, with older individuals, and particularly older women, appearing to gain the most in how they feel about others.

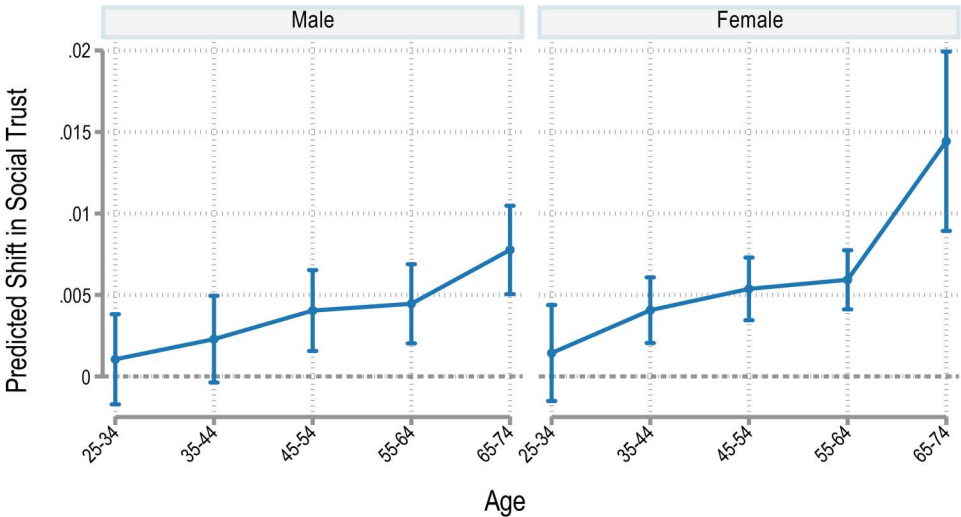


Figure 6. Marginal effects of tertiary education attainment on social trust, by age group and gender.

Several non-mutually exclusive interpretations present themselves. The observed pattern might reflect a ‘delayed effect’, whereby the social networks, cognitive developments, and enhanced civic engagement fostered by higher education take time to translate into heightened social trust. Alternatively, cohort effects might be at play. Older women with tertiary qualifications may represent a uniquely select group, having overcome significant barriers to educational access in earlier eras. Their heightened social trust might reflect, in part, the social and economic advantages that accrued to this pioneering generation.

This example, while explorative and limited in scope, highlights that the social returns to higher education, like their economic counterparts, may be far from uniform but are conditional upon individual resources and societal constraints. Two contributions to the Special Issue shift attention to some of the non-monetary, subjective outcomes associated with university education. Brophy and colleagues examine differences in job quality across graduates. Using UK Graduate Outcomes survey data, they examine graduates’ perceptions of meaningful work, career progression, and skill utilisation by field of study. Their findings reveal significant disparities between graduates from academic and vocational fields, challenging the narrative of ‘low-value’ degrees and advocating for a broader consideration of intrinsic measures of job quality in higher education evaluation. Similarly, Chen illuminates differences in self-rated skill proficiencies for graduates of Sino-UK transnational higher education institutions and a comparator public university within China. Grounded in a human capital framework, the study finds that graduates from joint Sino-UK universities are more confident in their communication and interpersonal skills than their local counterparts. This advantage is attributed to the English-language instruction and individualised educational experiences characteristic of transnational providers, offering lessons on the value of transnational education in shaping graduate outcomes from the perspective of the host country.

Conclusion

The global expansion of higher education has redefined its societal role, presenting both opportunities and challenges. While massification has significantly increased access, the alignment of higher education with equitable economic and social outcomes remains uneven. This Special Issue highlights the contingent and stratified nature of higher education’s extrinsic contributions, shaped by variations in national contexts, institutional structures, and labour market dynamics.

The explorations in the present paper underscore the dual challenges of maximising higher education’s contribution to individual and macroeconomic productivity and addressing persistent socio-economic inequities in access and outcomes. While tertiary education demonstrably impacts national productivity, its effectiveness is mediated by foundational education quality, skill demand uncertainties, and broader economic conditions. Similarly, disparities in attainment and graduate success across socioeconomic and demographic groups reveal the limitations of higher education as an equaliser of opportunity. Broad contributions to the common good remain contested. Together, these illustrative analyses highlight the three key dimensions that the contributions in this special issue examine: economic impacts, equity concerns, and broader social outcomes.

Addressing these complexities demands a recalibration of both policy and practice. Future research must prioritise harmonised, longitudinal data collection and cross-national comparisons to illuminate the evolving relationship between higher education and its extrinsic outcomes. By integrating insights from diverse contexts, this Special Issue contributes to informing targeted strategies to enhance equity, improve labour market alignment, and ensure higher education remains a driver of sustainable and inclusive growth in an increasingly uncertain world.

Acknowledgements

GPT-4o was used for language improvement and literature search.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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