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The educational wealth divide in Europe: Post-secondary enrollment gaps across parental wealth components and countries

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ABSTRACT

Parental wealth is a crucial dimension of socioeconomic status (SES) and plays a significant role in the intergenerational transmission of educational advantage. Previous research on the topic has been limited to a small number of countries, and findings on the relationship between parental wealth and educational attainment are hardly comparable across institutional contexts. Furthermore, the specific role of different wealth components remains unclear. This study addresses these gaps by comparing parental wealth-based inequalities in post-secondary enrollment across 15 European countries, using harmonized Household Finance and Consumption Survey data. We assess how different dimensions of parental wealth – net, real, and financial – relate to children's post-secondary enrollment, and how these associations vary across institutional contexts. Our findings reveal substantial enrollment gaps between high- and low-wealth families in all countries, with these disparities remaining significant in ten countries even after accounting for other parental SES dimensions. When considering net wealth, we observe the largest enrollment gaps in Southern and Eastern Europe and smaller gaps in most Continental countries. However, most of country differences are not statistically significant. Real wealth, particularly housing assets, is the strongest predictor of enrollment, whereas the role of household debt is more context-dependent. These results underscore the importance of disaggregating wealth components and considering the specific national context when assessing wealth-related educational inequalities.

1. Introduction

Parental wealth is an important determinant of children's educational attainment, shaping inequalities beyond other socioeconomic dimensions such as parents' education, income, and occupational status (Dräger, 2022; Karagiannaki, 2017; Pfeffer, 2018; Pfeffer & Hällsten, 2012; Zhan & Sherraden, 2011). Ignoring parental wealth in analyses of educational stratification risks underestimating the extent of educational inequalities (Hällsten & Thaning, 2022). Unlike other SES variables, wealth reflects multigenerational economic trajectories, stemming from personal accumulation, *inter-vivos* transfers, and inheritances (Barone & Mocetti, 2021). It is also a more stable long-term indicator of household consumption potential and living standard than education, income, or occupation (Spilerman, 2000).

Furthermore, rising wealth inequality in most Western countries (Pfeffer, 2018; Piketty, 2014) suggests that parental wealth may play an increasingly central role in the intergenerational transmission of social positions. At the same time, recent work by Waldenström, (2024) challenges this view, arguing that some European countries have experienced a "great equalization of wealth", with declining wealth concentration over time. These contrasting perspectives highlight the need for empirical cross-national studies examining how wealth disparities shape intergenerational outcomes, particularly in education.

Much of the existing evidence on wealth-based educational

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inequalities comes from single-country studies, including the United States, the United Kingdom, Germany, Sweden, Norway, Italy, Mexico, and Brazil (see Section 3 for a more detailed overview). However, two key research gaps remain.

First, there is a lack of multi-country comparative studies on wealth inequalities in educational attainment. Most European research focuses on Germany, the UK, and Scandinavia, with little attention to Southern and Eastern European countries. Moreover, results from these studies are difficult to compare due to differences in measurement and methodological choices.

Second, existing studies have not systematically examined the role of different wealth components, typically measured as net worth. This is a significant limitation, especially in light of recent research suggesting that real vs. financial wealth and secured vs. unsecured debt influence children's educational trajectories in different ways (Karagiannaki, 2017; Lovenheim, 2011; Nam & Huang, 2009; Pietrolucci & Albertini, 2023; Zhan & Sherraden, 2011). Understanding these distinctions is particularly relevant in European countries' heterogeneous institutional and economic contexts.

This study addresses both of these gaps. First, we analyze the association between parental wealth and children's post-secondary enrollment across 15 European countries, including under-researched Southern and Eastern European contexts. We concentrate on enrollment into higher education since it is a fundamental transition that shapes future individuals' occupational attainment and social mobility. To ensure comparability across national contexts with different vocational education and training (VET) systems, we consider both tertiary and post-secondary non-tertiary education (i.e., ISCED 5 and ISCED 4, respectively). Second, we move beyond a one-dimensional measure of wealth (net worth) by examining distinct wealth components – gross wealth, financial and real wealth, total debt, and secured and unsecured debt – to provide a more nuanced understanding of how different forms of wealth shape educational opportunities.

2. Parental wealth and children's education, micro level mechanisms

Parental wealth influences children's educational opportunities and attainment through several interrelated micro-level social mechanisms (Conley, 2001; Dräger & Müller, 2020; Dräger & Pforr, 2022; Hällsten & Pfeffer, 2017; Pietrolucci & Albertini, 2023).

First, wealth provides additional resources for investing in children's education. Wealthy families can afford private tutoring, high-quality learning materials, and other educational support (Buchmann et al., 2010). They can also cover tuition fees, living expenses, and additional years of education, thereby enhancing children's educational competencies and overall attainment (*educational investment mechanism*; Hällsten & Pfeffer, 2017; Pfeffer, 2018).

Second, wealth facilitates access to neighborhoods with superior educational infrastructure (*residential segregation mechanism*; Owens, 2016; Pfeffer, 2018). Living in such environments benefits children's academic performance through positive peer effects, better schooling services, and access to higher-quality educational resources, such as libraries or extracurricular programs (Cordes et al., 2016).

Third, wealth can act as a buffer against the negative consequences of adverse life events (Bedük, 2023; Hällsten & Pfeffer, 2017; Heidenreich & Broschinski, 2023; Mari et al., 2023). Financial reserves can help alleviate psychological stress and mitigate behavioral problems or marital conflicts, as families know they have a financial cushion in times of economic hardship (*family stress mechanism*). Lower family stress positively influences parenting behaviors, fostering warmth and high-quality interactions that support children's competence development (Conger & Conger, 2002). Relatedly, wealth enables families to make more ambitious and long-term educational decisions (Zhan & Sherraden, 2011) by reducing the perceived financial risk associated with failure (*risk-taking mechanism*).

Finally, wealth shapes educational aspirations and reinforces pro-educational norms, reflecting its function in maintaining social status (*educational motivation mechanism*). Wealthy families seek to preserve or enhance their wealth, educational advantages, and class position across generations (Conley, 2001).

3. Wealth inequalities in education across countries

Our study builds on two strands of literature: (1) research on the relationship between parental wealth and children's educational attainment and (2) cross-national comparisons of the association between social background and educational outcomes.

Regarding the first strand, previous studies have consistently documented that, net of other dimensions of parental SES, children from wealthier families attain higher educational achievements. This wealth-based gap in educational attainment has been observed in various countries, including the United States (Conley, 2001; Diemer, et al., 2020; Jez, 2014; Lovenheim, 2011; Pfeffer, 2018; Zhan, 2006), Germany (Dräger, 2022; Dräger & Müller, 2020; Pfeffer & Hällsten, 2012), Sweden (Hällsten & Pfeffer, 2017; Hällsten & Thaning, 2018; Hällsten & Thaning, 2022), the UK (Karagiannaki, 2017), Italy (Pietrolucci & Albertini, 2023; Pietrolucci, 2024), Brazil (Torche & Costa-Ribeiro, 2012), and Mexico (Torche & Spilerman, 2009).[5] However, most studies focus on single countries, making cross-national comparisons of wealth inequalities in education challenging due to differences in institutional contexts.

Several factors contribute to the difficulty in comparing existing findings: (i) studies examine a range of different educational outcomes, including highest educational attainment, years of schooling, college enrollment, and track placement; (ii) definitions of household wealth vary, including net worth, gross wealth, and specific wealth components; (iii) wealth transformations in statistical models vary, including linear, polynomial, log-transformed, inverse hyperbolic sine, rank-based, or decile-based; (iv) studies focus on different populations depending on the specific educational outcome considered; (v) regression models and control variables vary across studies.

Despite these challenges, two comparative studies provide valuable insights. Pfeffer and Hällsten (2012) compare the US, Germany and Sweden, finding that the association between parental wealth and post-secondary educational attainment is of similar magnitude across these countries, despite differences in tuition costs and welfare systems. Grätz and Wiborg (2020) analyze wealth inequalities in educational achievement in Germany, Norway, and the US, identifying the largest differences in the US, the smallest in Norway, and intermediate levels in Germany. However, broader comparative studies covering more institutional contexts are necessary to determine whether wealth inequalities in educational attainment systematically vary across countries and to understand the role of institutional factors.

Numerous cross-national studies have examined the effect of social background on educational attainment, but these primarily focus on parental education rather than parental wealth (Chevalier et al., 2009; Heisig et al., 2020; Hertz et al., 2008; Jerrim & Macmillan, 2015; Liu & Ding, 2020; Pfeffer, 2008; Strömberg & Engzell, 2023). Table A2 in the Appendix summarizes their findings.

Among these, Jerrim and Macmillan (2015) include nearly all the countries analyzed in our study, with the exception of Hungary, Slovenia, Portugal, Greece, and Luxembourg. They find the strongest association between parental education and children's university enrollment in Slovakia and Poland, and the weakest in Austria and Belgium. However, country rankings vary strongly across studies, largely due to methodological differences. Using a multiverse analysis with European Social Survey data, Strömberg and Engzell (2023) find relatively high intergenerational educational mobility in Germany and

[5] See Table A1 for a schematic review.

Estonia, and relatively low mobility in Poland, Hungary, and Slovenia.

For a smaller set of countries, sibling correlations have been used to estimate the impact of social origin on educational attainment. Sibling correlations likely capture the impact of parental wealth, as wealth tends to be stable over time and shared within families. However, they also reflect other shared factors, such as genetic influences and broader environmental conditions. In their meta-analysis, Anderson et al. (2024) report the highest sibling correlations in Bulgaria and Spain (0.60) and the lowest in Hungary (0.42) and Nordic countries.

Given the variation in country rankings across studies, there is little consensus on which national characteristics increase intergenerational educational mobility. However, most research identifies two key institutional factors that hinder mobility: 1) early and rigorous educational tracking (Heisig et al., 2020; Pfeffer, 2008) and 2) high levels of income inequality (Anderson et al., (2024); Jerrim and Macmillan (2015); Liu & Ding, (2020)) are both associated with lower intergenerational educational mobility.

Similarly, the extent to which parental wealth influences children's educational attainment likely depends on a country's educational system and welfare state. (1) Wealth-based educational inequalities may be more pronounced in systems with early tracking, where academic decisions are made with limited information on student abilities, increasing financial risks for families (Pfeffer & Hällsten, 2012). (2) Higher tuition costs are expected to amplify wealth-based inequalities in university enrollment. However, tuition fees are relatively low across the countries in our study. (3) In countries where university degrees yield lower returns or where viable alternatives exist, such as dual vocational education systems, wealth disparities in university attendance may be smaller (Pfeffer & Hällsten, 2012). (4) More generous welfare states likely reduce wealth-based inequalities, as fewer families experience financial hardship that constrains educational investments. In contrast, in countries without robust public social insurance, wealth acts as a private safety net against adverse events such as job loss (Bedük, 2023; Rodems & Pfeffer, 2021). (5) Countries with decentralized education systems, where school funding depends on local tax revenues and educational programs are less standardized, are likely to exhibit larger wealth-based disparities (Sampson et al., 2002).

Given considerable variation across these factors – aside from tuition fees, which are relatively low in all included countries – we expect cross-country differences in the association between parental wealth and enrollment in post-secondary enrollment (see Appendix Table A3). However, identifying country-level moderators is beyond the scope of our study.

4. Wealth components

Most existing studies operationalize wealth in terms of net worth, calculated as total assets minus total debt (Killewald, et al., 2017; for some alternative operationalizations, see, for example, Lovenheim, 2011; Müller et al., 2020; Wiborg, 2017). However, recent research suggests that different wealth components may influence children's education in distinct ways, depending on their specific functions and characteristics (Dräger & Müller, 2020; Karagiannaki, 2017; Nam & Huang, 2009; Pietrolucci & Albertini, 2023; Zhan & Sherraden, 2011). Dräger et al. (2023) argue that relying solely on net worth may obscure important mechanisms linking wealth to educational outcomes.

To better capture these nuances, some recent analyses differentiate between financial (or liquid) and non-financial (or illiquid) assets, as well as different forms of debt. Debt is often further categorized into secured debt (loans backed by collateral, such as mortgages) and unsecured debt (i.e., credit card debt, student loans).

Financial wealth is a readily accessible resource that can be quickly mobilized to finance education or smooth consumption during income fluctuations. Non-financial assets serve multiple roles: (i) as economic securities that facilitate borrowing and financial stability (Zhan & Sherraden, 2011); (ii) as social-psychological signals of class privilege and economic advantage (Yeung & Conley, 2008), and (iii) as long-term resources that reinforce intergenerational transmission of advantage (Karagiannaki, 2017). Debt has a dual nature. Unsecured debt often signals financial distress and may hinder children's educational progress (Killewald, 2013; Nepomnyaschy et al., 2021). Secured debt, such as mortgage debt, may be a strategic tool for wealth accumulation, potentially benefiting educational investments by facilitating asset growth, income generation, or tax advantages.

Previous studies provide insights into how different components of wealth shape children's educational outcomes. Zhan and Sherraden (2011) analyzed US data and found that financial and non-financial assets positively predicted the likelihood of obtaining a bachelor's degree, with a stronger effect for non-financial assets. Secured debt showed a positive but non-significant association, while unsecured debt had a negative and statistically significant effect.

Lovenheim (2011) reported a positive effect of parental housing wealth on college enrollment, particularly among low-income households. Yeung and Conley (2008) found that liquid assets positively influenced children's math scores, while non-mortgage debt had a negative effect. Similar results were reported by Friedline and colleagues (2015). However, Yeung and Conley (2008) found no effect of illiquid assets on educational attainment.

Elliott and Beverly (2011) found no effect of household net worth on college attendance and even a negative effect when home equity was excluded from the measure.

Nam and Huang (2009) compared net worth, liquid assets, and housing wealth in the US and found that net worth and liquid assets positively influenced most educational outcomes, except for college graduation. They found no effect of homeownership, and interestingly, children from families with negative liquid assets were more likely to graduate from high school than those from families with zero or moderate liquid assets.

Karagiannaki (2017) found a strong positive correlation between degree-level attainment and parental net wealth, financial wealth, and housing wealth in the UK.

Pietrolucci and Albertini (2023), analyzing Italy, found that financial assets were positively associated with university enrollment, but this effect was restricted to families in the lower half of the financial wealth distribution. The effect of real assets was weaker, suggesting that housing wealth plays a less direct role in educational investment.

Findings on liquid assets consistently suggest a positive effect on educational outcomes, as these resources are readily available for investment in schooling. However, the role of housing wealth and homeownership appears more heterogeneous across studies and contexts. While some research finds a positive effect, others suggest that homeownership alone does not guarantee educational advantages, possibly due to liquidity constraints associated with real estate. Similarly, findings on household debt are mixed. While secured debt (e.g., mortgages) can support long-term wealth accumulation and educational investments, unsecured debt (e.g., consumer loans) is often associated with financial instability and lower educational attainment. Although our main objective is to provide a cross-country comparative perspective on wealth inequalities in education, these distinctions in wealth components will guide our empirical expectations.

5. Expectations on enrollment gaps by parental wealth components

Based on existing research and theoretical considerations, we expect a positive association between children's post-secondary enrollment and both real wealth and financial wealth. However, we argue that distinct mechanisms underlie these relationships (see Table 1).

First, both real and financial assets contribute to reducing family stress and enabling children to make riskier yet potentially beneficial educational decisions. Second, financial wealth plays a more direct role in facilitating educational investments, while real wealth fosters a more

Table 1
Theoretical framework of micro-level effects of wealth components on post-secondary enrollment.

Wealth component	Mechanisms	Direction of the effect
Financial assets	Parental investment Family stress Risk-taking	+
Real assets	Educational motivation Residential segregation Risk-taking Family stress	+
Secured debt	Risk-taking Family stress	+/-
Unsecured debt	Parental (dis)investment Family stress	-

advantageous developmental environment by providing residential stability, access to better schools, and social capital (Gordon & Monastiriotis, 2006; Machin, 2011; Sampson et al., 2002). Consequently, the combination of financial and real wealth – gross wealth – should also be positively associated with post-secondary enrollment.

In contrast, we expect unsecured debt to be associated with lower post-secondary enrollment rates. Households typically use non-collateralized debt to cover short-term expenses (Sullivan, 2008), often signaling financial hardship that limits parents' ability to invest in their children's education. Moreover, high levels of unsecured debt have been linked to increased family distress and poorer mental well-being (Hiilamo & Grundy, 2020), both of which negatively affect children's academic trajectories.

By contrast, the relationship between secured debt and educational enrollment is likely more complex and context-dependent. On the one hand, higher amounts of secured debt may indicate easier access to credit markets, which could facilitate long-term investments in children's education (Killewald, 2013). On the other hand, high mortgage payments reduce household disposable income, potentially limiting consumption and exacerbating the financial burden of education. As a result, the overall effect of secured debt on post-secondary enrollment remains ambiguous.

Given the mixed effects of secured and unsecured debt, we refrain from formulating a clear-cut hypothesis about the overall relationship between total household debt and post-secondary enrollment. Instead, we expect the association to depend on the relative composition of secured and unsecured debt (Nepomnyaschy et al., 2021; Zhan & Sherraden, 2011).

Similarly, the association between net worth and post-secondary enrollment is likely to be influenced by the composition of wealth components, making it difficult to derive a clear hypothesis. However, we analyze net worth in our empirical approach to allow for comparisons with previous research.

Finally, we expect the relationship between different wealth components and children's post-secondary enrollment to vary across countries, reflecting differences in institutional contexts that shape the extent to which parental wealth influences educational opportunities (Pfeffer & Hällsten, 2012). The countries in our analytical sample differ along relevant dimensions, including the direct and indirect costs of post-secondary education, the economic returns to higher education; the degree and timing of educational tracking; and the overall generosity of welfare provisions (see Table A2 for a summary). These structural differences may moderate the effects of financial and real wealth, and household debt on educational trajectories.

Given these cross-country differences, we do not formulate specific hypotheses regarding how institutional characteristics interact with parental wealth to shape enrollment patterns. Instead, our primary objective is to provide an exploratory comparative analysis of wealth inequalities in post-secondary education across countries. Future research should further investigate the causal mechanisms behind these variations, particularly the role of educational policies, financial aid systems, and labor market structures in shaping wealth-based enrollment gaps.

6. Data, variables, and methods

6.1. Data

To examine wealth inequalities in education across Europe, we use data from the Household Finance and Consumption Survey (HFCS). The HFCS, released by the European Central Bank, is a harmonized dataset that provides comprehensive information on household assets, liabilities, income, and consumption, along with socio-demographic characteristics, across 22 European countries.

Due to data limitations related to variable availability and sample sizes, our analytical sample includes 15 countries. Austria-AT, Belgium-BE, Germany-DE, Estonia-EE, Spain-ES, France-FR, Greece-GR, Hungary-HU, Italy-IT, Luxembourg-LU, Netherlands-NL, Poland-PL, Portugal-PT, Slovenia-SI, Slovakia-SK. A detailed discussion of the criteria used for country selection is provided in Appendix, Section B1.

Our analytical sample pools observations from multiple survey waves, covering two to five cross-sectional waves conducted between 2008 and 2021. We focus on individuals who are one to three years past the institutional upper secondary school graduation age, ensuring comparability across countries. In countries where the institutional upper secondary school graduation age is 18 (AT, BE, ES, FR, GR, NL, PT), we include individuals aged 19 and 21. In countries where the graduation age is 19 (DE, EE, HU, IT, LU, PL, SI, SK), we include individuals aged 20 and 22.

Additionally, we restrict the sample to individuals still living in their parental household, as parental wealth data is not available for those who have established an independent household. The proportion of individuals who have left the parental home within this age range varies substantially across countries, from 3 % in Spain and Italy to 26 % in Germany.

To address potential selection bias introduced by the exclusion of individuals who have left the parental home, we implement a reweighting procedure (detailed in Section 6.3).[6] Additionally, we provide descriptive comparisons of post-secondary enrollment rates between individuals living inside and outside the parental home, focusing on countries with high rates of early home-leaving (see Section B2, Appendix).

Our final analytical sample comprises 18,784 observations, with country-specific sample sizes ranging from a minimum of 417 in NL to a maximum of 4124 in FR (Fig. 1). A detailed overview of the sample composition is provided in Appendix, Section B.

6.2. Variables

Post-secondary enrollment

Our dependent variable is enrollment in post-secondary education, measured as a binary indicator: (1) currently enrolled in post-secondary or tertiary education; (0) not enrolled.

We classify individuals as enrolled if they meet at least one of the following criteria: (i) they have completed an upper secondary degree and report being students; or (ii) they have attained a tertiary degree.[7] Conversely, individuals are classified as not enrolled if they meet either of the following conditions: (i) they did not complete an upper

[6] The share of observations in independent households for each country is reported in Figure B2, Appendix.

[7] Following Checchi et al. (2014), we also include those who report having achieved a tertiary degree as enrolled in post-secondary education to avoid excluding individuals who have completed tertiary education within three years from the institutional graduation age from upper secondary school.

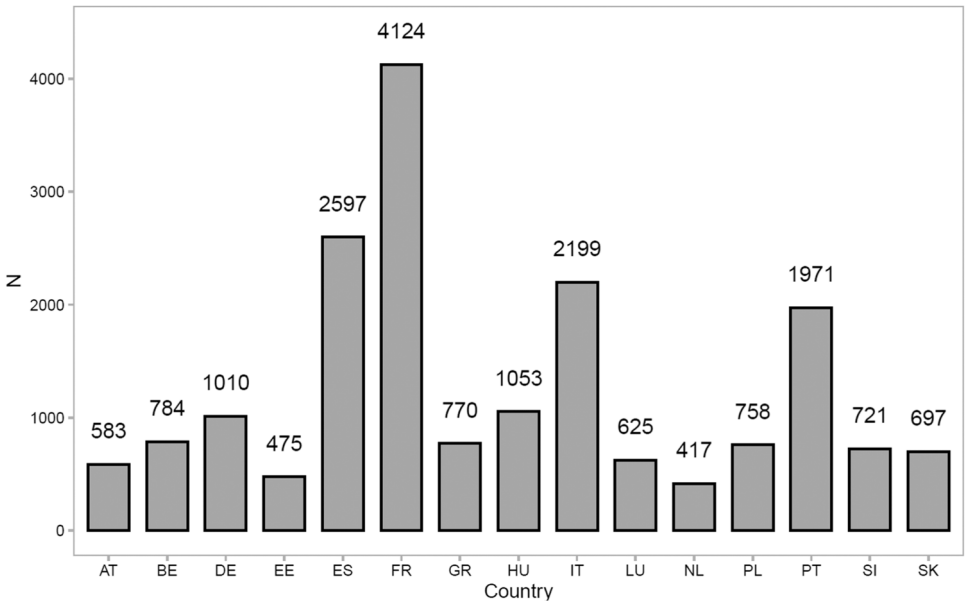

Fig. 1. Sample size by country.

secondary degree; or (ii) they have completed an upper secondary degree but do not report being students.

6.2.1. Parental wealth

In our analyses, we examine seven different components and measures of parental wealth[8] (see Appendix Figure B5). Given its extensive use in previous research, we start with overall wealth, measured as (i) net worth. Based on our theoretical framework, we further decompose total wealth into its positive and negative components: (ii) gross wealth and (iii) debt. We further subdivide gross wealth into (iv) financial wealth (v) and real wealth, and debt into (vi) secured (vii) and unsecured debt, as detailed below:

i) Net worth is defined as gross wealth (ii) minus debt (iii).
ii) Gross wealth is defined as the sum of gross financial wealth (iv) and gross real wealth (v).
iii) Debt is defined as the sum of secured debt (vi) and unsecured debt (vii).
iv) Gross financial wealth includes the value of bank deposits and savings accounts, and the market value of shares, bonds, and investment funds, representing the liquid component of household wealth.
v) Gross real wealth comprises the market value of housing, business assets, land, vehicles, and valuables (e.g., jewelry, works of art), representing the non-liquid component.
vi) Secured debt includes the outstanding value of liabilities backed by real assets (e.g., house mortgages, business debts).
vii) Unsecured debt consists of non-collateralized loans (e.g., credit lines, consumer and personal loans).

To ensure cross-country and temporal comparability, all wealth measures are adjusted for PPP using country- and year-specific Eurostat (2022) Consumer Price Levels. Given the strong right-skewed distribution of wealth measures, we apply the Inverse Hyperbolic Sine (IHS) transformation with a scale parameter $\theta = 0.0001$ (Friedline et al., 2015).

6.2.2. Other dimensions of SES and control variables

To examine the association between wealth and education while accounting for other SES measures (e.g., Hällsten & Thaning, 2018; Moulton et al., 2021; Pfeffer, 2018), we include a set of variables capturing parental SES:

(1) Parental education, classified according to the International Standard Classification of Education (ISCED) as:

- ISCED 2 or lower: lower secondary education or below;
- ISCED 3–4: upper secondary and post-secondary non-tertiary education;
- ISCED 5 or higher: tertiary education

(2) Parental social class, based on a revised 5-category version of the Erikson-Goldthorpe-Portocarero (EGP) class schema, with separate identification for pensioners and inactive individuals:

- Service class (I+II);
- Self-employed (IV);
- Routine non-manual (III);
- Skilled manual (V+VI);
- Unskilled manual (VII);
- Pensioner;
- Inactive

(3) Parental household income, measured as household equivalent disposable income,[9] transformed using the natural logarithm. Additionally, we control for the average age and marital status of the parents, the gender of the child, the year of the interview (to capture period

[8] In the HFCS, assets are recorded at household level, so it is not possible to distinguish between assets or debts owned by individuals in our analytical sample and assets or debts owned by other family members. This would be problematic if children were to accumulate large amounts of wealth or debt (particularly through student loans). However, as the contribution of children aged 18–22 to household wealth is minimal and student debt is almost non-existent in most countries (except NL; Figure C5), this issue is of little concern.

[9] We define household income as the sum of the annual disposable income of all household members except the observation in our analysis sample (i.e. the child). As children not enrolled in post-secondary education are more likely to work, including their income in the variable would introduce endogeneity in the regression models. Household income is rescaled using the OECD modified equivalence scale to account for the effect of family size (Canberra Group, 2011) and adjusted for country and year-specific (2022) consumer price levels.

effects), and the household size to account for household economies of scale.

Following the dominance criterion (Erikson, 1984), we use either parent's highest educational level and social class when applicable.

6.3. Methods

To investigate the association between parental wealth and children's post-secondary enrollment, we estimate a series of Linear Probability Models (LPMs) with clustered standard errors at the household level. We use LPMs because they allow for a direct comparison of coefficients across nested models and countries (Mood, 2010).

For each country and wealth component, we estimate the following two models:

The *baseline model* (M1) regresses post-secondary enrollment on basic confounders (i.e., parents' age and marital status, child's gender, and year of interview), while incorporating one wealth component at a time.

The *full model* (M2) expands on M1 by including additional dimensions of parental SES –

parental education, social class, and household income – alongside the wealth components. Specifically, we estimate three specifications: a) including net wealth only; b) including gross wealth and debt simultaneously; c) including financial wealth, real wealth, secured debt, and unsecured debt simultaneously.

The formal notation for the two models is as follows:

$$\text{M1}: Y_{ic} = \beta_0 + \beta_1 W_{ic} + \beta_2 W_{ic}^2 + \beta_3 W_{ic}^3 + \gamma B_{ic} + \varepsilon_{ic} \quad (1)$$

$$\text{M2}: Y_{ic} = \beta_0 + \beta_1 W_{ic} + \beta_2 W_{ic}^2 + \beta_3 W_{ic}^3 + \gamma B_{ic} + \delta Z_{ic} + \varepsilon_{ic} \quad (2)$$

Where c denotes country, i denotes individuals, Y is the probability of enrollment in post-secondary education, W presents wealth components, B is a vector of baseline confounders, and Z a vector of parental SES variables and other wealth components which vary according to the three specifications mentioned above.

Although it is common practice to control for other parental SES measures when assessing the association between parental wealth and education (e.g., Pfeffer, 2018; Moulton et al., 2021), adjusting for variables that are themselves influenced by wealth may introduce over-control bias (Grätz, 2022). To account for this, we present both unadjusted and adjusted estimates. In addition, we provide a model that includes one wealth component at a time while controlling for parental SES (see Appendix Figure F1).

Prior research suggests that the effects of wealth on education may be nonlinear, as households with lower wealth levels benefit more from an additional unit of wealth compared to wealthier households (Gibson-Davis & Hill, 2021; Killewald et al., 2017). To capture these nonlinear patterns, we represent all wealth and debt variables using a third-order polynomial specification in each model.

To aid interpretation, we calculate wealth gaps by comparing the predicted probabilities[10] of post-secondary enrollment at the 10th and 90th percentiles of parental wealth. We test whether these differences are statistically significant across countries and wealth components.

For missing values in wealth (AT, BE, DE, EE, ES, FR, GR, HU, LU, PL, PT, SI, SK) and parental social class (IT), we use the multiple imputations as provided by the HFCS team,[11] with standard errors computed using Rubin's rules (Rubin, 1987).

To address potential selection bias stemming from the exclusion of individuals who have left the parental home, we apply a reweighting procedure based on DiNardo et al. (1995). This adjusts for differences in the distribution of wealth components and covariates between individuals observed before (pre-graduation period[12]) and after secondary school graduation (post-graduation period). The method assumes distributional stability over time.

We implement an inverse probability weighting (IPW) procedure (Wooldridge, 2007; Firpo & Pinto, 2016) as follows:

1. Estimate logit models on pooled samples of children aged 16–21 or 17–22, separately for each country and wealth component.
2. Estimate the propensity score (i.e., predicted values) of being observed in the pre-graduation period as a function of wealth and covariates:

$$\text{PS}_{iwc} = \ln\left(\frac{p}{1-p}\right) = \alpha + \beta^W \times W_{iwc} + \beta^Z \times Z_{iwc} + u_{iwc} \quad (3)$$

   where i, w, and c refer to the individuals, wealth components, and countries, respectively; p is the probability of being observed in the pre-graduation period; W is the decile distribution of the specific wealth component; Z is a vector of covariates including parental education, social class, and household income; and u is the error term.
3. Compute the inverse probability weights as follows:

$$IPW_{iwc} = \frac{PS_{iwc}}{1 - PS_{iwc}} \quad (4)$$

4. Top- and bottom- code weights at the 1st and 99th percentile to limit the influence of outliers.

As shown in Appendix Figure B4, the counterfactual net wealth distributions in the post-graduation period closely replicate observed wealth distributions in the pre-graduation period across all countries.

7. Results

7.1. Descriptives

Descriptive statistics for both dependent and independent variables reveal substantial heterogeneity across European countries. Enrollment rates in post-secondary education vary considerably across countries, ranging from a minimum of 31 % in Germany to a maximum of 73 % in Belgium (Table 2).[13] Similarly, wealth distribution shows large cross-country differences. Median wealth levels are substantially higher in AT, BE, ES, FR, IT, LU, and NL than in DE, EE, GR, HU, PT, and SK (Figure C2, Appendix), while BE, LU, and NL exhibit relatively higher levels of average debt.

When examining wealth components, real wealth emerges as the dominant component of household wealth in all countries (Table 2). Median real wealth exceeds median financial wealth across all countries in our sample. Furthermore, real wealth constitutes the primary component of positive wealth across the entire net wealth distribution,

[10] Predicted probabilities are calculated with all other covariates set to their average values using the "margins" command in Stata 17.0 (StataCorp, 2021).

[11] A detailed overview of missing patterns is provided in the Section B3 of the Appendix. Estimation through multiple imputation is performed by using the "mi" command in Stata 17.0 (StataCorp, 2021).

[12] The pre-graduation period is defined as the interval in which individuals are aged 16–18 or 17–19 years, depending on the country-specific institutional graduation age, which makes them very likely to be still observed in the parental household, ensuring no selection bias due to moves to independent households.

[13] The post-secondary enrollment rates observed in our analysis sample are reported to be lower than the tertiary enrollment rates reported by Eurostat (2022). Unfortunately, Eurostat does not provide information on enrollment in post-secondary education. Nevertheless, this evidence is consistent with the expectation that tertiary enrollment rates should be lower than post-secondary enrollment rates.

Table 2
Descriptive statistics on enrollment and wealth components by country.[14]

Country	% Enrolled in post-secondary (HFCS)	Median net wealth	Median gross wealth	Average debt	Median financial wealth	Median real wealth	Average secured debt	Average unsecured debt
AT	36.3	192.7	232.2	23.1	31.6	201.4	28.1	3.3
BE	73.2	260.3	320.2	27.3	61.2	266.8	57.2	3.9
DE	31.4	114.0	163.4	21.4	34.5	126.8	30.5	4.1
EE	45.8	85.6	94.3	4.7	14.4	85.7	12.8	1.7
ES	53.8	160.5	193.4	7.1	40.4	176.2	33.9	6.5
FR	59.4	152.2	200.0	10.2	39.4	179.6	32.2	7.2
GR	71.2	112.2	127.6	1.6	17.4	121.4	14.3	3.1
HU	58.5	84.1	93.8	5.7	7.6	81.5	5.6	1.9
IT	48.0	187.9	201.2	7.9	15.9	184.1	11.2	4.7
LU	57.8	522.6	614.8	27.1	125.5	561.2	113.5	11.8
NL	48.8	131.6	261.8	20.8	103.1	211.0	91.9	11.0
PL	40.2	153.2	162.6	4.6	8.4	152.7	6.7	1.6
PT	53.8	103.4	147.1	4.3	45.3	128.8	41.7	3.7
SI	68.4	171.8	184.9	3.0	12.1	171.9	6.2	5.9
SK	51.4	104.1	114.2	4.1	8.7	103.3	6.8	1.9

[14] We report the average debt rather than the median debt because the median debt is zero in most countries.

except in AT, DE, LU, and NL, where financial wealth predominates in the bottom 30 % of the distribution (Table 2). Secured debt is the largest component of household liabilities in most countries with particularly high levels in LU, NL, and BE.

7.2. Wealth and debt gaps in post-secondary enrollment

Fig. 2 presents the gross associations between parental wealth, debt components, and post-secondary enrollment across countries, measured as the difference in predicted probabilities between the 10th and 90th percentiles of parental wealth (baseline model, M1). Thin lines indicate the 95 % confidence intervals, which allows us to test whether the estimates are statistically significantly from zero. Thick lines indicate the 84 % confidence intervals. Non-overlapping 84 % confidence intervals approximately indicate that country differences are statistically significant at the 5 % level (see MacGregor-Fors & Payton, 2013 for a discussion of the specific threshold).

Our findings indicate that unadjusted *net wealth* gaps in post-secondary enrollment are positive, large, and statistically significant different from zero ($p \leq .05$) for each country, except for SI (with $p < 0.1$).

To summarize the size and the direction of the gaps we present two measures in Table 2: a) the *average absolute gap* (the mean of the absolute values of country estimates), which captures the overall size of the wealth gaps, regardless of direction; b) the *average gap* (the mean of the actual country estimates), which captures the direction of the association.

On average, across all 15 countries, individuals in the 90th percentile of the net worth distribution are 33.4 percentage points more likely to enroll in post-secondary education than those in the 10th percentile. Smaller net worth gaps are observed in SI, NL, and AT (17–23 percentage points) and larger net worth gaps are observed in EE, FR, IT, SK (around 40 percentage points), PT, and HU (more than 50 percentage points). The net worth gaps in FR, IT, PT and HU are statistically significant ($p \leq .05$) larger than the net worth gaps in SI and AT. However, due to the small sample sizes in some countries, most other differences are not statistically significant.

A similar pattern emerges for *gross wealth* and its two components, though *real wealth* consistently shows larger gaps than *financial wealth* across most countries.

The results for *household debt* are more complex. We find that unadjusted debt gaps are positive and statistically significant different from zero ($p \leq .05$) in four countries: BE, FR, LU, and PT. *Secured debt* is positively associated with post-secondary enrollment in several countries (statistically significant different from zero in BE, FR, PL, PT), suggesting that households with greater access to secured credit markets may have a higher capacity to invest in education.

Unsecured debt, by contrast, shows a negative association with enrollment (statistically significant different from zero at $p \leq 0.05$ in AT, PT, and ES), indicating that households with higher levels of unsecured debt may experience financial hardship, limiting their ability to support their children's education.

These findings underscore the importance of differentiating between wealth components when analyzing the relationship between household wealth and post-secondary enrollment. Furthermore, the substantial cross-country variation suggests that national contexts and institutional frameworks play a crucial role in shaping these associations.

Fig. 3 presents adjusted wealth and debt gaps after controlling for parental SES variables and other wealth components (M2: full model).[15] On average, across all 15 countries, the adjusted net wealth gap between individuals at the 90th and 10th percentiles is 15.4 percentage points (Table 4), approximately half the gap observed in the baseline model (Table 3).

Indeed, the inclusion of parental SES variables in the model seems to be the main driver of the reduction in wealth gaps in M2 compared to M1 (see Appendix Figure F1). Conversely, the inclusion of other wealth components only affects some wealth components (i.e. financial wealth and secured debt).

Net wealth gaps remain statistically significant different from zero in most countries, with values ranging from 10 to 20 percentage points in AT, ES, GR, IT, LU, and PL and exceeding 20 percentage points in FR, HU, PT, and SK.[16] However, in BE, DE, EE, NL, and SI, estimates are no longer statistically significant different from zero once parental SES is controlled for. When adjusting for parental SES, net worth gaps are statistically significantly ($p \leq .05$) larger in HU and SK than in BE, DE and SI. Most other country contrasts are not statistically significant.

Adjusted gross wealth gaps follow a similar pattern to net wealth gaps but tend to be slightly larger (17.4 vs. 15.4 percentage points on average). In AT, ES, FR, GR, and SK, gross wealth gaps are around 5

[15] Predicted values for each wealth and debt component are reported in Section D of the Appendix.

[16] In the case of SK, the high values for the real component are mostly driven by observations in the last wave (2021, with Δ=35 pp). If observations from the 2021 wave are removed the gap amounts to 23 pp, being statistically significant at 95 % level. Removing SK from the analysis would not change the main findings.

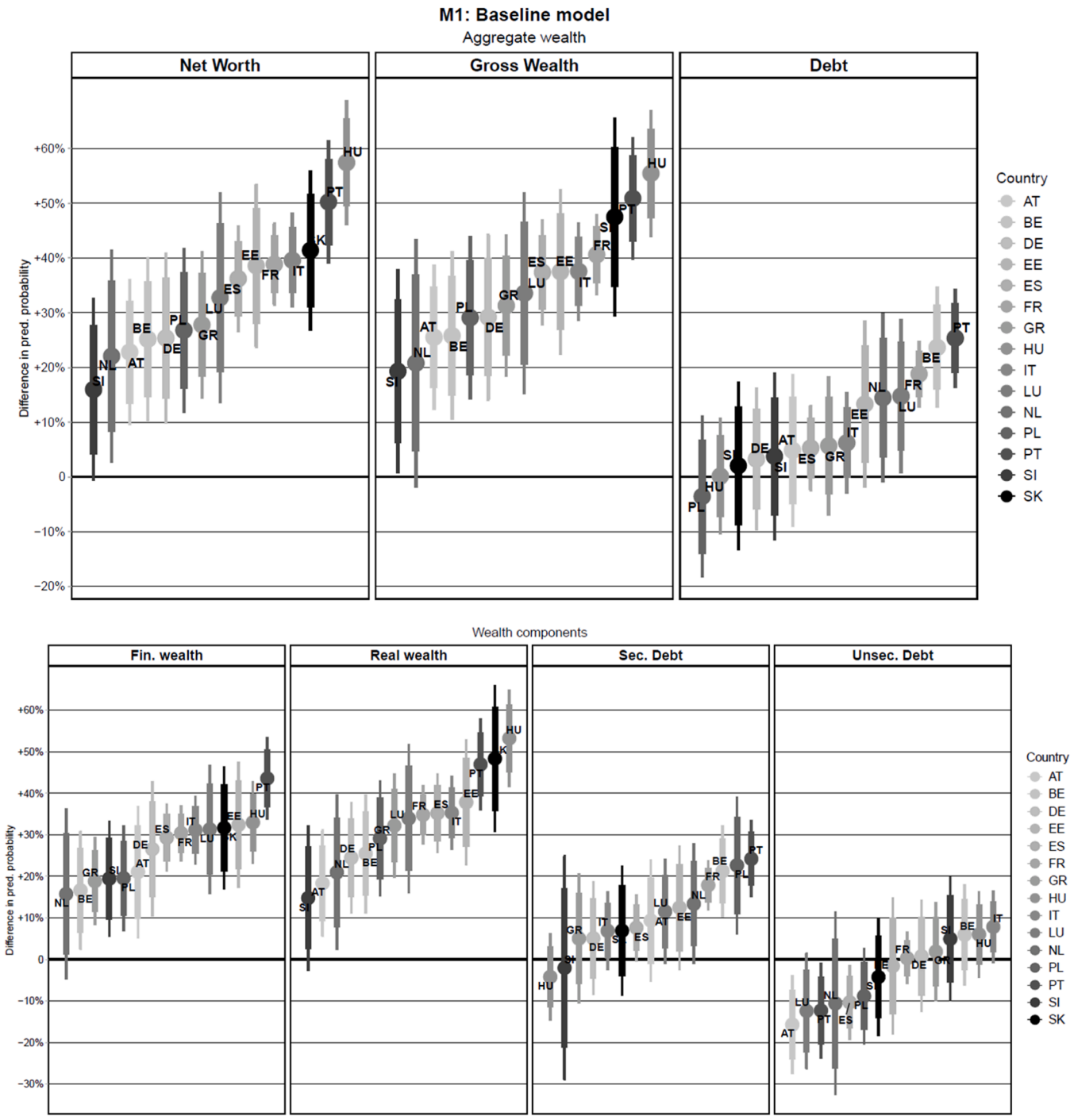

Fig. 2. Unadjusted wealth gaps (p90 vs p10) with 84 % confidence intervals (thick CI) and 95 % confidence intervals (thin CI) by country, wealth, and debt components. Sampling and counterfactual weights are specified. SEs are estimated through Rubin's rule.

percentage points larger than net wealth gaps. In contrast, in HU and PT, gross wealth gaps are slightly lower than net wealth gaps, indicating that debt plays an offsetting role.

These findings provide initial evidence that household wealth, beyond other parental SES dimensions, is a significant driver of inequality in access to post-secondary education in most European countries. Moreover, in some contexts, net worth alone sufficiently describes enrollment disparities, while in others the distinction between gross wealth and debt is essential.

When analyzing the two positive components of wealth – financial and real assets – two different patterns emerge. Financial wealth exhibits smaller gaps (average gap: 5.9 percentage points) and is statistically significant different from zero in only three countries (IT, FR, PT at $p \leq .05$; SK at $p \leq .1$). The reduction in financial wealth gaps is mainly driven by the inclusion of other wealth components rather than parental SES (Appendix Figure F1). Real wealth gaps are larger (average gap: 14.7 percentage points) and statistically significant different from zero in more countries (7 at $p \leq .05$; 9 at $p \leq .1$). These findings indicate that real wealth is the main driver of wealth-related disparities in post-secondary enrollment, with financial wealth playing a more limited role. More specifically, the association between real assets and enrollment seems to be driven primarily by the housing component, rather

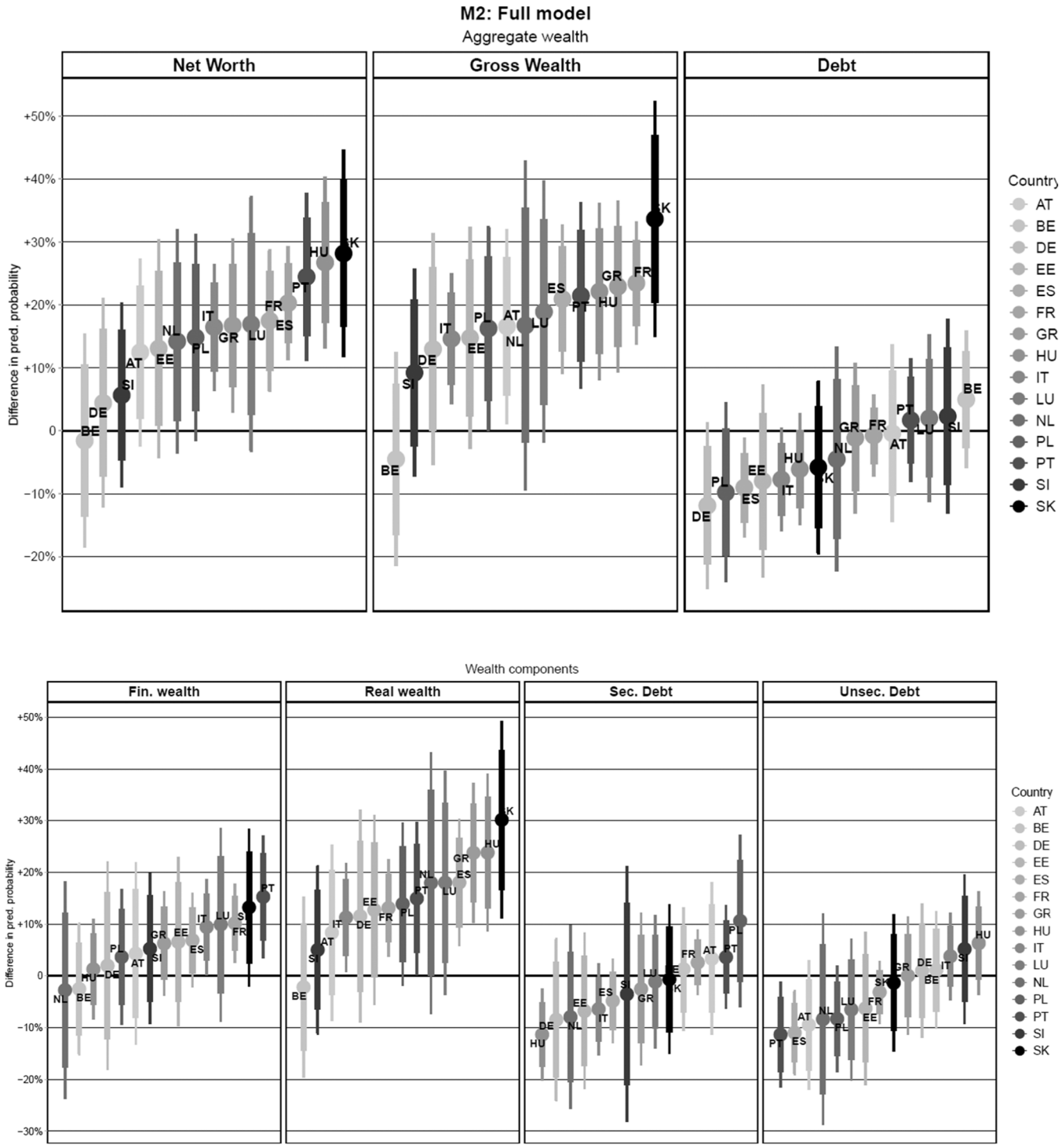

Fig. 3. Wealth gaps (p90 vs p10) with 84 % confidence intervals (thick CIs) and 95 % confidence intervals (thin CIs) by country, wealth, and debt components. Sampling and counterfactual weights are specified. SEs are estimated through Rubin's rule.

Table 3
Average absolute gaps, average gaps, and number of country estimates with significance levels with $p < 0.1$ and $p < 0.05$, computed from M1 (baseline model) by wealth component.

Wealth component	Net wealth	Gross wealth	Debt	Financial wealth	Real wealth	Secured debt	Unsecured debt
Average absolute gap (pp %)	33.4	34.8	9.7	26.6	32.7	11.4	6.9
Average gap (pp %)	33.4	34.8	9.2	26.7	32.7	10.5	- 3.2
N° countries with $p < 0.05$	14	14	4	14	14	4	3

The average absolute gap is computed as the mean of the absolute values of the country estimates to capture the overall size of the gaps, regardless of direction. The average gap is computed as the mean of the actual country estimates to capture the direction of the association.

Table 4
Average absolute gaps, average gaps, and number of country estimates with significance estimates with $p < 0.1$ and $p < 0.05$, computed from M2 (full model), by wealth component.

Wealth component	Net wealth	Gross wealth	Debt	Financial wealth	Real wealth	Secured debt	Unsecured debt
Average absolute gap (pp %)	15.6	18	5.1	6.6	15	5	5.5
Average gap (pp %)	15.4	17.4	−3.6	5.9	14.7	−2.1	−3.2
N° countries with $p < 0.05$	7	9	1	3	7	1	2

The average absolute gap is computed as the mean of the absolute values of the country estimates to capture the overall size of the gaps, regardless of direction. The average gap is computed as the mean of the actual country estimates to capture the direction of the association.

than the business component (Figure E9, Appendix).

Controlling for parental SES and gross wealth also alters the observed relationships between debt and enrollment. Total debt gaps narrow considerably (average absolute gap: 5.1 percentage points) and the average gap turns negative (-3.6 percentage points).[17] Debt gaps are no longer statistically significant in most countries, except DE, ES, and IT. This negative shift is largely driven by the secured component of debt. Secured debt gaps decrease substantially, with only HU showing a statistically significant negative estimate. Unsecured debt gaps remain relatively stable (average absolute gap: 5.5 percentage points) but are statistically significant different from zero only in ES and PT in the adjusted model.

Overall, our results show a positive and significant association between parental wealth and children's enrollment in post-secondary education in the majority of countries analyzed. These findings highlight the importance of distinguishing between different components of wealth when analyzing educational inequalities.

Gross wealth consistently stratifies access to post-secondary education, whereas household debt plays a more limited role, with smaller gaps and fewer statistically significant estimates.

Our findings suggest that liquid and non-liquid assets are differently associated with post-secondary enrollment. Real wealth emerges as the primary driver of wealth-based educational inequality, particulary at the extremes of the distribution (P10-P90, see Appendix Section E). Our results also support previous research on the ambivalence of debt (Killewald, 2013). Higher secured debt may signal greater consumption potential via credit access market but, when parental SES and wealth components are controlled for, it shows a negative association with educational opportunities. Higher unsecured debt levels consistently indicate financial insecurity, which, in some countries, can be a substantial barrier to post-secondary education.

7.3. Robustness checks

To assess the robustness of our findings, we conducted a comprehensive set of sensitivity analyses. These checks include: (a) models without counterfactual weights (vs. reweighted models); (b) marginal odds ratios between P10 and P90 (vs. predicted probability differences); (c) wealth and debt per capita; (d) logit models (vs. LPM); (f) rank-transformations wealth components (vs. continuous measures); (g) IHS transformation with $\theta = 0.001$ (vs. $\theta = 0.0001$); (h) separate controls for mother's and father's SES (vs dominance criterion); i) distinguishing business from property wealth within real wealth.

Although point estimates vary, country rankings remain largely stable (see Appendix Section E for a detailed discussion).

A key finding is that financial and real assets yield similar estimates at less extreme wealth levels (P20-P80) (Appendix Figure E5). However, at the distribution extremes (P10–P90), real assets – particularly housing wealth (Appendix Figure E9) – emerge as the strongest determinant of educational stratification. This suggests that housing wealth plays a critical role in reinforcing educational inequalities, especially among households at the lower and upper ends of the wealth distribution.

8. Summary and discussion

The main aim of this study was to examine the relationship between parental wealth and children's post-secondary enrollment in 15 European countries, extending previous research that has predominantly focused on single-country analyses. By adopting a comparative perspective, we provide new insights into how parental wealth influences educational opportunities beyond other socioeconomic status (SES) characteristics. Our specific objectives were twofold: 1. To provide empirical evidence on how parental wealth shapes children's education across different European contexts. 2. To explore the distinct roles of various wealth components in this relationship.

The empirical results confirm a strong and positive association between parental wealth and children's likelihood of enrolling in post-secondary education, even after accounting for parental education, income, and occupational class. In 10 out of 15 countries, this association remains statistically significant after controlling for multiple SES dimensions. The estimated wealth gap in post-secondary enrollment – measured as the difference between individuals in the 90th and 10th percentiles of the wealth distribution – averages 15 percentage points across all countries. This finding aligns with prior research from single-country studies in the United States, Sweden, Norway, and Germany, and underscores the generalizability of the positive relationship between parental wealth and education across Europe.

Our international comparison, however, reveals substantial cross-country variation in how parental wealth influences children's educational outcomes. However, we have to acknowledge that samples sizes for some countries are comparatively small and most country differences are not statistically significant. Continental European countries tend to exhibit smaller wealth-based enrollment gaps, whereas Eastern and Southern European countries display larger disparities. This variability suggests that institutional frameworks, social policies, and economic conditions play a crucial role in moderating the relation between parental wealth and educational outcomes. Countries with strong public funding for education and extensive welfare systems tend to exhibit smaller wealth-related disparities in post-secondary enrollment. By contrast, countries with limited welfare provisions and higher private education costs display larger wealth gaps, highlighting the financial barriers to higher education in these contexts.

We find the largest differences in post-secondary enrollment by parental net worth in Slovakia, Hungary, and Portugal, while the smallest differences are documented for Belgium, Germany, and Slovenia. However, comparing these rankings to previous studies on educational attainment by parental education is challenging due to substantial variations across studies. Our findings partially align with Jerrim and Macmillan (2015), who also identified large educational attainment gaps in Slovakia and smaller gaps in Austria, Belgium, Estonia, and Germany. However, their study also found large differences in Italy and Poland, while our results place these countries in a more moderate position in terms of parental net wealth disparities.

By disaggregating gross wealth into real assets and financial assets, our analysis shows that real wealth is the primary driver of the wealth-education relationship. This finding aligns with prior research on wealth

[17] Also for debt and secured debt, the shift towards negative values seems to be mainly driven by controlling for other wealth components (see Figure F1).

inequality (Skopek et al., 2014; Pfeffer & Waitkus, 2021) and suggests that housing and other real assets play a significant role in shaping children's educational opportunities.

While the literature on the relation between real wealth and educational attainment reports mixed evidence, with some studies documenting a positive effect (Lovenheim, 2011; Pfeffer, 2018; Zhan & Sherraden, 2011) and others reporting no significant association (Elliott & Beverly, 2011; Nam & Huang, 2009; Yeung & Conley, 2008), our findings suggest that higher levels of real wealth generally promote children's educational progression across Europe.

Interestingly, our results diverge from findings in the US, where financial assets – rather than real wealth – are more consistently associated to better educational outcomes (Friedline et al., 2015; Nam & Huang, 2009 Yeung & Conley, 2008; Zhan & Sherraden, 2011). This discrepancy may reflect differences in housing markets, credit access, and the role of homeownership as an intergenerational resource. In line with our theoretical expectations, mechanisms such as the transmission of pro-education norms, privileged access to better schooling environments, and financial security provided by homeownership likely explain why real wealth is a key determinant of educational success in many European countries.

Conversely, the role of financial wealth in removing direct financial barriers to higher education appears more context-dependent. Large financial wealth gaps in Italy, Portugal, France and Slovakia, suggest that parental investment mechanisms are particularly relevant in those countries where welfare support is limited and household spending on tertiary education is high (see Table A2, Appendix).

By distinguishing between secured and unsecured debt, our analysis reveals contrasting patterns in their relationship with educational outcomes. Unadjusted models indicate that secured debt (e.g., mortgages) is positively associated with post-secondary enrollment, while unsecured debt (e.g., personal and consumer loans) is negatively associated. However, after controlling for parental SES and other wealth components, both secured and unsecured debt exhibit a negative association with post-secondary enrollment. Our results do not neatly identify which debt component predominantly drives the debt-education relationship. This suggests that the financial conditions associated with different types of debt influence educational outcomes differently across countries. While higher levels of secured debt may initially reflect greater financial stability, in some contexts, they may constrain disposable income and limit households' ability to finance post-secondary education. Meanwhile, high levels of unsecured debt consistently indicate financial hardship, posing a significant barrier to children's educational progression.

Our findings underscore the importance of adopting a multidimensional approach to measuring wealth rather than solely relying on net worth. Net worth does not fully capture the heterogeneous relationship between different wealth components and educational outcomes. While net worth and gross wealth yield similar estimates in some countries, in others, the distinction between financial wealth, real wealth, secured debt, and unsecured debt provides valuable insights into wealth-based educational inequalities. By examining wealth components separately, we uncover nuanced insights into how wealth influences post-secondary enrollment. Real wealth (e.g., property and business assets) consistently fosters educational advantages, particularly through housing assets. Financial wealth plays a stronger role in countries with high private education costs, where direct parental investment in education is crucial. Secured and unsecured debt play a minor role in shaping educational opportunities in most countries, but they are likely to signal lower disposable income and conditions of financial distress in some contexts.

9. Limitations and future research

Several limitations should be considered when interpreting our results.

First, our estimates may be affected by selection bias due to the exclusion of children who no longer reside in the parental household in some countries (Austria, Germany, France, Estonia, Greece, and Hungary), as parental wealth data is only available for individuals still living at home. To address this, we applied a reweighting procedure designed to approximate the wealth distribution before upper secondary graduation. Robustness checks indicate that in countries with lower selection levels, differences between observed and counterfactual wealth gaps are minimal. However, Figure B3 suggests that individuals not residing in the parental household tend to have lower enrollment rates, meaning that our estimates may underestimate wealth gaps in post-secondary enrollment in countries with high levels of selection bias.

A second limitation concerns the small sample sizes in some countries, which may result in wealth gaps that are not statistically significant, despite large observed differences. The lack of high-quality, harmonized data with large sample sizes remains a well-known issue in wealth inequality research, although the availability of household wealth data has expanded rapidly in recent years (Killewald et al., 2017). We hope that the growth in research interest on household wealth and the availability of high-quality data will enable future research to develop their analyses on a more solid foundation. Third, our sample is limited to 15 European countries, primarily from Continental, Eastern, and Southern Europe. The absence of Scandinavian and Liberal welfare states restricts the scope for broader institutional comparisons. The relative homogeneity in education funding models, tracking systems, and welfare provisions also limits our ability to draw strong conclusions about how specific institutional factors moderate the relationship between wealth and education. Future research should incorporate a broader range of countries, particularly those with different welfare regimes, to better assess the role of institutional characteristics as moderators.

Fourth, the HFCS data lacks longitudinal information on educational trajectories beyond post-secondary enrollment. This prevents us from analyzing long-term educational outcomes, such as degree completion or total years of schooling. Prior research highlights the importance of wealth in shaping graduation probabilities (Pfeffer, 2018), a dimension we are unable to explore. Additionally, studies suggest that inequalities in education may emerge at specific transition points (Dräger, 2022), which our cross-sectional data does not capture.

Despite these limitations, our study provides valuable cross-national evidence on the role of parental wealth in shaping educational opportunities in Europe. The findings highlight larger wealth inequalities in post-secondary enrollment in Eastern and Southern European countries compared to Continental countries, suggesting the importance of institutional features such as education funding models, credit accessibility, and wealth accumulation structures.

Moving forward, research should further investigate how different wealth components influence educational outcomes across diverse institutional contexts. Future studies should consider distinguishing between wealth components in causal models, as our findings suggest that real wealth plays a stronger role in shaping educational opportunities, while the effects of financial wealth and debt vary across contexts. Examining mechanisms such as educational investment, risk-taking, and social capital transmission in greater detail could help clarify the pathways through which wealth influences educational attainment.

Figures in print

We do not require the use of color for figures in print.

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CRediT authorship contribution statement

Marco Albertini: Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Conceptualization. **Andrea Pietrolucci:** Writing – review & editing, Writing – original draft, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Jascha Dräger:** Writing – review & editing, Writing – original draft, Visualization, Validation, Methodology, Investigation, Formal analysis, Conceptualization. **Nora Müller:** Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Conceptualization.

Declaration of Competing Interest

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

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.rssm.2025.101086.

Data availability

This paper uses data from the Eurosystem Household Finance and Consumption Survey. Access to anonymized microdata is available for research purposes. Information on access request can be found at the following address:
https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html#access

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