



Working Paper Series

**Who Gets Ahead? Cross-country
Evidence on Intragenerational
Income Mobility from
Administrative Records**

Sebastian Koenigs

Javier Terrero-Davila

ECINEQ 2026 698

Who Gets Ahead? Cross-country Evidence on Intragenerational Income Mobility from Administrative Records

Sebastian Koenigs

OECD

Javier Terrero-Davila

OECD

Abstract

Income mobility is often invoked as a counterweight to slow income growth and high inequality, yet conclusions on who benefits from mobility depend on the part of the income distribution examined and the metric used. Drawing on harmonised administrative records from Austria, Belgium, Estonia and Spain, we combine relative and absolute mobility metrics to study disposable income dynamics for working-age individuals along the distribution between 2017 and 2022. Those at the bottom experience markedly different income growth across countries, while those at the top experience homogeneous declines. Rank persistence varies substantially across countries, from 0.64 in Estonia to 0.79 in Spain, but top incomes are highly persistent everywhere, largely insulated from country-specific mobility dynamics. Mobility gaps by age, gender, education and place of residence also change in sign and magnitude depending on people's starting point in the distribution. We show that different metrics can give conflicting assessments of where mobility is more favourable for those at the bottom, and that these differences are largely explained by countries' levels of inequality and aggregate income growth: more unequal or higher-growth countries need more progressive income growth to deliver comparable positional mobility and narrowing of absolute income gaps.

Keyword: Income mobility, income inequality, income growth, administrative records

Who Gets Ahead? Cross-country Evidence on Intragenerational Income Mobility from Administrative Records

Sebastian Königs^{1,2}

Javier Terrero-Dávila^{1,3} (corresponding author: javier.terrero@oecd.org)

Abstract: Income mobility is often invoked as a counterweight to slow income growth and high inequality, yet conclusions on who benefits from mobility depend on the part of the income distribution examined and the metric used. Drawing on harmonised administrative records from Austria, Belgium, Estonia and Spain, we combine relative and absolute mobility metrics to study disposable income dynamics for working-age individuals along the distribution between 2017 and 2022. Those at the bottom experience markedly different income growth across countries, while those at the top experience homogeneous declines. Rank persistence varies substantially across countries, from 0.64 in Estonia to 0.79 in Spain, but top incomes are highly persistent everywhere, largely insulated from country-specific mobility dynamics. Mobility gaps by age, gender, education and place of residence also change in sign and magnitude depending on people's starting point in the distribution. We show that different metrics can give conflicting assessments of where mobility is more favourable for those at the bottom, and that these differences are largely explained by countries' levels of inequality and aggregate income growth: more unequal or higher-growth countries need more progressive income growth to deliver comparable positional mobility and narrowing of absolute income gaps.

Key words: Income mobility; income inequality; income growth; administrative records

JEL Classification: D31 D63 H24 I30

¹ OECD, Directorate for Employment, Labour and Social Affairs

² IZA@LISER Network

³ Univ. Paris-Saclay, Centre for Economics at Paris-Saclay (CEPS)

Acknowledgements

We thank Olga Cantó (Universidad de Alcalá) and Stephen Jenkins (London School of Economics) for their detailed feedback in seminars; Gregory Verdugo (CY Cergy Paris Université) and Neil Lee (London School of Economics) for valuable comments on this version of the paper; and Stéphane Carcillo (OECD) for valuable suggestions and feedback at earlier stages of the project. We are also grateful to experts at the four national data providers for their invaluable support and advice, in particular Simon Hartmann and Marie Beindl (Statistics Austria), Lien Tam Co (Statistics Belgium), Rauno Temmer (Statistics Estonia), and Ignacio Moral Arce and María Joaquina Barroso (Institute for Fiscal Studies, Spain).

Statements

Disclaimer This paper is a revised version of earlier work published as an *OECD Social, Employment and Migration Working Paper* (Königs and Terrero-Dávila 2025), which was co-financed by the Austrian Federal Ministry of Social Affairs, Health, Care and Consumer Protection. The opinions expressed and arguments employed in this paper are those of the authors. This work, as well as any data and map included herein, should not be reported as representing the views of the OECD Member countries or the OECD Secretariat.

Author contribution All authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Data availability The data employed in this study are tax and other administrative records held by the national statistical or fiscal authorities of Austria (Statistics Austria), Belgium (Statbel), Estonia (Statistics Estonia) and Spain (Instituto de Estudios Fiscales). The authors accessed them under agreements with each provider and are not permitted to share them. The data are available to researchers under research agreements, and those interested in using them can apply for access directly to the relevant national authority. The authors are happy to offer guidance regarding the application process.

1 Introduction

As income growth has slowed in most advanced economies (OECD 2024) and income trajectories over the life course have flattened (Bassanini et al. 2025), questions about how to promote upward mobility have become increasingly central to the policy debate. When prospects for income progression become more limited, the expected returns to skill acquisition decline, reducing people's incentives to invest in their human capital (Engbom 2022) and potentially undermining productivity growth. For individuals at the bottom of the income distribution, limited upward mobility implies a greater risk of persistent poverty (Mussida and Sciulli 2022). Mobility patterns also carry important societal implications: expectations of limited upward mobility are associated with weaker support for the status quo (Day and Fiske 2017), while downward occupational mobility has been linked to stronger support for populist parties (Kurer 2020).

A large body of literature has engaged with questions such as who experiences greater income growth, how individuals move along the income distribution over time, and to what extent mobility reduces inequality (Jäntti and Jenkins 2015). This evidence is most informative when mobility can be compared across countries, across segments of the distribution and across socio-demographic groups, yet evidence at such granularity is scarce. Most comparative studies rely on survey data, which provide harmonised income information but suffer from limited sample sizes, panel attrition, and measurement error at the top (Lustig and Vigorito 2025) and bottom (Celhay et al. 2025) of the distribution. As a result, the comparative literature has leaned heavily on aggregate mobility indices, which cannot shed light on how mobility varies along the distribution and make it difficult to determine why cross-country results vary along different mobility dimensions.

This paper overcomes these limitations using harmonised tax and other administrative records for four European countries – Austria, Belgium, Estonia, and Spain – to study income mobility among working-age individuals over a five-year window between 2017 and 2022. Building on prior research on income growth profiles (Jenkins and Van Kerm 2016; Palmisano 2018) and positional intergenerational and intragenerational mobility (Chetty et al. 2014; Loisel and Sicsic 2024), we characterise individual-level mobility at the percentile level across three metrics: *growth* mobility, measured by log-income growth; *positional* mobility, measured through rank-rank changes; and the *distribution of absolute income gains*, measured as individual absolute income gains normalised by the respective country averages. This last metric captures the extent to which mobility narrows absolute income gaps between those initially at the bottom of the distribution and those higher up.

The paper aims to answer three different, but related, questions:

First, *how do mobility outcomes compare across countries, and does the response to this question vary for different points of the income distribution?* We show that cross-country differences in income mobility are mainly driven by what happens in the lower parts of the distribution. Indeed, individuals at the bottom experience very different income growth across countries – strongest in Estonia and weakest in Belgium – while those at the top face similar declines everywhere. This narrows the absolute income gaps between those initially at the bottom and those higher up, but to very different degrees across countries. Overall rank persistence varies substantially across countries, from 0.64 in Estonia to 0.79 in Spain, yet top incomes are highly persistent in all countries, suggesting that top-income earners are largely insulated from the broader mobility patterns of their economies.

Second, *do different mobility metrics reach conflicting verdicts on which countries offer more favourable mobility outcomes, and if so why?* We document substantial divergence across metrics, particularly for those at the bottom, and show that countries' levels of inequality and aggregate income growth drive this divergence. Countries with more progressive *growth mobility* – where those at the bottom see greater income growth than those at the top – do not necessarily have greater *positional mobility*: if inequality is also high, even large differences in income growth along the distribution produce limited rank movement. Countries with more progressive growth mobility also do not necessarily show a stronger *narrowing of absolute income gaps*: if aggregate income growth is also high, those higher up the distribution may benefit from large absolute gains despite much lower income growth than those at the bottom – again especially if inequality is also high. An implication is that more unequal countries require more progressive income growth to achieve the same degree of positional mobility, while countries with higher income growth require

growth to be more progressive to generate the same reduction in absolute income gaps between those initially on low and those on higher incomes, particularly if inequality is also high. Appendix A provides a formal discussion of these mechanisms for a simple case.

Third, how do mobility outcomes differ between socio-demographic groups along the distribution? Focusing on positional mobility, we show that mobility gaps across socio-demographic groups vary depending on where individuals start in the distribution. Across countries, young people experience better outcomes than older age groups at the bottom, but not at the top. Women show weaker upward mobility than men, but mostly in the lower half of the income distribution. Lower educational attainment is associated with weaker outcomes all along the distribution, but particularly at the top. Regional gaps between urban and rural areas vary at different points of the distribution in country-specific ways.

These findings rest on three contributions to the literature. First, we provide, to our knowledge, the most granular cross-country evidence on intragenerational income mobility to date, based entirely on harmonised administrative records. This lets us characterise cross-country differences at great granularity along the distribution, while previous cross-country studies relied largely on aggregate indices. Second, we move from documenting that mobility metrics diverge to explaining why. Earlier work built tools to describe mobility along the distribution, but work contrasting different metrics is scarce, and the role of inequality and income growth in explaining these divergences has not been established. Third, we bring a distributional view to socio-demographic gaps in mobility outcomes. Previous studies have shown gaps in mobility for different socio-demographic groups, but not whether and how these gaps vary along the distribution.

The paper is organised as follows. Section 2 situates our contribution within the literature. Section 3 describes the data and key methodological choices, and Section 4 defines the mobility metrics used in the analysis. Section 5 reports the cross-country results, and Section 6 discusses disparities across socio-demographic groups. Section 7 concludes.

2 Related literature

The empirical literature has used a variety of measures to study relative and absolute intragenerational income mobility, but how these metrics relate to one another, and how inequality and aggregate income growth shape them, has not been systematically examined. These questions intersect two literatures. The first concerns the link between inequality and income mobility. While it has long been argued that greater inequality raises mobility by strengthening incentives to climb the ladder, the weight of evidence points the other way: more unequal countries tend to be less mobile, both over the life course (OECD 2018a), and, especially, across generations, as illustrated by the ‘Great Gatsby’ curve (Corak 2013). Our analysis identifies one mechanism behind this association: inequality dampens the extent to which progressive income growth translates into positional movement. The second literature studies income growth and its incidence along the distribution, showing that its implications for inequality and poverty depend on whether these are measured in relative or absolute terms (Ravallion and Chen 2003; Niño-Zarazúa et al. 2017; Jorda et al. 2026). We build on this work by showing that these divergences also arise when mobility is measured in relative and absolute terms across countries, and that these are driven by countries’ inequality and aggregate income growth.

Given the limited sample sizes of most household surveys, cross-country studies of income mobility have relied on aggregate indices or broad income group transitions, which summarise mobility rather than trace outcomes by initial position. Variants of the Fields and Ok indices (1996; 1999) capture income growth in absolute or proportional terms; Shorrocks-style indices (Shorrocks 1978) assess how mobility affects long-term incomes, generally finding a modest equalising effect (Gangl 2005; Chen 2009); and transition matrices track movement across broad income groups, such as quintiles or deciles, consistently finding that individuals at the top and bottom are most likely to remain where they started (Hungerford 2011; OECD 2018a). Cross-country comparisons drawing on these measures have shown that country rankings often depend on the metric (Aaberge et al. 2002; Ayala and Sastre 2008; Chen 2009). Cowell and Flachaire (2018) show that mobility comparisons are sensitive to the underlying concept of status (such as income or rank) and to the way individual movements are aggregated, and that these choices can reverse mobility rankings. However, while the literature has documented that different metrics can yield different conclusions about where

mobility is more favourable, it has paid much less attention to the mechanisms underlying these divergences across countries.

Methods that trace mobility along the entire distribution are available: non-anonymous growth incidence curves track income growth by initial rank (Bourguignon 2011; Jenkins and Van Kerm 2016), and rank-rank analysis tracks rank movements at each percentile (Chetty et al. 2014; Creedy and Gemmell 2019; Loisel and Sicsic 2024). However, in the study of intragenerational mobility, these approaches have been applied mainly within single-country settings.⁴ Most studies have instead focused on the top of the distribution, showing that top incomes are highly persistent in several countries (Auten et al. 2013; Jenderny 2016; Hérault et al. 2024). An exception, and our closest antecedent, is Palmisano (2018), who uses survey data for Australia, Germany, Korea, Switzerland and the United States to develop a framework for ranking income growth processes along the entire distribution according to the weight assigned to gains among poorer individuals. Her contribution is evaluative, identifying which income growth processes are preferable. Ours, by contrast, is descriptive and explanatory: we show that cross-country differences in mobility vary along the distribution and are concentrated at the bottom, and use these granular results to link inequality and income growth to why metrics reach different verdicts on where mobility is more favourable.

Finally, how income mobility differs across socio-demographic groups, and how these gaps depend on individuals' position in the distribution, remains largely underexplored. The EU-SILC, the main source of cross-country data on income mobility in Europe, suffers from high attrition that varies both across countries and population groups (Jenkins and Van Kerm 2017), making the data ill-suited for such granular comparisons. Survey-based studies have instead decomposed aggregate mobility measures by groups, identifying who is more likely to experience downward mobility (Bárcena-Martín and Cantó 2025), or have estimated regression models to identify which groups see more income growth (Aristei and Perugini 2015). Neither approach can reveal whether the mobility gaps between socio-demographic groups widen, narrow, or reverse depending on the starting position in the distribution. Country-specific studies using administrative records offer richer evidence: age, gender, marital status and geography all shape rank advancement at the bottom (Auten and Gee 2009; Aghion et al. 2023; Loisel and Sicsic 2024). The absence of harmonised cross-country records on disposable incomes has made any comparative evidence of this sort scarce; our paper fills this gap.

3 Data and methodological choices

Data

The analysis draws on national income tax records covering the period 2017-2022. For most countries, these were merged with annual census records or other registries to cover non-declarant populations and incorporate income sources or demographic information not available in tax records alone. The data cover the full population in Austria, Belgium, and Estonia, and a 4% representative sample of households in Spain. The sources are provided in Appendix B.

The resulting merged databases achieve broad coverage of the most important income sources, as well as taxes and contributions paid, at both the household and individual level. Table 1 benchmarks this coverage against the income components typically available in major household surveys, including the EU-SILC. Gaps in the data coverage for market incomes are relatively minor: in Austria and Belgium, certain forms of capital income and voluntary pension income are subject to withholding taxes at the source and are not fully observed in the data, while in Belgium rental income from non-residential property is estimated based on cadastral values, which may understate actual amounts. For pension income, these gaps in data coverage are of limited consequence for our analysis, as the sample is restricted to working-age individuals. On the transfer side, most insurance-based benefits (such as unemployment benefits and

⁴ Guvenen, Pistaferri and Violante (2022) analyse short-term *earnings* dynamics across 13 countries using primarily data drawn from social security records. However, earnings are an incomplete proxy of living standards, because they omit the household context and do not consider non-labour income, taxes and transfers.

public pensions) and child and family benefits are well covered across countries, but data on smaller assistance-based transfers are in some cases less complete. In Austria and Belgium, housing benefits are paid by regional authorities and missing from federal tax records, but they are relatively modest. In Austria, social assistance benefits are also provided at the state level and therefore missing. This gap is of limited consequence, because workers who exhaust their entitlement to unemployment benefit typically transition to unemployment assistance – which is captured in the data and, subject to means-testing, can be claimed indefinitely, so in practice few individuals rely on social assistance.

The available income information, together with household identifiers, permits constructing reliable measures of disposable household income in all four countries. While the cross-country comparability of these administrative microdata may be somewhat lower than for highly standardised household surveys, also the EU-SILC, as the main alternative for cross-country analysis on disposable incomes in Europe, faces its own comparability challenges. These include missing income components, cross-country differences in how income from various sources is aggregated into final variables (Iacovou et al. 2012; Zardo Trindade and Goedemé 2020), and systematic differences in attrition rates (Jenkins and Van Kerm 2017) – the latter being arguably most consequential for the reliability of income mobility estimates.

Income and tax components		Austria	Belgium	Estonia	Spain
Market incomes	Employment income	✓	✓	✓	✓
	Self-employment income	✓	✓	✓	✓
	Rental income	✓	✓	✓	✓
	Capital income (interests and dividends)	Partial	Partial	✓	✓
	Income from occupational and voluntary pensions	Partial	Partial	✓	✓
Household transfers	Net mandatory inter-household transfers	Partial	✓	✓	Partial
Government transfers	Unemployment benefits	✓	✓	✓	✓
	Old-age and survivor benefits (public pensions)	✓	✓	✓	✓
	Health and disability benefits	✓	✓	Missing	✓
	Education-related allowances	Missing	Missing	✓	✓
	Family/children related allowances	✓	✓	✓	✓
	Social exclusion not elsewhere classified	Missing	✓	✓	✓
	Housing allowances	Missing	Missing	✓	✓
Taxes and social contributions	Tax on covered income components	✓	✓	✓	✓
	Social insurance contributions	✓	✓	✓	✓
	Regular taxes on wealth (when applicable)	N/A	N/A	N/A	✓

Table 1 Coverage of main income components. This table shows the income and tax components included in the total household disposable income definition for each country. For Belgium, family and child benefit values were simulated by the national authorities; for Estonia, taxes and social insurance contributions for sole-proprietors (around 3% of the workforce) were simulated using the EUROMOD microsimulation model.

Methodological choices

This subsection covers the main methodological choices relating to the choice of income variable, sample, and observation periods.

Income variables: The analysis generally focuses on *equivalised disposable household income*, defined as annual household disposable income divided by the square root of household size and attributed to each household member to account for within-household resource sharing. An exception is the analysis of gender breakdowns shown in Section 6, which relies instead on *personal* disposable income, constructed as the sum of individual labour and capital income, individual-level benefits and taxes, plus a pro-rata share of household-level benefits and taxes where these cannot be attributed to specific individuals. This choice allows us to capture differences in income mobility patterns

between men and women living in the same household. All income measures are top-coded at the 99th percentile to ensure consistency across countries, as the Belgian data are top-coded at that threshold. Incomes are expressed in real terms in 2017 PPP-adjusted US dollars.

Choice of sample: The sample is limited to working-age individuals, defined as those aged 25 to 54 at the start of the observation period. This is in line with previous empirical studies on income mobility, though age cut-offs vary slightly across studies (Bradbury 2011; Aghion et al. 2023). The intention is to limit the influence of school-to-work and retirement transitions on mobility outcomes. We also exclude individuals living in non-private households, such as hospitals or prisons. In Belgium, where the necessary information is available and this group is sizeable, we exclude households with at least one member employed by an international organisation, whose income is not subject to taxation and is therefore poorly captured in the data. Finally, in line with other studies (Chetty et al. 2014; Jenkins and Van Kerm 2016; Aghion et al. 2023) we exclude individuals with negative or very low incomes – specifically those with disposable incomes of less than 5% of the national median.⁵ This concerns less than 3.5% of the target working-age population in each country. The primary motivation is that zero or extremely low equivalised disposable incomes often reflect mid-year arrivals in the country or errors in the administrative registers, while negative values typically stem from significant realised capital losses for individuals otherwise high up in the distribution. The choice is also motivated by practical considerations: one of the mobility dimensions we study is income growth, and extremely low initial incomes can mechanically generate very large proportional changes.

Observation periods: we measure mobility over a five-year interval, t_1 to t_5 . Income is measured as the average of two consecutive years at each end of the observation window: 2017-2018 for the initial period and 2021-2022 for the final period. The analysis thus draws on six years of income data to capture transitions over a five-year span. This averaging approach, following earlier work (Bradbury 2011; Chetty et al. 2014; Aghion et al. 2023), serves two purposes: it smooths transitory fluctuations and limits the impact of any potential single-year measurement error, yielding an income measure that reflects individuals' typical living standards more closely. The observation window spans the COVID-19 pandemic, and disposable incomes capture the large-scale support deployed over the period in all four countries, including job retention schemes and extended unemployment benefits. Since the shock was common to all four countries, we believe that cross-country comparisons for this period remain meaningful, but comparisons with other periods should be read in light of the major disruption and its recovery that happened during the observation window.

4 Income mobility metrics

We rely on three mobility metrics, each shedding light on a distinct dimension of income dynamics. Log-income growth captures *growth mobility*, measuring the magnitude of real individual income growth over the observation window. Rank-rank movements capture *positional mobility*, i.e. the extent to which individuals move up and down the income ladder relative to other individuals. We favour this metric over transition matrices, the other main approach to positional mobility used in this literature, because it avoids relying on broader income groups. The third metric, individual net income gains expressed relative to the country-average net gains, captures *the distribution of absolute income gains*. For ease of representation, we calculate, for each of the three metrics, the average value by percentile of the initial income distribution and then display them at the percentile level to illustrate how mobility patterns vary along the entire distribution.

The metrics are described in detail below:

⁵ For the gender breakdowns, we apply a further restriction, excluding individuals whose *personal* disposable income is also below 5% of the national median.

Growth mobility

Growth mobility is captured by log-income growth (Jenkins and Van Kerm 2016):

$$G_i = \ln(y_{i,t_5}) - \ln(y_{i,t_1})$$

where y_{t_1} and y_{t_5} denote individual i 's income at the start and end of a five-year window, respectively, adjusted for inflation. Log differences are preferred over conventional growth rates for two reasons. First, ordinary percentage changes become extremely large for individuals with low initial incomes, which distorts comparisons along the distribution and across countries with very different initial incomes. Second, log differences are symmetric: a doubling and a halving of income are equal in magnitude but opposite in sign. This makes comparing gains and losses along the distribution more straightforward.

Positional mobility

Positional mobility is captured at the individual level by the joint distribution of initial and final ranks, (R_{i,t_1}, R_{i,t_5}) , which captures how individuals move across the income distribution over time. To summarize this relationship, a rank-rank specification is estimated (Chetty et al. 2014):

$$R_{i,t_5} = \alpha + \beta R_{i,t_1} + \varepsilon_i$$

where R_{i,t_1} and R_{i,t_5} denote individual i 's rank in the initial and final income distributions, respectively. The slope coefficient β measures the degree of rank persistence: a value of one implies perfect immobility, while lower values indicate greater reshuffling of positions. $\hat{R}_{i,t_5} = \hat{\alpha} + \hat{\beta} R_{i,t_1}$ describes the predicted rank for individuals starting at a given percentile rank. Percentiles whose average final rank lies above or below the predicted line experienced better or worse mobility outcomes, respectively, than the country's overall rank-rank relationship would suggest.

In the socio-demographic analysis presented in Section 6, we present the differences between two groups in their mean rank change at each initial percentile, rather than reporting the full rank-rank relationship for each group separately. This directly reveals where along the distribution socio-demographic differences are largest and whether they reverse direction – for instance, whether one group moves up more than another at the bottom but less so at the top, conditional on the same starting rank.

Distribution of absolute income gains

The distribution of absolute income gains can be captured by expressing individual income gains relative to the average gain:

$$\Delta y_i^{norm} = \frac{y_{i,t_5} - y_{i,t_1}}{\bar{y}_{t_5} - \bar{y}_{t_1}}$$

where $\Delta y_i = y_{i,t_5} - y_{i,t_1}$ is individual i 's absolute income change and $\bar{\Delta y} = \bar{y}_{t_5} - \bar{y}_{t_1}$ is the mean income change across all individuals. A value above one indicates that individual i 's income changed more than the population average in absolute terms; a value below one indicates their income changed by less. The metric provides a straightforward summary of how absolute income gains are distributed along the initial income distribution: if Δy_i^{norm} declines with individuals' initial income level, income gains disproportionately benefit those starting with lower incomes, while the reverse is true if Δy_i^{norm} rises with initial income; a flat profile implies that absolute gains are evenly shared among individuals regardless of their initial income position.

Some previous studies on intragenerational positional mobility compute percentile ranks *within age groups* to control for life-cycle effects (Aghion et al. 2023; Loisel and Sicsic 2024). The assumption underlying this choice is that age is a primary driver of mobility patterns, with younger individuals rising through the distribution as their professional careers progress, and that this should be corrected for. In studies using other mobility metrics, this approach is less common (Jenkins and Van Kerm 2016; Creedy and Gemmell 2019). The analysis of the socio-demographic patterns of income mobility presented in Section 6 of this paper suggests that other factors, such as education or gender, can

be as important as age in driving mobility over short periods of time. We therefore do not correct for life-cycle effects in our analysis. As a robustness check, Appendix C replicates the analysis ranking individuals relative to those of the same age for the rank-rank analysis, and computing log-income growth and the distribution of income gains by age-group-specific percentiles. The results are largely unchanged.

5 Disparities in income mobility across countries

We start our analysis by presenting the cross-country results for all three metrics in Fig. 1. We first look at *growth mobility*, i.e. real log-income growth, which captures proportional changes in income and serves as a direct indicator of whether living standards rose or fell over the period. Fig. 1(a) shows the income growth profile for each country. Consistent with well-documented patterns of mean reversion in income dynamics (Jenkins and Van Kerm 2016; Palmisano 2018), individuals up to around the 65th percentile in Austria, Belgium, and Spain, and up to the 85th percentile in Estonia, experienced positive rates of income growth, on average; individuals higher than that in the income distribution saw their incomes decline, on average. Across countries, income growth rates for those at the bottom of the distribution varied substantially, while the decline experienced by those at the top was remarkably similar across countries. In other words, cross-country differences in *average* income growth rates – indicated in Fig. 1(a) by a horizontal dashed line – were largely driven by the outcomes of those in the lower half of the distribution.

Estonia stands out for a much higher average growth rate than the other three countries, and for the steepness of its growth profile. This reflects stronger economic dynamism and faster productivity growth than in the other economies, with more frequent job-to-job transitions accompanied by wage gains (OECD 2023). Moreover, given Estonia's thinner social safety net (International Monetary Fund. European Dept. 2024), individuals at the bottom start off from low absolute income levels (Table 2), and transitions into employment – even at moderate wage levels – can translate into very high proportional income growth.

These growth profiles capture developments in living standards but reveal nothing about changes in relative positions. To analyse whether strong income growth at the bottom translated into meaningful re-ranking along the income distribution, we turn to *positional mobility*, as measured by rank-rank analysis in Fig. 1(b). Overall rank-rank persistence varied considerably across countries: it was lowest in Estonia ($\beta = 0.64$), intermediate in Austria (0.74) and Belgium (0.76), and highest in Spain (0.79), as indicated by the slope of the coloured dashed lines. Within countries, rank mobility – measured as the vertical distance from the 45-degree line – tends to be higher at the extremes than in the middle of the distribution, regardless of the underlying income dynamics. This pattern is largely mechanical: individuals in the middle of the distribution can move either up or down, and these opposing movements cancel out on average, keeping the curve close to the diagonal. At the extremes, this cancellation breaks down, as individuals can only move in one direction: those initially at the very top can only maintain or lose their position, while those at the very bottom can only maintain or improve theirs.

Against this backdrop, top income earners exhibited a remarkable degree of persistence in all countries. Despite the mechanical pull towards rank decline at the upper end of the distribution, their average final rank remained systematically above the linear rank-rank prediction (coloured dashed lines), indicating less downward mobility than implied by country-wide re-ranking patterns. This suggests that top incomes were largely insulated from the broader positional mobility dynamics of their economies. This finding complements single-country evidence documenting that a large share of individuals in the top percentiles maintain their high ranking over time (Auten et al. 2013; Hérault et al. 2024).

Comparing cross-country patterns of growth mobility with those of positional mobility reveals that a more progressive growth profile – with faster income growth at the bottom than at the top – does not automatically translate into more re-ranking in the income distribution. For example, Spain's growth profile was more progressive than Austria's and Belgium's, yet rank-rank persistence was higher in Spain.

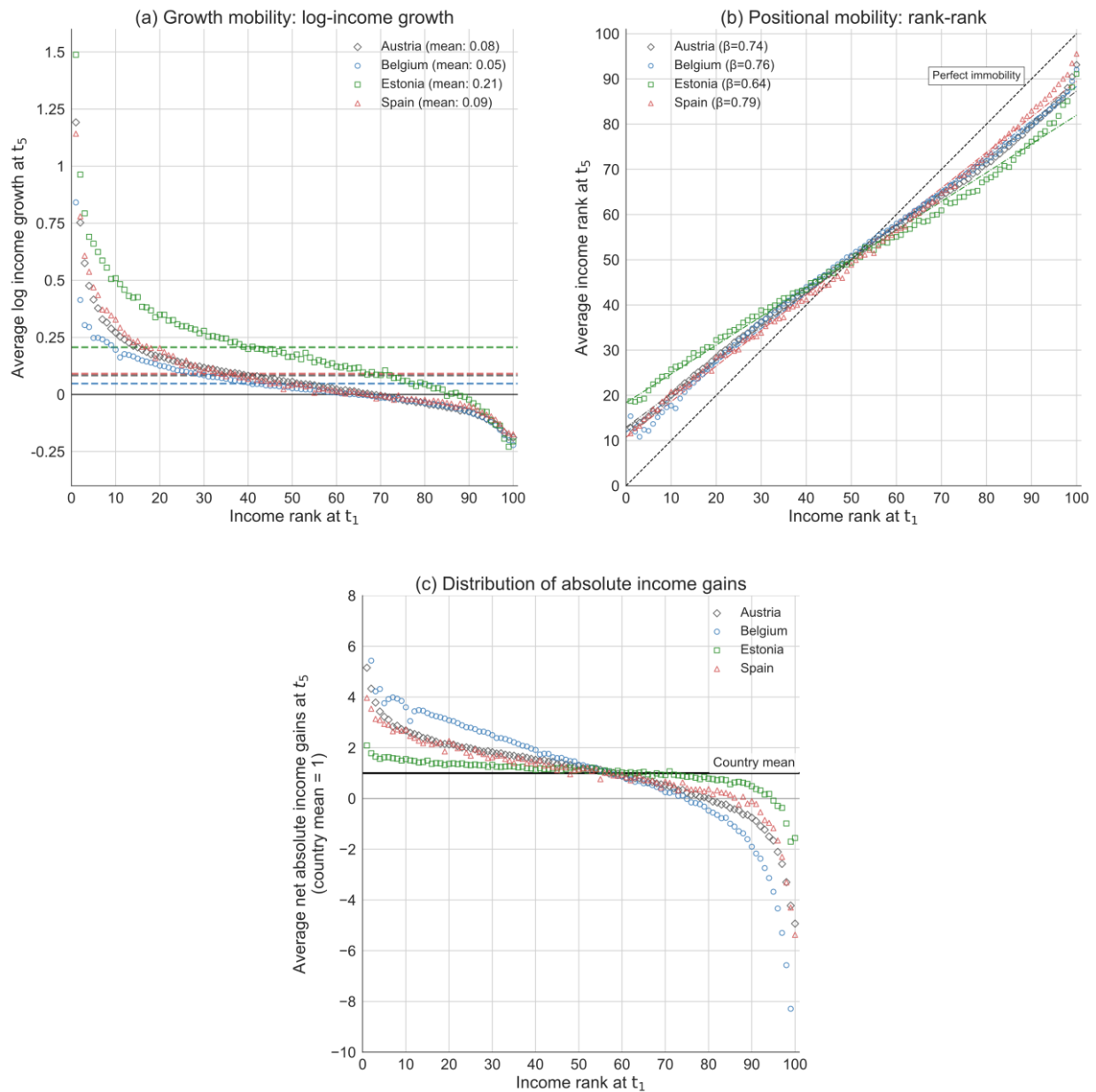


Fig. 1 Income mobility across countries. *Note:* Panels (a)-(c) summarise income mobility patterns over five years for Austria, Belgium, Estonia, and Spain, by initial income percentile. Panel (a) shows log-income growth, Panel (b) rank-rank estimates, and Panel (c) the distribution of absolute income gains as multiples of mean gains. Results are based on equivalised disposable household incomes of working-age individuals (aged 25-54). Income at t_1 is the average for 2017-2018, and income at t_5 is the average for 2021-2022. Metrics are calculated from incomes expressed in 2017 PPP dollars. In panel (b), all β are statistically significant at the 1% level. *Source:* Authors' calculations based on national administrative income records.

Country	P ₁₀	P ₂₅	P ₅₀	P ₇₅	P ₉₀
Austria	17,295	25,414	35,170	46,926	60,362
Belgium	17,206	24,287	32,782	41,315	50,991
Estonia	8,944	13,937	20,855	29,706	41,496
Spain	10,790	16,627	24,942	35,985	49,573

Table 2 Initial disposable incomes at selected percentiles. *Note:* The table lists disposable incomes at t_1 , expressed in 2017 PPP dollars, rounded to the full dollar. Income at t_1 refers to average incomes of working-age individuals (aged 25-54) for 2017-2018. *Source:* Authors' calculations based on national administrative income records.

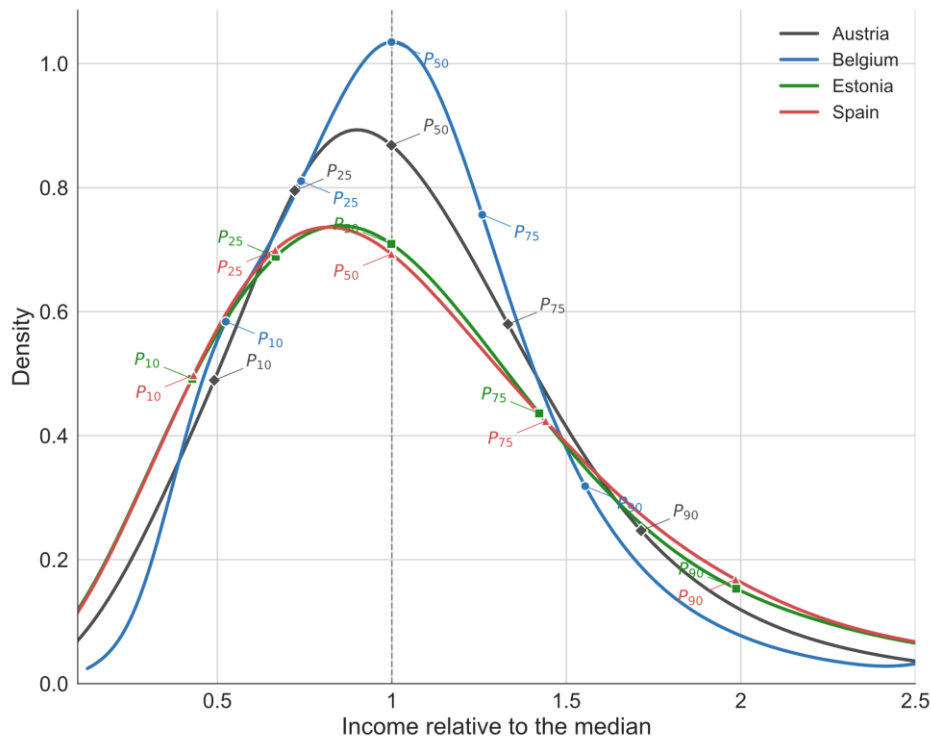


Fig. 2 Density functions of incomes across countries. *Note:* The figure displays the density functions of incomes at t_1 , expressed relative to the median income. Results are based on equivalised disposable household incomes of working-age individuals (aged 25-54). Income at t_1 is the average for 2017-2018. *Source:* Authors' calculations based on national administrative income records.

The reason for the mismatch between these two metrics lies in cross-country differences in income distributions: if all four countries had had the same initial income distribution, countries' growth mobility profiles would have simply mapped into positional mobility: countries where incomes grew much faster at the bottom than at the top would have seen more movement in ranks, and so lower persistence. But since initial income distributions differed substantially across countries (Fig. 2), growth profiles did not map neatly onto rank mobility: where incomes are more unequal, the gaps between adjacent ranks are larger, and so individuals need greater income gains to overtake those situated in the ranks above. The case of Spain illustrates this clearly. Because incomes in Spain were more unequal than those in Austria and Belgium, larger growth differences along the distribution produced smaller movements in rank. Belgium illustrates the reverse case: despite the flattest growth profile among the four countries, Belgium's more compressed income distribution meant that even modest growth differences translated into substantial re-ranking, and lower persistence than in Spain. The implication is that more unequal countries require more progressive income growth to achieve similar levels of positional mobility.

The shape of the income distribution does not only help explain differences in positional mobility across countries, but also *within countries* along the distribution. Incomes at the top are highly dispersed, with large absolute gaps between adjacent percentiles (Fig. 2). As a result, even the substantially negative average income growth rates experienced by top income earners in all four countries (i.e. strong negative *growth mobility*) translated into relatively small drops in income ranks (i.e. limited negative *positional mobility*), which partly explains the documented strong persistence of top incomes in all countries.

We end by examining what these mobility patterns imply for the *distribution of absolute income gains*, expressed relative to the country average (Fig. 1(c)). In all four countries, individuals initially at the bottom of the distribution experienced higher-than-average absolute income gains, while those at the very top experienced absolute income losses. As a result, absolute income gaps between those initially at the bottom and those at the top narrowed. However, the extent of this narrowing varied substantially across countries: it was weakest in Estonia and strongest in Belgium. This may seem surprising when recalling that Estonia had the most progressive growth profile and Belgium the flattest, and it shows that a steeper growth profile does not necessarily deliver greater narrowing in absolute income gaps between those at the bottom and those higher up.

The way in which income growth profiles along the distribution, as shown in Fig. 1(a), translate into a distribution of absolute income gains, as shown in Fig. 1(c), depends on the interplay between the aggregate rate of income growth and income inequality. First, *for a given growth profile and level of income inequality*, higher aggregate growth – i.e., an upward shift of the profile in Fig. 1(a) – generates larger absolute income gains throughout the distribution (or smaller losses where growth rates are negative). Such a uniform upward shift counteracts the narrowing of absolute income gaps between the lower and upper parts of the income distribution, because it produces larger absolute gains for those with higher incomes. Second, *for a given growth profile and positive growth rates*, higher income inequality also weakens the narrowing of absolute income gaps between the bottom and those higher up. Greater inequality means that initial incomes at the bottom are lower relative to those higher up – this means that for any given growth rate absolute gains for those at the bottom are smaller. Third, these two factors reinforce each other: in more unequal distributions, higher aggregate growth moderates the narrowing of absolute income gaps more strongly; equivalently, the benefit of lower inequality is greater when aggregate growth is higher. Appendix A illustrates this link formally for a specific simple case.

Differences in aggregate income growth and inequality thus help explain the seemingly contrasting patterns in Fig. 1(c). Estonia had the most progressive growth profile, but also the highest aggregate income growth rate. Individuals higher up the distribution benefited most – in absolute terms – from this strong aggregate growth, an effect that was reinforced by high inequality. Together, these factors substantially attenuated the transmission of progressive income growth, so that the distribution of absolute income gains was only mildly progressive. Belgium provides the opposite example: it had the flattest income growth profile among the four countries, but also the lowest aggregate growth rate and the least unequal income distribution. As a result, the distribution of absolute income gains was the most progressive among the four countries. Austria and Spain are intermediate cases, with growth profiles and aggregate

growth rates between those of Estonia and Belgium; accordingly, the progressivity of their distributions of absolute income gains was also intermediate.

The key take-away is that substantially progressive growth profiles can translate into an only modest narrowing in absolute income gaps between those at the bottom and those higher up in the distribution if aggregate income growth is high and incomes are distributed unequally; meanwhile, in a context of low aggregate income growth and low inequality, a mildly progressive growth profile may translate into substantial progressivity in the distribution of absolute income gains.

Overall, the analysis illustrates that assessing which countries deliver more favourable mobility outcomes for those at the bottom – or at any other point of the distribution – requires not only considering multiple metrics but also accounting for how they interact with inequality and income growth.

6 Disparities in income mobility across socio-demographic groups

Large observation numbers in administrative records allow observing mobility outcomes simultaneously along the distribution and across different socio-demographic groups. In this section, we look at *who* experiences more, or less, favourable mobility outcomes, and at how these disparities across groups vary along the income distribution. The analysis focuses on breakdowns by age, gender, educational attainment, and metropolitan versus non-metropolitan region of residence; estimates for household composition and migration background are presented in Appendix D.

In this analysis, we focus on *positional mobility*, i.e. the rank-rank metrics introduced in Fig. 1(b). This metric allows us to compare gaps between demographic groups and across countries that are not impacted by disparities in income growth across countries. For the gender breakdown, we use *personal* rather than equivalised disposable income, as defined in Section 3, to avoid the unrealistic assumption that men and women living in couples share household income equally.⁶

Age

The analysis shows that young working-age individuals experience larger changes in their income position over time. Fig. 3(a) plots the gap in average income rank attained after five years between individuals aged 25-34 and those aged 45-54 along the income distribution (separate mobility results for all age groups are reported in Appendix D). A positive value indicates that, for a given initial income rank, the younger group attained on average a higher rank after five years; a negative value indicates the opposite. Across all countries, the gap is positive in the lower half of the distribution and strongly negative at the top. Given the mean-reverting pattern documented in Fig. 1, this implies that young working-age individuals experienced somewhat greater upward mobility at the bottom and considerably greater downward mobility at the top than older age groups. These larger changes in income positions for younger individuals likely reflect important life transitions that typically take place in people's 20s and early 30s, such as leaving the parental home, entering the labour market and progressing in one's career, and forming a family.

⁶ If we were to use equivalised disposable income also in this part of the analysis, men and women living in couples would be allocated the same value, such that the measured gender differences in income mobility would reflect mainly disparities between men and women living alone. Research suggests that the assumption of equal resource-sharing within couples is likely problematic, with men often using a greater share of the joint income for private consumption than women (Lise and Seitz, 2011^[56]; Chiappori and Meghir, 2015^[57]). Moreover, even for people living in couples, personal income trajectories may matter, because they determine the individual financial risk faced in case of separation.

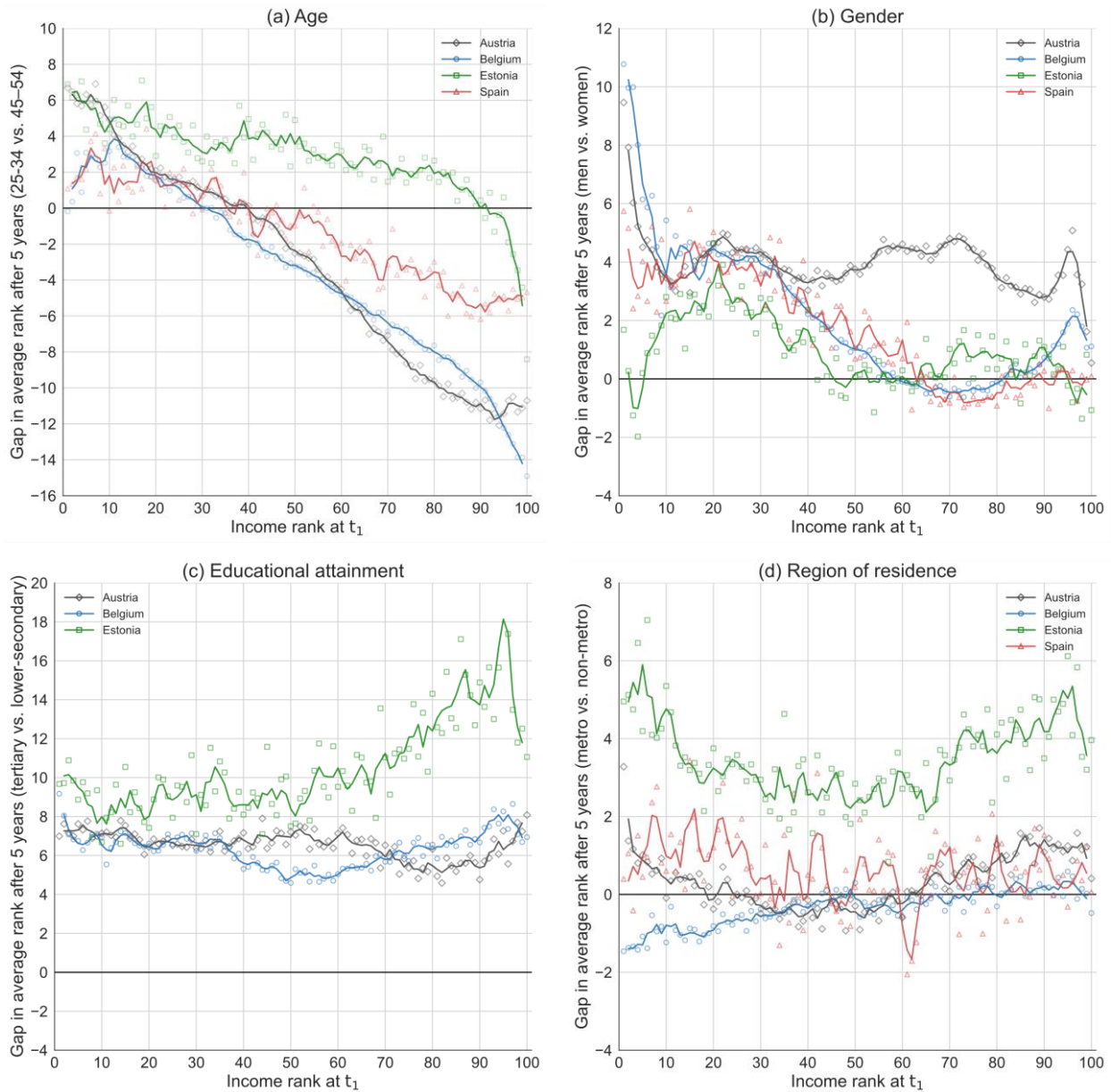


Fig. 3 Income mobility across socio-demographic groups. *Note:* Panels (a)-(d) show the gap in average income rank between subgroups within each socio-demographic category. The lines represent the smoothed average of this gap, computed over each income rank and its two nearest neighbours at t_1 . Results are based on equalised disposable household incomes of working-age individuals (aged 25-54), except for Panel (b), which refers to personal disposable income. Income at t_1 is the average for 2017-2018, and income at t_5 is the average for 2021-2022. Panel (d) shows income mobility patterns between people living in metropolitan and non-metropolitan regions as classified by the OECD typology for small regions by access to cities. *Source:* Authors' calculations based on national administrative income records.

Overall, however, the mobility outcomes of younger working-age people are less favourable than those of older age groups. Averaged along the distribution, the steep downward mobility at the top outweighs the modest upward mobility at the bottom in three out of the four countries – Austria, Belgium, and Spain – with the mobility age gap turning negative around the 30th to 40th percentile. Estonia is a clear exception, with a positive mobility gap in favour of the young up to around the 90th percentile. This echoes earlier findings by Hammer et al. (2022) based on cross-sectional survey data, who identify Estonia and Poland as the two only EU countries where younger age groups have experienced stronger income growth than older ones in recent years. A likely reason is that in a context of sustained productivity growth and rapid catch-up in Estonia since the transition from a Soviet-planned to a market economy, young workers have benefited from a strong demand for their skills – particularly in ICT and knowledge-intensive services – while workers from older cohorts, whose human capital was largely formed under the Soviet system, have suffered from rapid skill depreciation.

Gender

Gender gaps in income mobility are also substantial, with women reaching systematically lower ranks than men over five years, notably at the bottom of the distribution. This is illustrated in Fig. 3(b), which plots the gap in rank change between men and women, with a positive value indicating that, for a given income rank at time t_1 , men achieve on average a higher final income rank than women at time t_5 . In all countries except for Austria, gender mobility gaps narrow considerably, or disappear, in the upper half of the distribution. In Estonia, the gender mobility gap largely closes above the 40th percentile, and in Spain and Belgium above the 60th percentile, though in Belgium it re-emerges at the very top of the income distribution.

The weaker upward mobility experienced by women in the lower parts of the income distribution likely reflects their weaker labour market attachment and higher rates of part-time work (OECD 2017; 2018b), which can be obstacles to job mobility and earnings progression. Indeed, the patterns observed among the four countries – with Austria exhibiting the largest gender disparities in income mobility, and Estonia showing relatively small differences – broadly mirror gender gaps in employment rates (OECD 2022). Gender segregation across occupations may also play a role, with women being overrepresented in low-productivity sectors with slower earnings progression (Carranza et al. 2023). Unlike in the other three countries, Austria's mobility gap extends across the entire income distribution. Austria has one of the highest rates of part-time work among employed women. Moreover, the long-run child penalty on women's earnings is also among the largest among advanced economies (Kleven et al. 2019), partly reflecting low re-employment rates after childbirth.

Educational attainment

There is a pronounced educational gradient in mobility outcomes, with tertiary-educated working-age individuals experiencing much more favourable mobility outcomes than those with lower educational attainment. This is illustrated for Austria, Belgium, and Estonia in Fig. 3 (c); for Spain, data on educational attainment are not available. Across the entire income distribution, individuals with a tertiary degree attained on average higher income ranks at t_5 than peers with at-most lower-secondary education, with this gap ranging from around 6 percentile ranks on average in Austria and Belgium to over 10 in Estonia – considerably wider than the gender mobility gap. A substantial gap persists when comparing tertiary-educated individuals to those with an upper-secondary qualification (see again Appendix D). Such a strong educational advantage is notable given evidence that the expansion of tertiary education has compressed the wage skill premium in some European countries (Verdugo 2014).

The education mobility gap widens in the upper parts of the distribution – notably for Estonia – where individuals move downwards on average (see again Fig. 1 (a)). This suggests that tertiary education attenuates the risk of downward mobility among those on high incomes. This finding is consistent with evidence indicating that the wages of high-skilled workers are less exposed to firm-level productivity shocks (Friedrich et al. 2019) and that high-skilled workers experience smaller and less persistent earnings losses after job displacement, owing to the greater transferability of their skills across firms and occupations (Huttunen et al. 2011; Athey et al. 2026). A corollary of this finding is that the income distribution becomes increasingly sorted by educational attainment over time, as

tertiary-educated individuals gradually pull ahead of those with lower qualifications. This sorting operates at the individual level and is distinct from the overall rise in educational attainment across the total population over the period.

Region of residence

A further advantage of the register-based data used in this paper is that they allow analysis at NUTS 3 regional level, a level of geographic granularity not available in most household surveys. This allows us to document gaps in income mobility between individuals living in metropolitan and non-metropolitan regions at the start of the period.⁷

Regional disparities in income mobility varied considerably across countries. They were widest in Estonia, where people in metropolitan regions experienced systematically better mobility outcomes than those in non-metropolitan regions (Fig. 3(d)). At around 4 percentile ranks, this gap is broadly comparable in size to the gender mobility gap in Austria – the country where the gender gap was largest. Spain also showed more favourable income mobility outcomes for people in metropolitan regions, though the gap is much narrower than in Estonia and is not precisely estimated. No systematic urban-rural disparity in income mobility is observed in Austria. In Belgium, the gap appears reversed: people in metropolitan regions experienced somewhat less favourable mobility outcomes than those in non-metropolitan regions, particularly at the bottom of the distribution.

These patterns broadly reflect the scale of regional income disparities across countries. Recent cross-country evidence on regional disparities in disposable household incomes (Königs et al. 2026; OECD forthcoming) documents large metropolitan/non-metropolitan divides in both Estonia and Spain. Austria and Belgium, by contrast, are characterised by very narrow urban-rural income divides, in part because their capital city regions – Vienna and Brussels – are relatively low-income.⁸ Both countries are also densely populated with tight transport networks, which facilitates cross-regional commuting and helps equalise access to jobs, educational opportunities and public services across regions – all key determinants of income mobility.

Other socio-demographic groups

Appendix D extends the analysis to country of birth and household type at the start of the period. Across all countries, foreign-born individuals experienced less favourable mobility outcomes than the native-born, by roughly 2 to 4 percentile ranks on average, with the gap widening in the upper half of the distribution. No systematic cross-country pattern emerges for household type. One explanation is that the dynamics of disposable household incomes are more likely to be shaped by changes in household composition over the mobility period than to reflect initial household composition. Changes in household composition also vary considerably across European countries owing to differences in partnering, co-habitation, separation, and fertility behaviours (Perelli-Harris and Lyons-Amos 2016; Gałęzewska et al. 2017; OECD 2024).

⁷ The Nomenclature of Territorial Units for Statistics (NUTS) is a hierarchical geographic classification developed by Eurostat to standardise regional boundaries across EU countries for statistical comparison. NUTS 3 is the finest level of the hierarchy, covering "small" regions typically of 150,000-800,000 inhabitants. In this paper, the NUTS 3 level corresponds to Austria's 35 *Gruppen von Politischen Bezirken* (groups of districts), Belgium's 44 *Arrondissements*, Estonia's 5 *Grup maakondade* (groups of counties) and Spain's 59 *Provincias* (provinces) and island regions. The urban-rural classification used in this paper follows the OECD typology for small regions by access to cities, which defines NUTS 3 regions as "metropolitan" if more than half of their population lives in a Functional Urban Area of at least 250,000 inhabitants, and as "non-metropolitan" otherwise (Fadic et al. 2019).

⁸ In Austria, Vienna's two affluent suburbs – Wiener Umland/Nordteil and Wiener Umland/Südteil – are the highest-income regions. Belgium shows a similar pattern: the two regions surrounding Brussels – Leuven and Halle-Vilvoorde – have the highest median incomes.

7 Conclusion

We provide comparative evidence on mobility in equivalised disposable household incomes for working-age individuals from 2017 to 2022 drawing on harmonised tax and other administrative records from Austria, Belgium, Estonia and Spain. We characterise mobility along three dimensions: *growth mobility*, measured by log-income growth; *positional mobility*, measured by changes in rank position; and the *distribution of income gains*, measured as net income gains relative to the country average. These individual-level metrics are averaged at percentile level to trace patterns along the entire distribution.

Mobility is progressive in all four countries and across the three dimensions examined: those at the bottom of the distribution experience positive mobility outcomes on average; those at the top negative ones. We document that cross-country differences in mobility outcomes are mostly driven by what happens in the lower parts of the distribution: although differences across countries in income growth for those at the bottom are large, at the top, income declines are similar in all countries. Rank-rank persistence also varies substantially across countries, but top incomes are again highly persistent everywhere, suggesting that top-income earners are largely insulated from the broader mobility patterns of their economies. And while absolute income gaps between those initially at the bottom and those at the top narrow, they do so to very different degrees across countries.

Cross-country differences in income mobility vary across metrics, and a central contribution of the paper is to explain why different metrics yield different conclusions about where mobility is more favourable, particularly for those at the bottom of the distribution. We draw two main conclusions. First, countries with more progressive individual income growth do not necessarily exhibit greater positional mobility. Spain, for example, has the second most progressive income growth among the four countries, yet also the strongest rank persistence. This is because higher inequality dampens the translation of income growth into rank advancement: where income gaps between adjacent ranks are larger, individuals require substantially greater income growth relative to those in the ranks above them to overtake them in the distribution. Second, in countries with higher aggregate income growth, progressive income growth translates less easily into a narrowing of absolute income gaps between those at the bottom and those higher up. Additional growth, even if progressively distributed, can produce larger absolute gains for those with initially higher incomes, and this effect is stronger the higher the inequality. Estonia illustrates this: it has the most progressive income growth of the four countries, yet its higher aggregate income growth and inequality mean that the narrowing of absolute income gaps is weakest.

Taken together, our results imply that more unequal countries require more progressive income growth than less unequal ones to achieve similar positional mobility; and that countries with higher income growth require more progressive growth to narrow absolute income gaps between those at the bottom and those higher up, particularly where inequality is high.

We also present evidence on socio-demographic gaps in positional mobility along the entire income distribution, a dimension that usually cannot be covered in studies based on less granular survey data. We show that both the magnitude and the direction of disparities in mobility between groups vary depending on individuals' starting position in the distribution. For example, young people experience on average more upward mobility than older groups at the bottom of the distribution, but more downward mobility at the top; gender gaps are most pronounced at the bottom. These findings can help inform targeted policies to promote upward mobility and mitigate downward mobility shocks for specific groups.

The increasing availability of administrative data that allow tracking disposable incomes over time opens important avenues for future research. Extending the analysis to additional countries could help link some of the mobility dimensions explored in this paper to specific institutional settings, such as the design of tax and benefits systems. As available panels become progressively longer, mobility could be examined over the full life cycle, or longer parts of it, as has become common in the earnings literature (Markussen and Røed 2020; Guvenen et al. 2021). A further natural extension would be to identify the role of specific labour market and life events – job loss, partnering decisions and separations, childbirth – for people's income mobility, and study more closely the role of labour market and social protection policies in cushioning income shocks and promoting upward mobility.

References

- Aaberge R, Björklund A, Jäntti M, Palme M, Pedersen PJ, Smith N, Wennemo T (2002) Income Inequality and Income Mobility in the Scandinavian Countries Compared to the United States. *Rev Income Wealth* 48(4):443–469. <https://doi.org/10.1111/1475-4991.00063>
- Aghion P, Ciorrohuz V, Gravouelle M, Stantcheva S (2023) Anatomy of inequality and income dynamics in France
- Aristei D, Perugini C (2015) The drivers of income mobility in Europe. *Econ Syst* 39(2):197–224. <https://doi.org/10.1016/j.ecosys.2014.06.007>
- Athey S, Simon L, Skans ON, Vikström J, Yakymovych Y (2026) The Heterogeneous Earnings Impact of Job Loss Across Workers, Establishments, and Markets. National Bureau of Economic Research, Cambridge, MA
- Auten G, Gee G (2009) Income Mobility in the United States: New Evidence from Income Tax Data. *Natl Tax J* 62(2):301–328. <https://doi.org/10.17310/ntj.2009.2.05>
- Auten G, Gee G, Turner N (2013) Income Inequality, Mobility, and Turnover at the Top in the US, 1987–2010. *Am Econ Rev* 103(3):168–172. <https://doi.org/10.1257/aer.103.3.168>
- Ayala L, Sastre M (2008) The structure of income mobility: empirical evidence from five EU countries. *Empir Econ* 35(3):451–473. <https://doi.org/10.1007/s00181-007-0172-z>
- Bárcena-Martín E, Cantó O (2025) The three I's of downward income mobility: A directional subgroup decomposable measure. *Rev Income Wealth* 71(1):e12686. <https://doi.org/10.1111/roiw.12686>
- Bassanini A, Königs S, Farchy E, Melo A, Terrero-Dávila J (2025) Setting the scene: Demographic change, economic growth and intergenerational inequalities. In: *OECD Employment Outlook 2025: Can We Get Through the Demographic Crunch?* OECD Publishing, Paris, pp 67–131
- Bourguignon F (2011) Non-anonymous growth incidence curves, income mobility and social welfare dominance. *J Econ Inequal* 9(4):605–627. <https://doi.org/10.1007/s10888-010-9159-7>
- Bradbury K (2011) Trends in U.S. Family Income Mobility, 1969–2006. Fed Reserve Bank Boston
- Carranza E, Das S, Kotikula A (2023) Gender-based employment segregation: understanding causes and policy interventions. World Bank Group No. 26
- Celhay P, Meyer BD, Mittag N (2025) Stigma in Welfare Programs. *Rev Econ Stat* :1–37. https://doi.org/10.1162/rest_a_01556
- Chen W (2009) Cross-national differences in income mobility: evidence from Canada, the United States, Great Britain and Germany. *Rev Income Wealth* 55(1):75–100. <https://doi.org/10.1111/j.1475-4991.2008.00307.x>
- Chetty R, Hendren N, Kline P, Saez E (2014) Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States. *Q J Econ* 129(4):1553–1623. <https://doi.org/10.1093/qje/qju022>
- Corak M (2013) Income Inequality, Equality of Opportunity, and Intergenerational Mobility. *J Econ Perspect* 27(3):79–102. <https://doi.org/10.1257/jep.27.3.79>
- Cowell FA, Flachaire E (2018) Measuring mobility. *Quant Econ* 9(2):865–901. <https://doi.org/10.3982/QE512>

- Creedy J, Gemmell N (2019) Illustrating income mobility: new measures. *Oxf Econ Pap* 71(3):733–755. <https://doi.org/10.1093/oxep/gpy057>
- Day MV, Fiske ST (2017) Movin’ on Up? How Perceptions of Social Mobility Affect Our Willingness to Defend the System. *Soc Psychol Personal Sci* 8(3):267–274. <https://doi.org/10.1177/1948550616678454>
- Engbom N (2022) Labor Market Fluidity and Human Capital Accumulation. National Bureau of Economic Research, Cambridge, MA
- Fadic M, Garcilazo JE, Moreno-Monroy AI, Veneri P (2019) Classifying small (TL3) regions based on metropolitan population, low density and remoteness. *OECD Reg Dev Work Pap No.* 2019/06. <https://doi.org/10.1787/b902cc00-en>
- Fields GS, Ok EA (1996) The Meaning and Measurement of Income Mobility. *J Econ Theory* 71(2):349–377. <https://doi.org/10.1006/jeth.1996.0125>
- Fields GS, Ok EA (1999) Measuring Movement of Incomes. *Economica* 66(264):455–471. <https://doi.org/10.1111/1468-0335.00183>
- Friedrich B, Laun L, Meghir C, Pistaferri L (2019) Earnings Dynamics and Firm-Level Shocks. National Bureau of Economic Research, Cambridge, MA
- Gałęzewska P, Perelli-Harris B, Berrington A (2017) Cross-national differences in women’s repartnering behaviour in Europe: The role of individual demographic characteristics. *Demogr Res* 37:189–228. <https://doi.org/10.4054/DemRes.2017.37.8>
- Gangl M (2005) Income Inequality, Permanent Incomes, and Income Dynamics: Comparing Europe to the United States. *Work Occup* 32(2):140–162. <https://doi.org/10.1177/0730888404274354>
- Guvenen F, Karahan F, Ozkan S, Song J (2021) What Do Data on Millions of U.S. Workers Reveal About Lifecycle Earnings Dynamics? *Econometrica* 89(5):2303–2339. <https://doi.org/10.3982/ECTA14603>
- Guvenen F, Pistaferri L, Violante GL (2022) Global trends in income inequality and income dynamics: New insights from GRID. *Quant Econ* 13(4):1321–1360. <https://doi.org/10.3982/QE2260>
- Hammer B, Spitzer S, Prskawetz A (2022) Age-Specific Income Trends in Europe: The Role of Employment, Wages, and Social Transfers. *Soc Indic Res* 162(2):525–547. <https://doi.org/10.1007/s11205-021-02838-w>
- Hérault N, Hyslop D, Jenkins SP, Wilkins R (2024) Rising top-income persistence in Australia: Evidence from income tax data. *Rev Income Wealth* 70(1):154–186. <https://doi.org/10.1111/roiw.12628>
- Hungerford T (2011) How Income Mobility Affects Income Inequality: US Evidence in the 1980s and the 1990s. *J Income Distrib*. <https://doi.org/10.25071/1874-6322.17971>
- Huttunen K, Møen J, Salvanes KG (2011) How destructive is creative destruction? Effects of job loss on job mobility, withdrawal and income. *J Eur Econ Assoc* 9(5):840–870. <https://doi.org/10.1111/j.1542-4774.2011.01027.x>
- Iacovou M, Kaminska O, Levy H (2012) Using EU-SILC data for cross-national analysis: strengths, problems and recommendations. *ISER Work Pap Ser No.* 2012-03
- International Monetary Fund. European Dept. (2024) Republic of Estonia: Selected Issues. *IMF Staff Ctry Rep* 2024(178):1. <https://doi.org/10.5089/9798400278334.002>
- Jäntti M, Jenkins S (2015) Income Mobility. In: *Handbook of Income Distribution*. Elsevier, pp 807–935

- Jenderny K (2016) Mobility of Top Incomes in Germany. *Rev Income Wealth* 62(2):245–265. <https://doi.org/10.1111/roiw.12184>
- Jenkins S, Van Kerm P (2017) How does attrition affect estimates of persistent poverty rates? The case of EU-SILC. In: Atkinson, A. B., Guio, A. & Marlier, E. (Eds.), *Monitoring Social Inclusion in Europe*. Office for Official Publications of the European Communities
- Jenkins SP, Van Kerm P (2016) Assessing Individual Income Growth. *Economica* 83(332):679–703. <https://doi.org/10.1111/ecca.12205>
- Jorda V, Niño-Zarazúa M, Roope LSJ, Tarp F (2026) Global income polarization: relative and absolute perspectives. *J Econ Inequal*. <https://doi.org/10.1007/s10888-026-09729-5>
- Kleven H, Landais C, Posch J, Steinhauer A, Zweimüller J (2019) Child Penalties across Countries: Evidence and Explanations. *AEA Pap Proc* 109:122–126. <https://doi.org/10.1257/pandp.20191078>
- Königs S, Pinto S, Terrero-Dávila J, Álvarez-Mejía JA (2026) Workers, households, regions: Geographic disparities in labour market outcomes and the distribution of income. In: *OECD Employment Outlook 2026: Geographic Disparities in Jobs and Incomes*. OECD Publishing, Paris
- Königs S, Terrero-Dávila J (2025) Who climbs the income ladder?: Cross-country evidence on income mobility from tax record data. *OECD Soc Employ Migr Work Pap*. <https://doi.org/10.1787/eadbcbf-en>
- Kurer T (2020) The Declining Middle: Occupational Change, Social Status, and the Populist Right. *Comp Polit Stud* 53(10–11):1798–1835. <https://doi.org/10.1177/0010414020912283>
- Loisel T, Sicsic M (2024) Intragenerational Income Mobility in France Over the 2003–2021 Period. *Econ Stat* (545):65–82. <https://doi.org/10.24187/ecostat.2024.545.2129>
- Lustig N, Vigorito A (2025) Including the Rich in Income Inequality Measures: An Assessment of Correction Approaches. *ECINEQ No.* 681
- Markussen S, Røed K (2020) Economic Mobility Under Pressure. *J Eur Econ Assoc* 18(4):1844–1885. <https://doi.org/10.1093/jeea/jvz044>
- Mussida C, Sciulli D (2022) The dynamics of poverty in Europe: what has changed after the great recession? *J Econ Inequal* 20(4):915–937. <https://doi.org/10.1007/s10888-022-09527-9>
- Niño-Zarazúa M, Roope L, Tarp F (2017) Global Inequality: Relatively Lower, Absolutely Higher. *Rev Income Wealth* 63(4):661–684. <https://doi.org/10.1111/roiw.12240>
- OECD (2024) *Society at a Glance 2024: OECD Social Indicators*. OECD Publishing, Paris
- OECD (2018a) *A Broken Social Elevator? How to Promote Social Mobility*. OECD Publishing, Paris
- OECD (2023) *Retaining Talent at All Ages*. OECD Publishing, Paris
- OECD (2017) *The Pursuit of Gender Equality: An Uphill Battle*. OECD Publishing, Paris
- OECD (2018b) Starting close, growing apart: Why the gender gap in labour incomes widens over the working life. In: *OECD Employment Outlook 2018*. OECD Publishing, Paris
- OECD (2022) LMF1.6: Gender differences in employment
- OECD (forthcoming) *The geography of income inequalities in OECD countries*

- Palmisano F (2018) Evaluating Patterns of Income Growth when Status Matters: A Robust Approach. *Rev Income Wealth* 64(1):147–169. <https://doi.org/10.1111/roiw.12272>
- Perelli-Harris B, Lyons-Amos M (2016) Partnership Patterns in the United States and across Europe: The Role of Education and Country Context. *Soc Forces* 95(1):251–282. <https://doi.org/10.1093/sf/sow054>
- Ravallion M, Chen S (2003) Measuring pro-poor growth. *Econ Lett* 78(1):93–99. [https://doi.org/10.1016/S0165-1765\(02\)00205-7](https://doi.org/10.1016/S0165-1765(02)00205-7)
- Shorrocks AF (1978) The Measurement of Mobility. *Econometrica* 46(5):1013. <https://doi.org/10.2307/1911433>
- Verdugo G (2014) The great compression of the French wage structure, 1969–2008. *Labour Econ* 28:131–144. <https://doi.org/10.1016/j.labeco.2014.04.009>
- Zardo Trindade L, Goedemé T (2020) The comparability of the EU-SILC income variables: review and recommendations. Eurostat Stat Work Pap Ser

Appendix A Inequality, growth, and the divergence between mobility metrics

This appendix formalises the two mechanisms discussed in Section 5. The first concerns positional mobility: among countries with the same pattern of income growth along the distribution, those with higher inequality exhibit stronger rank-rank persistence, because for wider income gaps between ranks a given growth profile generates less re-ranking. The second concerns the distribution of absolute income gains: among countries with similarly progressive growth profiles, those with higher overall growth – and, for a given rate of growth, those with higher inequality – show less narrowing of absolute gaps between those initially at the bottom and the top, because larger absolute gains accrue to those whose incomes are already high.

1. Setup

Index individuals by their rank $p \in [0,1]$ in the initial income distribution, and let

$$x(p) = F_X^{-1}(p)$$

denote initial income at rank p , where F_X is the initial-period cumulative distribution. Let $g(p)$ denote the proportional income growth experienced over the period by individuals starting at rank p , following Jenkins and Van Kerm (2016_[5]). We say the growth profile is progressive if $g(\cdot)$ is decreasing in p , so that proportionate income growth is higher at lower initial ranks.

2. Inequality and positional mobility

We study how initial inequality affects positional mobility. Define country B to be more unequal than country A if, for any two ranks $p < p'$, the income ratio between the higher- and lower-ranked individual is weakly larger in country B :

$$\frac{x_B(p')}{x_B(p)} \geq \frac{x_A(p')}{x_A(p)} \text{ for all } p < p'. \quad (1)$$

Condition (1) requires the inequality ordering to hold pairwise across all ranks. It is therefore generally stronger than an ordering based on a summary index such as the Gini coefficient, or even Lorenz dominance. We use this stronger condition, because the result below is fundamentally pairwise: whether two individuals exchange ranks depends on the income gap separating them at the start of the period. Although this condition is unlikely to hold exactly in practice, it broadly characterises the distributions we study, as illustrated by Figure 2.

Consider two individuals starting at ranks p and $p' > p$. A rank crossing occurs when the initially lower-ranked individual ends the period with a higher income than the initially higher-ranked one:

$$x(p) [1 + g(p)] > x(p') [1 + g(p')].$$

Equivalently,

$$\frac{1 + g(p)}{1 + g(p')} > \frac{x(p')}{x(p)}. \quad (2)$$

The left-hand side of (2) depends only on the growth profile; the right-hand side depends only on the initial distribution.

Proposition:

Suppose countries A and B share the same growth profile $g(\cdot)$ and suppose that B is more unequal than A in the sense of (1). Then any rank crossing that occurs in B also occurs in country A . Therefore, country B exhibits weakly fewer rank crossings, implying greater positional persistence.

Proof:

Fix any pair $p < p'$. By (2), a crossing in country $j \in \{A, B\}$ occurs if and only if

$$\frac{1 + g(p)}{1 + g(p')} > \frac{x_j(p')}{x_j(p)}.$$

The left-hand side is common across countries, while by assumption (1) the right-hand side is weakly larger in country B . It follows immediately that any crossing in B must also occur in A . Since this holds for all $p < p'$, country B exhibits weakly fewer rank crossings.

Discussion:

The proposition formalises a simple intuition: holding the growth profile fixed, greater initial inequality reduces positional mobility because wider income gaps make rank movements less likely. The same mechanism also operates through the magnitude of rank movements. For a given proportional gain, individuals move across fewer ranks when adjacent incomes are more dispersed. As a result, inequality reduces both the frequency and the size of rank changes. The rank-rank slope captures both margins, and inequality acts on each in the same direction. Formalising this second channel would require assumptions about the local density of the income distribution, which we leave aside for this illustration.

3. Growth, inequality, and the narrowing of absolute gaps

We study how aggregate growth and initial inequality shape the narrowing of absolute income gaps along the distribution. The absolute gain of an individual starting at rank p is:

$$G(p) = x(p) g(p).$$

For two ranks $p < p'$, the narrowing of the absolute income gap between them over the period equals the difference in their absolute gains,

$$\Delta(p, p') = G(p) - G(p'). \quad (3)$$

To separate the role of overall growth from that of the profile's shape, let

$$g(p) = \bar{g} + \gamma(p),$$

where $\bar{g}$ is the overall growth rate and $\gamma(p)$ the rank-specific shape of the profile. Under a progressive growth profile, $\gamma(\cdot)$ is decreasing in p . An increase in $\bar{g}$ holding $\gamma(\cdot)$ fixed raises the growth rate at every rank by the same number of percentage points, leaving the profile's shape, and hence its progressivity, unchanged.

Substituting yields

$$\Delta(p, p') = \bar{g} [x(p) - x(p')] + \gamma(p) x(p) - \gamma(p') x(p'). \quad (4)$$

This decomposition highlights two forces. The first term captures the effect of aggregate growth holding the profile shape fixed. The remaining terms capture how the rank-specific structure of growth affect the narrowing of absolute income gaps across the initial distribution.

Proposition:

Fix the profile shape $\gamma(\cdot)$.

- (i) Absolute income gaps narrow less the higher the aggregate growth rate:

$$\frac{\partial \Delta(p, p')}{\partial \bar{g}} = x(p) - x(p') < 0. \quad (5)$$

- (ii) Absolute income gaps narrow more the lower the inequality between the two ranks, provided growth at the lower rank is positive. An increase in the lower income $x(p)$, which reduces the ratio $x(p')/x(p)$, and thus reduces inequality, narrows the absolute gap further:

$$\frac{\partial \Delta(p, p')}{\partial x(p)} = \bar{g} + \gamma(p) = g(p) > 0 \text{ whenever } g(p) > 0. \quad (6)$$

- (iii) The two effects reinforce each other. Lower inequality narrows absolute gaps by more the higher the aggregate growth rate:

$$\frac{\partial^2 \Delta(p, p')}{\partial \bar{g} \partial x(p)} = 1. \quad (7)$$

Proof:

Part (i) follows by differentiating equation (4) with respect to $\bar{g}$. Since $p < p'$, we have $x(p) < x(p')$, implying a negative sign.

For part (ii), differentiate equation (4) with respect to $x(p)$, holding $x(p')$, $\bar{g}$, and $\gamma(\cdot)$ fixed. The derivative equals $g(p) = \bar{g} + \gamma(p)$, which is positive whenever $g(p) > 0$.

Part (iii) follows by differentiating part (i) with respect to $x(p)$, or equivalently part (ii) with respect to $\bar{g}$, yielding a constant positive cross-derivative.

Discussion:

Part (i) captures the effect of aggregate growth. Absolute gains are the product of proportional growth and the initial income. When growth rises uniformly along the distribution, individuals higher up obtain larger absolute gains because they start from higher income levels, even when proportional growth is stronger at the bottom.

Part (ii) shows how initial inequality interacts with this mechanism. Lower inequality, that is, a smaller ratio $x(p')/x(p)$ narrows absolute gaps further whenever growth at the bottom is positive, because it raises the initial income to which that growth applies.

Part (iii) highlights the interaction between these two forces. Lower inequality narrows absolute gaps by more when aggregate growth is higher; equivalently, higher aggregate growth widens the shortfall in narrowing by more when inequality is higher.

The propositions establish the direction of each effect but not their relative magnitude, which depends on how much growth and inequality vary across the countries compared. In our sample, differences in aggregate growth account for most of the cross-country variation in the narrowing of absolute gaps; see Section 5.

To conclude, a progressive growth profile in the relative sense – that is, one for which $g(\cdot)$ is decreasing in rank – does not necessarily imply greater narrowing of absolute income gaps along the distribution. Whether absolute gaps narrow depends not only on the shape of the growth profile, but also on the level of aggregate growth and the degree of initial inequality.

Appendix B Sources of administrative income records

Country	Data provider	Data sources
Austria	Statistik Austria	• LUE - Integrierte Lohn- und Einkommensteuerstatistik (LUE - Integrated Wage and Income Tax Statistics) • AEST REGZ - Abgestimmte Erwerbsstatistik und Registerzählung (AEST REGZ - Coordinated Employment Statistics and Register Census).
Belgium	StatBel	• Census • Demobel • Revenu disponible administratif
Estonia	Eesti Statistika	• EUROMOD administrative database
Spain	Instituto de Estudios Fiscales	• Panel de Hogares

Table B.1. Sources of administrative income records. The table displays the different administrative records cleaned and harmonised to derive the final database used in the analysis. All administrative records are accessible to researchers via the corresponding statistical institutes.

Appendix C Inequality, growth, and the divergence between mobility metrics

Fig C.1 and Fig C.2 replicate the main cross-country and socio-demographic results of the paper, presented respectively in Fig 1 and Fig 3, but accounting for lifecycle effects. This is done by ranking individuals relative to those in the same 5-year age group for the rank-rank analysis, and aggregating log income growth and distributional absolute mobility by age-group-specific percentiles.

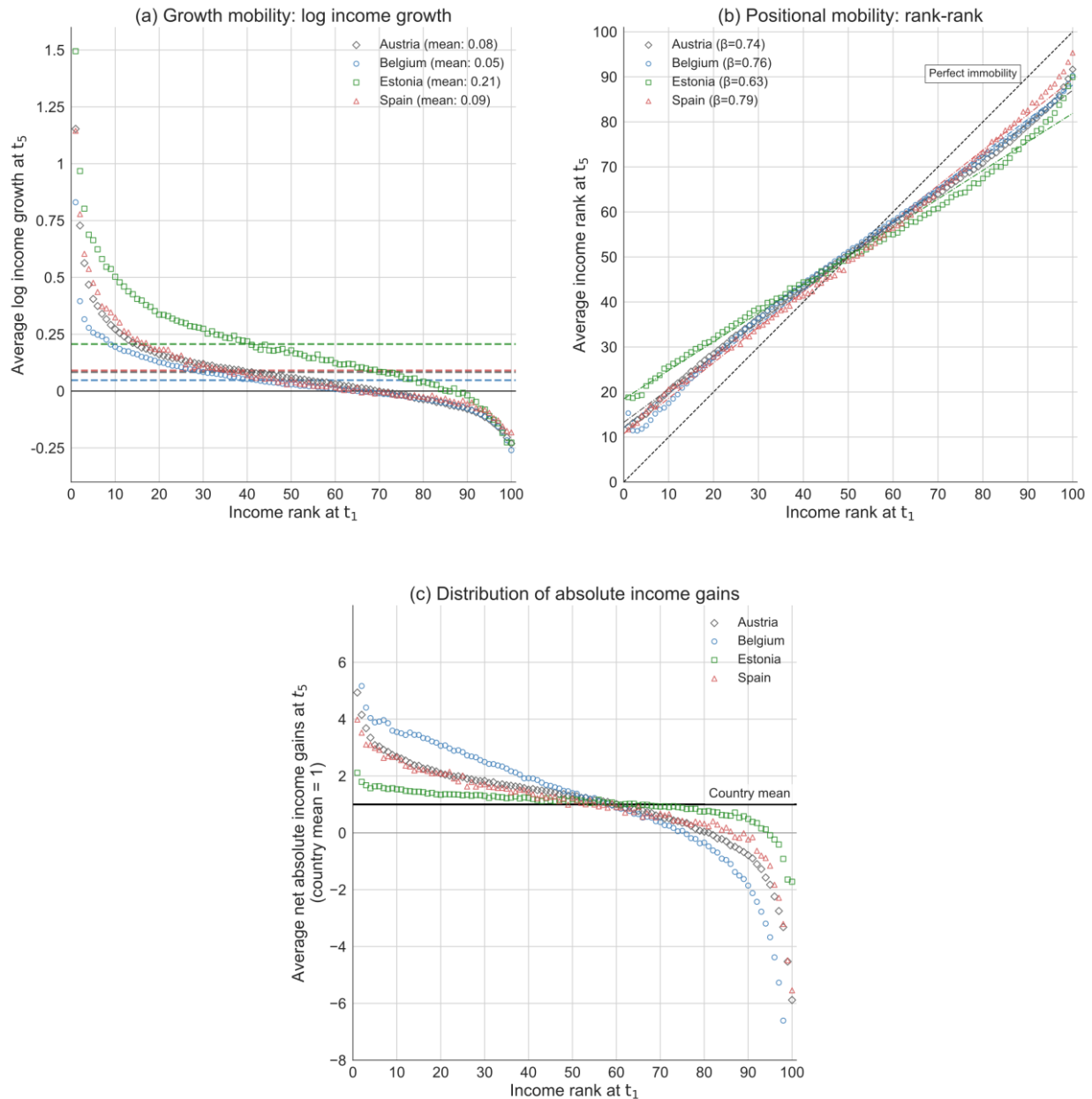


Fig C.1. Income mobility across countries. *Note:* Panels (a)-(c) replicate the cross-country income mobility results in the main text accounting for lifecycle effects. Panel (a) reports log income growth aggregated by age-group-specific percentiles, Panel (b) shows rank-rank estimates where individuals are ranked relative to those in the same age group, and Panel (c) shows the distribution of absolute net income gains as multiples of mean gains, also aggregated by age-group-specific percentiles. Results

are based on equivalised disposable household incomes of working-age individuals (aged 25–54). Income at t_1 is the average for 2017–2018, and income at t_2 is the average for 2021–2022. Metrics are calculated from incomes expressed in 2017 PPP dollars. *Source:* Authors' calculations based on national administrative income records.

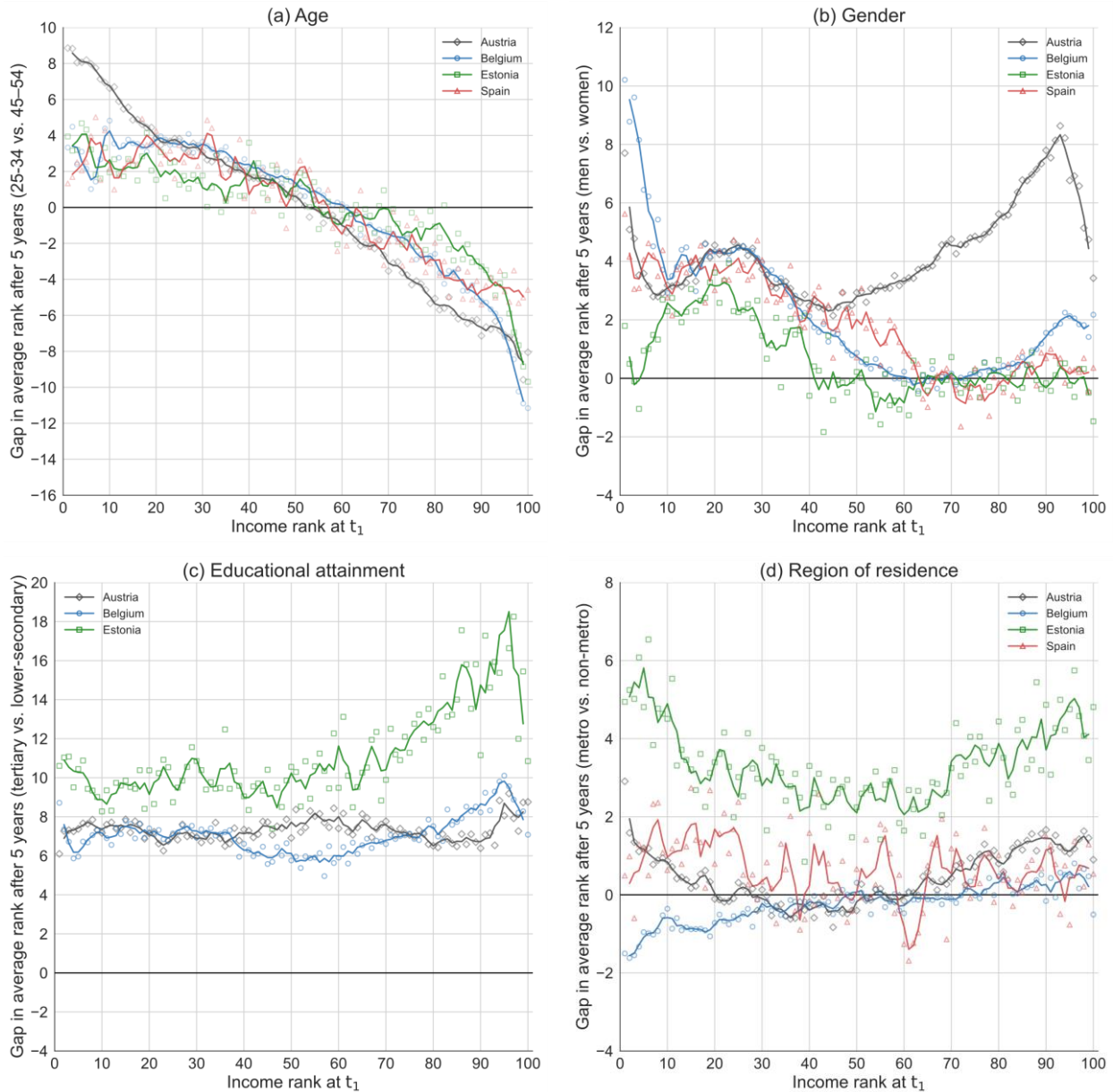


Fig C.2. Income mobility across socio-demographic groups. *Note:* Panels (a) – (d) replicate the socio-demographic results in the main text using age-group-specific percentile ranks, where individuals are ranked relative to those in the same age group. Each panel shows the gap in average income rank between subgroups within each socio-demographic category. The lines represent the smoothed average of this gap, computed over each income rank and its two nearest neighbours at t_1 . Results are based on equivalised disposable household incomes of working-age individuals (aged 25–54). Income at t_1 is the average for 2017–2018, and income at t_2 is the average for 2021–2022. Panel (d) shows income mobility patterns between people living in metropolitan and non-metropolitan regions as classified by the OECD typology for small regions by access to cities. *Source:* Authors' calculations based on national administrative income records.

Appendix D Inequality, growth, and the divergence between mobility metrics

Table D.1 reports rank-rank estimates for all socio-demographic subgroups at selected points in the initial income distribution. the socio-economic gaps in income mobility shown in Fig. 3 in the main text. Results by household type and immigration status

Category	Subgroup	Austria					Belgium					Estonia		
		10	25	50	75	90	10	25	50	75	90	10	25	50
Age	25-34	22.44	32.78	48.23	61.23	71.91	19.78	33.14	49.42	63.90	73.09	28.10	37.40	51.44
	35-44	19.74	33.34	52.46	69.31	81.13	17.10	31.42	50.95	69.69	81.43	25.79	35.17	49.58
	45-54	17.52	31.05	50.75	69.97	83.05	16.61	31.94	52.65	71.10	82.78	23.71	32.82	46.54
Gender	Men	21.82	31.61	50.28	71.42	85.97	22.32	31.56	50.14	69.82	84.19	24.63	32.04	49.28
	Women	18.36	27.21	46.52	66.97	83.17	16.89	27.56	49.09	70.24	83.46	21.83	29.33	49.23
Education	Lower-secondary	17.48	29.97	46.48	64.18	76.07	15.65	29.66	48.49	64.45	75.02	22.12	31.10	45.00
	Upper-secondary	19.72	31.92	49.98	66.31	78.96	18.12	31.99	50.45	67.25	77.34	25.56	33.99	47.92
	Tertiary	24.62	36.50	53.69	69.54	80.83	22.60	36.23	53.08	70.16	81.69	28.80	39.04	52.50
Regional of residence	Metropolitan	19.98	32.46	50.43	67.76	80.17	17.32	31.91	51.09	68.29	79.83	29.10	37.25	50.88
	Non-metropolitan	20.07	32.46	50.72	66.80	79.08	18.56	32.49	50.79	68.49	79.66	23.75	33.67	48.04
Household type	Couples w/ children	19.27	33.33	53.41	70.00	81.18	18.96	32.03	51.40	70.05	80.33	22.95	33.63	53.56
	Couples w/o children	21.80	30.51	44.11	62.94	78.46	20.83	31.92	47.98	64.71	79.78	21.62	30.42	46.83
	Single parents	21.26	30.25	45.38	62.51	74.10	17.00	33.49	50.53	64.09	73.32	30.47	43.78	63.47
Immigration status	Singles	21.21	34.10	49.09	63.63	75.86	15.63	31.37	52.49	70.30	80.14	29.45	38.76	54.90
	Immigrant	19.15	30.76	50.32	70.10	82.23	17.16	30.48	49.06	65.26	77.30	23.38	31.28	46.29
	Native	20.61	32.85	51.12	67.62	79.87	18.15	32.84	51.25	68.68	79.98	26.35	35.92	49.82

Table D.1. Rank-rank results for all socio-demographic groups. *Note:* The table reports the average income rank at time t_5 for each socio-demographic subgroup of the income distribution at t_1 (P10, P25, P50, P75, P90). Results are based on equivalised disposable household incomes of working-age individuals, by gender, which refer to personal disposable income. Income at t_1 is the average for 2017-2018, and income at t_5 is the average for 2021-2022, both expressed in 2017 PPP dollars. Education results are not available for Spain. *Source:* Authors' calculations based on national administrative data.

