The Wealth–Health Gradient across Age Groups: A Cross-National Comparative Analysis

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Motivation

The wealth-health gradient describes the relationship between an individual's wealth and health status, whereby individuals with greater economic resources typically experience superior health outcomes compared to less affluent individuals. Although this correlation is well-established, recent genetically informed studies (e.g., Gugushvili & Wiborg, 2025) suggest a causal effect of wealth on health. Yet, a comparative life-course perspective on the wealth-health gradient remains largely unexplored. Existing research focuses solely on older populations and has not systematically addressed how this gradient evolves across the life course, thus impeding its integration into the framework of life-course health inequalities (Wadsworth, 1997). Our motivating research questions are: *How does the wealth-health gradient evolve over the life course? Does it evolve similarly across institutional contexts?* By analyzing seven diverse countries, we aim to fill this critical evidence gap and shed light on the age-specific role of healthcare systems.

Previous comparative studies, including Avendano et al. (2009), Semyonov et al. (2013), Maskileyson (2014), and Machado et al. (2025), have examined the wealth-health gradient using survey data with population aged 50+ like SHARE, ELSA, and HRS. They consistently find that wealth is positively associated with health outcomes, but the gradient is notably stronger in the U.S., where private healthcare predominates, compared to more egalitarian systems in Europe. However, these studies are confined to older populations, leaving the evolution of the gradient from young adulthood to midlife largely unexplored.

Theoretical framework

Our theoretical framework posits two concurrent mechanisms driving the wealth-health gradient: wealth can “buy health” through purchasing and insurance functions, and conversely, bad health can “spend wealth” due to health costs and reduction of investments. We expect the gradient to intensify over the life course due to concurrent wealth accumulation (Killewald et al., 2017) and health deterioration (Celeste and Fritzell, 2018). Cross-national differences are anticipated based on healthcare system typologies (Reibling et al., 2019), with steeper gradients expected in systems characterized by low supply, weak regulation, and a strong private sector.

Data and Methods

This paper utilizes data from the Luxembourg Wealth Study (LWS) for Australia, Germany, Italy, Luxembourg, Spain, the United Kingdom, and the United States, with multiple

cross-sections and an observational window spanning from early 2000 until 2022. Unlike previous elderly-focused surveys, LWS data cover the full adult population. We retain respondents aged 25 to 80.

Household wealth is measured via gross real and financial assets and recoded in quantiles using the country and age-specific distribution, while health is assessed through self-rated health. For each country, we estimate weighted linear models of SRH that allow the effect of wealth to vary by age group (25–35, 36–45, 46–55, 56–65, 66–80) via interaction terms. Estimates are adjusted for sex, educational attainment, employment status, household size, and year fixed effects. We summarise the gradient as predicted health differences across the wealth distribution within each age group, which is transparent and comparable across countries. Additional specifications considering household income and homeownership resulted in highly similar results.

Results

Across all countries, the wealth–health gradient is sizable and changing across age groups. More importantly, the age profile of the gradient is not uniform (see top and middle panel in Figure 1). We document a general pattern in which the gradient intensifies from early adulthood, reaches a maximum in late midlife, and then stabilises or modestly attenuates at older ages (see lower panel in Figure 1). However, the precise timing and height of the peak vary across institutional settings in ways consistent with comparative health-system scholarship: countries with greater reliance on private finance and weaker access regulation such as the United States show earlier and steeper gradients; on the contrary, countries with stronger universal provision such as Italy show later and flatter profiles.

Implications and Future Research

By showing when wealth gaps in health are largest in different systems, we inform the timing of interventions, so that equalising policies meet populations at the ages when private resources most strongly translate into health advantage.

Reported findings could be partly conflating period and cohorts effects. In our analysis, we assume cohort effects to be negligible, while period shocks are absorbed with survey-year fixed effects. Future research could use panel data for selected countries (e.g. Germany, Italy, the United Kingdom, and the United States) to trace individual wealth–health trajectories over time for different cohorts and to address survivorship and other forms of selective mortality more directly.

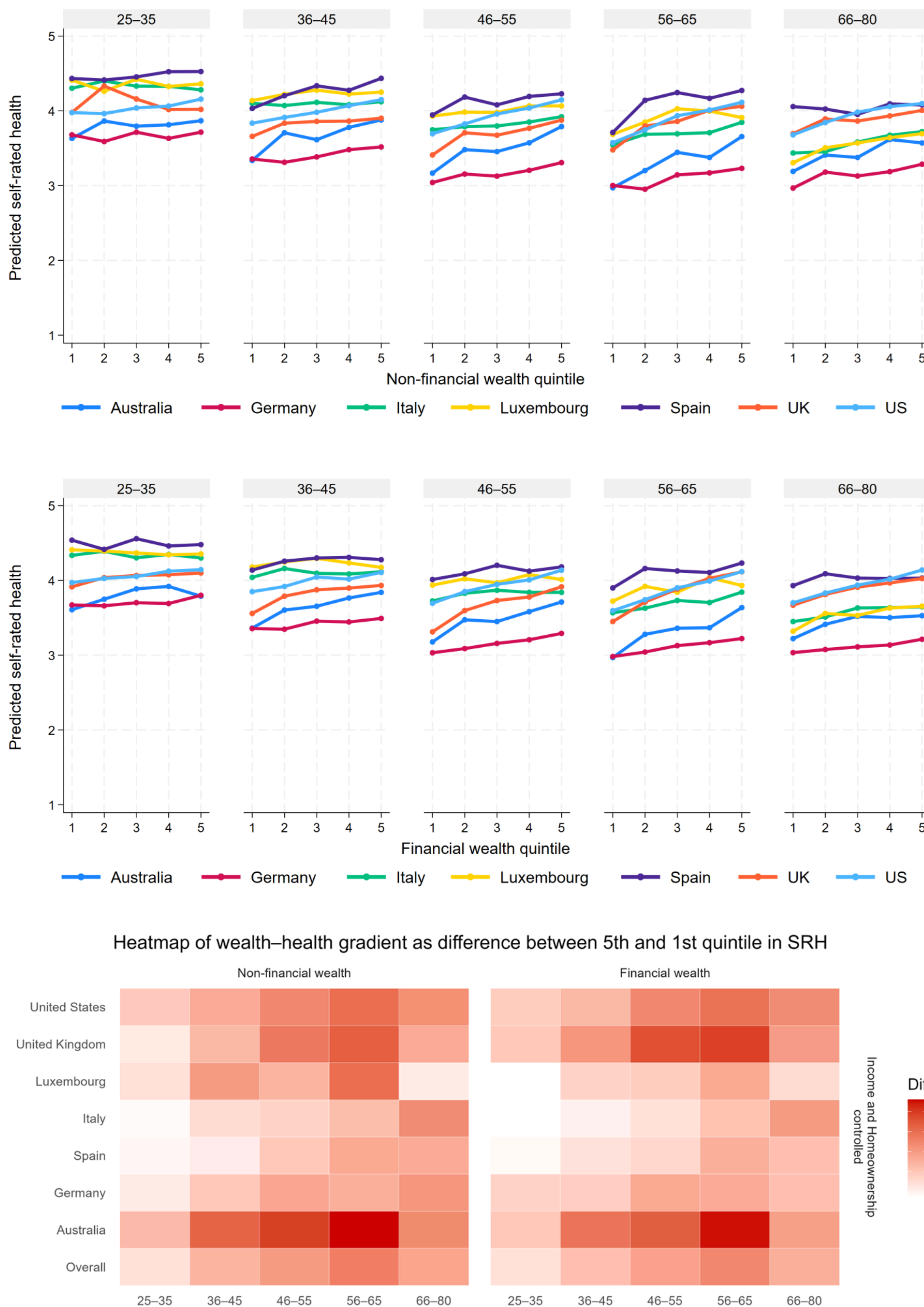

Figure 1. Wealth-Health gradient across age groups and countries. Top panel: Non-financial wealth. Middle panel: Financial wealth. Bottom panel: Gradient expressed as difference between first and fifth wealth quantile.
Data: Luxembourg Wealth Study 2001-2022.

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