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Well-Being in Older Age: Assessing the Combined Effects of Economic Conditions and Individual Circumstances

Abstract. *Europe's ageing population presents pressing policy challenges, with well-being disparities shaped by individual circumstances and broader institutional factors. Existing research largely assumes uniform macroeconomic effects across the well-being distribution – an assumption this study challenges. Using quantile regression on Wave 8 of the Survey of Health, Ageing and Retirement in Europe (SHARE), combined with macroeconomic and institutional indicators, we examine how economic conditions differentially affect subjective well-being (SWB) among older European adults. GDP growth is positively associated with SWB primarily among individuals with moderate well-being levels, while inflation is consistently negatively associated with subjective well-being. Unemployment has a dual impact – providing temporary relief via social safety nets at lower quantiles, while amplifying economic insecurity at higher levels. Welfare state generosity, governance quality, and social capital display heterogeneous associations across the well-being distribution, conditioning the magnitude of macroeconomic effects in ways that vary systematically by quantile. These findings challenge uniform-effect assumptions in macroeconomic well-being research and yield targeted policy insights for ageing societies.*

Keywords: *subjective well-being, life satisfaction, SHARE, older adults, quantile regression*.

JEL Classification: C31, I31, I38, J14.

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1. Introduction

Europe is experiencing unprecedented demographic changes. By 2050, one in four Europeans will be over 65, fundamentally reshaping social and economic landscapes (Eurostat, 2020). This transformation raises critical questions about the determinants of well-being in later life. While research has extensively documented the factors influencing subjective well-being (SWB), most studies examine average

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effects across entire populations, potentially overlooking important variations within specific demographic groups.

The relationship between macroeconomic conditions and individual well-being has attracted considerable scholarly attention since Easterlin's seminal work in the 1970s. Economic growth, unemployment, inflation, and welfare state policies all influence life satisfaction (Helliwell et al., 2021; Deaton, 2012). However, specialised literature reveals persistent contradictions: some research finds weak relationships between economic growth and well-being (Easterlin, 1995; Blanchflower & Oswald, 2004), while others demonstrate positive associations (Veenhoven & Hagerty, 2006). Scholars also disagree on whether unemployment or inflation poses greater threats to well-being (Wolfers, 2003; Tsai, 2009), and evidence on welfare state effects remains mixed (Helliwell & Huang, 2008; Rothstein, 2010).

These contradictions may stem from a methodological limitation that has received insufficient attention: the assumption that macroeconomic factors affect all individuals uniformly. This assumption becomes particularly problematic for older adults, a population characterised by substantial heterogeneity in economic circumstances, health status, and institutional relationships.

This distributional blind spot is especially consequential for older adults. As primary consumers of welfare state transfers, recipients of fixed pensions, and agents with constrained consumption flexibility, older adults likely respond to macroeconomic conditions in ways that differ systematically from working-age populations. However, the overwhelming majority of cross-national well-being studies either exclude older adults or treat them as a homogeneous group within larger samples (Binder & Coad, 2011; Di Tella et al., 2003). The resulting evidence base may systematically mischaracterise the way in which macroeconomic policy affects the most policy-sensitive demographic group in ageing Europe.

The main contribution of this study is threefold. First, it moves beyond conventional mean-based approaches by examining how macroeconomic and institutional conditions are associated with subjective well-being across the entire well-being distribution. Second, it focuses specifically on older adults, a demographic group that remains underexplored despite its growing policy relevance in ageing European societies. Third, by combining SHARE Wave 8 individual-level data with macroeconomic and governance indicators across 27 EU countries, the study provides a distributionally sensitive perspective on the interaction between economic conditions and well-being in later life.

Building on these considerations and addressing the identified gaps in distributional analysis for older adult populations, this study examines the extent to which the effects of macroeconomic and institutional factors on SWB vary across the well-being distribution among older European adults. We formulate four testable hypotheses:

H1: The positive effects of economic growth on SWB will be stronger at lower quantiles of the well-being distribution, as individuals with lower baseline well-being have greater capacity to benefit from improved economic conditions.

H2a: The negative effects of unemployment on SWB will be stronger at higher quantiles, where the psychological and social costs of economic uncertainty predominate over direct income effects.

H2b: The negative effects of inflation on the SWB will be stronger at lower quantiles, reflecting a greater vulnerability to price increases among those with fixed incomes and limited financial resources.

H3: Welfare state generosity will exhibit positive effects on SWB at lower quantiles (enhancement effect) but diminishing or negative effects at higher quantiles (dependency effect), reflecting different baseline needs and preferences for autonomy across the well-being spectrum.

To test these hypotheses, we employ quantile regression in Wave 8 of SHARE, combined with macroeconomic indicators from Eurostat, the World Bank, and Transparency International. This approach is designed to reveal whether the same macroeconomic conditions affect older adults differently depending on their baseline well-being levels.

2. Literature Review

The literature on macroeconomic determinants of SWB widely acknowledges that an individual's well-being is shaped by the broader economic conditions of their country. While extensive research has examined these relationships, fewer studies have systematically explored how macroeconomic conditions interact with individual characteristics, particularly in ageing populations. We identify four contested debates that directly motivate our distributional approach.

The foundational question in SWB research - whether economic growth translates into improved human welfare - remains contentious fifty years after Easterlin's (1974) original challenge. Cross-sectional studies consistently find weak correlations between national income and happiness (Easterlin, 1995; Blanchflower & Oswald, 2004), suggesting diminishing returns to growth. On the contrary, time-series analyses demonstrate positive relationships (Veenhoven & Hagerty, 2006), while panel studies indicate that growth benefits depend on macroeconomic stability (Di Tella et al., 2003). These contradictory findings are likely to reflect the assumption that growth effects are homogeneous across populations and well-being distributions.

Older adults, with fixed incomes and different consumption patterns, may experience growth effects fundamentally differently from working-age populations, yet this demographic heterogeneity has not been systematically examined. Critically, the growth-welfare debate has proceeded without asking whether growth effects vary across the well-being distribution, a gap this study addresses directly.

A second theoretical tension concerns the relative importance of unemployment versus inflation for well-being. While Wolfers (2003) found unemployment effects dominate, Tsai (2009) identifies inflation as most regressive, particularly for those unable to adjust income streams. Blanchflower et al. (2014) find a trade-off between these two effects, with their relative weight depending on the population examined.

This debate has continued without considering demographic differences in vulnerability. Older adults' dependence on fixed pensions makes them acutely sensitive to inflation (Bullard et al., 2012; Fujiwara et al., 2019), while their limited labour force participation may reduce the psychological costs of unemployment. These age-specific vulnerabilities suggest that standard misery-index analyses may systematically underestimate the well-being costs borne by older cohorts.

The most policy-relevant debate focuses on whether government intervention helps or harms well-being. The enhancement framework argues that generous welfare policies provide financial security and reduce anxiety, weighing more than economic growth itself (Helliwell & Huang, 2008; O'Connor, 2017; Ouweneel, 2002). The competing dependency framework warns that extensive state involvement creates harmful dependence, reduces autonomy, and weakens individual motivation (Rothstein, 2010; Pacek & Radcliff, 2008). Empirical evidence remains mixed (Dutt, 2006; Hessami, 2010), likely because studies assume uniform welfare state effects. This assumption is particularly problematic for older adults who are the primary welfare beneficiaries; enhancement versus dependency effects may vary systematically across baseline well-being levels within this population.

Unlike economic factors, institutional quality shows remarkable consensus in the literature. Property rights, government effectiveness, and corruption control consistently predict higher well-being across countries and contexts (Gehring, 2013; Helliwell & Huang, 2008; Bjornskov et al., 2010). However, the mechanisms through which institutions affect well-being remain poorly understood and institutional priorities may vary across demographic groups in ways that current research has not explored. Older adults might prioritise healthcare system effectiveness and pension security over general administrative efficiency – differences with important implications for institutional reform.

These debates reveal three interrelated gaps in the existing literature. First, most studies assume homogeneous effects across the well-being distribution, potentially masking important heterogeneity. Second, older adults - despite being primary consumers of welfare state transfers and disproportionately vulnerable to inflation - remain understudied as a distinct demographic group. Third, the mechanisms linking macroeconomic conditions to individual well-being remain poorly understood in the absence of distributional analysis.

This study addresses all three gaps by applying quantile regression to a large cross-national sample of European older adults. By examining effects across the well-being distribution rather than focusing solely on average effects, it can reveal whether the relationships between macro-level factors and individual well-being vary systematically within this group - variation that, if present, has important implications for designing policies that effectively address the diverse circumstances of ageing populations.

3. Data and Methodology

3.1 Data

This study combines individual-level data from Wave 8 of SHARE, collected during 2019-2020, with macroeconomic indicators from Eurostat, the World Bank, and Transparency International. SHARE provides harmonised cross-national data on individuals aged 50 and over in 27 EU countries. After removing observations with missing values in key variables, our analytical sample consists of 39,742 older adults from 27 countries.

The dependent variable is life satisfaction, measured on an 11-point scale (0 = completely dissatisfied; 10 = completely satisfied): 'On a scale of 0 to 10, where 0 means total dissatisfaction and 10 means total satisfaction, how satisfied are you with your life?' This measure is consistent with established practice in the SWB literature (Helliwell et al., 2021; Diener et al., 1999).

Macroeconomic variables were selected based on three criteria: (1) theoretical relevance to SWB in ageing populations; (2) policy significance for EU member states; and (3) data availability across all sampled countries. This yielded four dimensions: (i) Economic Performance - real GDP growth rate, inflation, overall unemployment rate, and unemployment rate for ages 55-74; (ii) Public Finance - government expenditure on health, social protection, old-age benefits, and unemployment support (all as % of GDP); (iii) Governance Quality - corruption perceptions index, government effectiveness, and economic freedom; (iv) Societal Conditions - Gini coefficient and social capital score. Alternative specifications using broader sets of indicators produced substantively similar results. Table 1 presents the data sources and descriptive statistics for all macro-level indicators, illustrating the considerable cross-national variation in macroeconomic and institutional conditions across the 27 EU countries in the sample – a variation that is central to the identification strategy employed in this study.

Table 1. Data sources and descriptive statistics for macro-level indicators

Topic	Variable	Unit	Source	Mean ±SD
Economic performance	Real GDP	Annual rate of change	Eurostat	2.57 ± 1.25
	Inflation		Eurostat	1.67 ± 0.90
	Unemployment	% of the total population	Eurostat	6.57 ± 4.09
	Unemployment_55-74	% of the population aged 55-74 years old	Eurostat	5.01 ± 3.26
	Stock_price_volatility	Average of the 360-day volatility of the national stock	World Bank. Global Financial Development	12.55 ± 2.80

Topic	Variable	Unit	Source	Mean ±SD
		market index		
Public finance	Exp_Public_order	% of GDP	Eurostat	0.087 ± 0.10
	Exp_environmental	% of GDP	Eurostat	0.78 ± 0.33
	Exp_community_develop	% of GDP	Eurostat	0.17 ± 0.17
	Exp_health	% of GDP	Eurostat	6.49 ± 1.19
	Exp_social_protect	% of GDP	Eurostat	17.26 ± 3.76
	Exp_old_age	% of GDP	Eurostat	9.58 ± 2.45
	Exp_unemployment	% of GDP	Eurostat	0.90 ± 0.56
	LT_interest	% per annum	European Central Bank	0.41 ± 0.90
Societal quality	Gini	Scale 0 to100	World Bank	30.71 ± 3.69
	Social_capital	Score 0 to 100	SolAbility	55.18 ± 6.62
Governance	Corruption	Score 0 to 100	Transparency International	65.58 ± 13.92
	Gov_effectiveness	Scale -2.5 to +2.5	World Bank	1.07 ± 0.54
	Democracy	Scale 0 to 100	Economist Intelligence Unit	7.93 ± 0.82
	Economic_Freedom	Score 0 to 10	Fraser Institute	7.75 ± 0.29

Source: Authors' processing.

Individual-level controls include age (linear and quadratic terms), gender, education, income, marital status, employment status, health status, social support (giving and receiving help), depression scale, and satisfaction with social network. These variables account for personal characteristics that influence life satisfaction and ensure that the estimated macroeconomic effects are not confounded with individual circumstances (see Table 2).

Table 2. Coding and descriptive statistics of control variables

Indicator	Values	Mean±SD / %
Age	50 - 103	70 ±9.20
Age square		5019.09 ±1314.56
Gender	Women	57.55%
	Male	42.45%
Marital status	**Married living with spouse**	68.09%
	Registered partnership	1.45%
	Married. not living with spouse	0.98%
	Never married	4.76%
	Divorced	7.97%
	Widowed	16.75%
Make ends meet	**With great difficulty**	11.27%
	With some difficulty	26.41%
	Fairly easily	31.51%

Indicator	Values	Mean±SD / %
	Easily	30.81%
Perceived self-health	**Excellent**	5.64%
	Very good	16.29%
	Good	39.06%
	Fair	29.76%
	Poor	9.24%
Current job situation	**Retired**	69.25%
	Employed or self-employed	18.09%
	Unemployed	1.85%
	Permanently sick	2.32%
	Homemaker	7.13%
	Other	1.35%
Area of building	A big city	15.95%
	The suburbs or outskirts of a big city	9.83%
	A large town	17.09%
	A small town	23.34%
	A rural area or village	33.80%
Level of education (Years)		11.39±4.01
No. of children		2.11±1.24
No. of given help to others		0.35±0.68
No. of received help from others		0.31±0.69
EuroD-scale		2.39±2.23
Social network satisfaction scale		8.95±1.32

Source: Authors' processing.

Although SHARE Wave 8 was collected during 2019–2020, part of the fieldwork overlapped with the early stages of the COVID-19 pandemic. The pandemic introduced substantial economic and psychological disruptions that may have influenced both subjective well-being and macroeconomic conditions. However, most interviews were conducted before the full macroeconomic consequences of the pandemic materialised across Europe. Furthermore, the cross-sectional design of the study does not allow us to isolate pandemic-specific effects from broader structural conditions. Accordingly, the findings should be interpreted as reflecting general macroeconomic and institutional associations during the late pre-pandemic and early pandemic context.

3.2 Methodology

Traditional regression models, such as Ordinary Least Squares (OLS), estimate the conditional mean of the dependent variable, assuming that explanatory variables have a uniform effect across individuals.

However, the determinants of SWB do not influence individuals equally – economic and institutional conditions may have stronger effects on certain subgroups depending on their well-being levels (Binder & Coad, 2011). OLS fails to capture these variations, potentially overlooking the disparities at the lower and upper extremes of life satisfaction.

To address this limitation, we employ quantile regression (Koenker & Bassett, 1978), which allows for the estimation of effects at different points of the conditional distribution of the dependent variable. This approach is motivated by the left-skewed distribution of life satisfaction scores, as shown in Figure 1, with a large portion of respondents reporting higher SWB levels. We examine the 10th, 25th, 50th, 75th, and 90th quantiles, capturing heterogeneity across well-being groups.

Life satisfaction is measured on a bounded 0–10 scale. While this characteristic may raise concerns regarding the use of linear estimation approaches, quantile regression remains appropriate for the purposes of the present study because the primary objective is to examine heterogeneity across the conditional distribution of subjective well-being rather than estimating conditional means alone. In addition, the distribution of life satisfaction scores is strongly left-skewed, making quantile regression particularly useful for capturing variation across different well-being groups while remaining robust to non-normality and outliers.

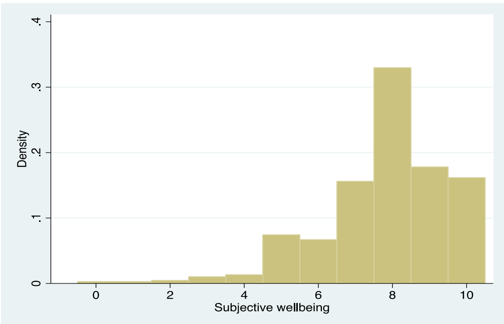

Figure 1. Distribution of Life Satisfaction Scores
Source: Authors' processing in Stata.

The quantile regression model is specified as follows:

$$y_i = x_i'\beta_0 + u_{qi}\, with\; Quant_q(y_i|x_i) = x_i\beta_0,$$

here x_i' denotes a vector of regressors, β_0 represents the vector of parameters to be estimated, and u_{qi} is a vector of residuals. $Quant_q(y_i|x_i)$ represents the q^{th} conditional quantile of y_i given x_i'. The q^{th} regression quantile solves the following problem:

$$min_\beta \sum_i \rho_{q(}Y_i - x_i\beta), \qquad \in (0,1)$$

Where the quantile loss function $\rho_q(\boldsymbol{\epsilon})$, also known as the check function, is defined as:

$$\rho_q(\varepsilon) = \begin{cases} q_\varepsilon, & if\ \varepsilon \geq 0 \\ (q-1)_\varepsilon, if & < 0 \end{cases}$$”

This function assigns different weights to positive and negative deviations, allowing for a more detailed examination of distributional effects (Koenker, 2005). By minimising asymmetric deviations, quantile regression produces estimates that are less sensitive to extreme values, making the results more reliable and applicable across different well-being levels. As an additional robustness check, we estimated an OLS model with country-clustered standard errors as a mean-based benchmark. The signs and statistical significance of the macroeconomic coefficients at Q50 are substantively consistent with the OLS estimates (Table A1), confirming that the quantile regression approach does not produce artefactual results. The key added value of quantile regression lies in revealing effects that OLS masks: GDP growth is positive and significant at Q50–Q75 but statistically insignificant at Q10 and Q90 - a pattern that OLS averages away.

This method offers several advantages over OLS. First, it captures heterogeneous effects, allowing for a precise understanding of how economic conditions and institutional structures influence individuals differently based on their well-being levels (Binder & Coad, 2015). Second, it effectively handles non-normal and skewed distributions, ensuring that estimation results are not distorted by the concentration of high well-being scores (Machado & Mata, 2005). Third, it is robust against outliers, preventing extreme values from disproportionately influencing the regression estimates (Davino et al., 2013).

Although quantile regression has been previously applied in subjective well-being research (Binder & Coad, 2011; Binder & Coad, 2015), its application to older adults remains relatively limited. This study contributes to the literature by analysing how macroeconomic and institutional factors interact with individual-level determinants at different levels of well-being, capturing the complexity of well-being disparities among older individuals. The inclusion of both macro-level indicators and micro-level control variables allows for a more precise assessment of how structural conditions shape life satisfaction while accounting for personal characteristics such as health, financial security, and social relationships.

By employing quantile regression, this study offers a refined, policy-relevant perspective on well-being inequalities in the EU, providing insights that mean-based models might overlook.

3.3 Robustness and Endogeneity Considerations

Because the dataset combines individual-level observations with country-level macroeconomic indicators, the analysis involves a nested data structure in which individuals are clustered within countries. To reduce the risk of downward-biased standard errors, robustness checks were conducted using country-clustered standard errors in the quantile regression estimations. The substantive interpretation of the main coefficients remained stable across specifications, supporting the robustness of the reported findings.

Another robustness check addresses the bounded nature of the dependent variable. Life satisfaction is measured on an 11-point scale (0–10), which may raise concerns about the use of linear quantile regression. We note, however, that the scale is sufficiently dense to approximate a continuous distribution and that its strongly left-skewed shape makes quantile regression particularly well-suited for capturing distributional heterogeneity – more so than ordered probit models, which do not permit quantile-specific estimation.

To confirm that the quantile regression approach does not produce artefactual results, we estimated an OLS model with country-clustered standard errors as a mean-based benchmark and compared its coefficients with those obtained at Q50. As shown in Table A1, the signs, magnitudes, and statistical significance of all macroeconomic coefficients are virtually identical across the two specifications. This consistency confirms that quantile regression at the median yields results fully in line with the OLS benchmark, while the variation across quantiles (Q10 to Q90) reveals the genuine distributional heterogeneity that OLS averages away. For instance, GDP growth is positive and significant at Q50–Q75 but statistically insignificant at Q10 and Q90 - a pattern that OLS estimates cannot detect.

Given the simultaneous nature of macroeconomic conditions and individual well-being, we acknowledge potential endogeneity concerns. We address these in three ways.

First, all macroeconomic indicators are measured at the country level and are matched with individual respondents based on their country of residence. Since country-level aggregates are determined by processes well beyond any individual's control, they can be considered plausibly exogenous at the individual level scores.

Second, we include a comprehensive set of individual-level controls - covering health status, financial situation, social support, and employment status - to minimise omitted variable bias and ensure that macroeconomic effects are not confounded by pre-existing individual disparities.

Third, our macroeconomic indicators were selected to capture distinct theoretical dimensions of the economic environment (growth, price stability, labour markets, welfare state generosity, institutional quality, and social cohesion). Variables theoretically expected to overlap were either excluded or retained only where their mechanisms were demonstrably distinct, limiting concerns about multicollinearity in the joint estimation.

Additional multicollinearity diagnostics were conducted using Variance Inflation Factor (VIF) statistics. The results did not indicate problematic levels of multicollinearity among the explanatory variables, suggesting that the estimated coefficients remain sufficiently stable within the joint specification.

Additionally, we acknowledge that the cross-sectional design of SHARE Wave 8 precludes full causal identification. Accordingly, the findings should be interpreted as robust associations rather than causal effects – a limitation we will further discuss in Section 5.

4. Results and discussion

Table 3 presents quantile regression estimates at the 10^{th}, 25^{th}, 50^{th}, 75^{th}, and 90th quantiles. We organise the discussion around four thematic blocks: macroeconomic performance, public finance, societal quality, and governance.

Table 3. Quantile Regression Estimates of Life Satisfaction

Life satisfaction	Q10	Q25	Q50	Q75	Q90
Age	0.0307 (0.0268)	-0.0282* (0.0170)	-0.0466*** (0.0107)	-0.0425*** (0.0123)	-0.0286*** (0.00987)
Age²	-0.000190 (0.000185)	0.000239** (0.000116)	0.000384*** (7.04e-05)	0.000370*** (8.57e-05)	0.000251*** (6.88e-05)
Male	0.130*** (0.0308)	0.122*** (0.0180)	0.0849*** (0.0171)	0.0693*** (0.0161)	0.0495*** (0.0139)
No. of children	0.0421*** (0.00930)	0.0468*** (0.00823)	0.0318*** (0.00916)	0.0325*** (0.00628)	0.0228*** (0.00499)
Marital status (ref: Married, living with spouse)					
Registered partnership	-0.236** (0.117)	-0.257*** (0.0669)	-0.0957 (0.0883)	-0.0412 (0.0513)	-0.0357 (0.0565)
Married, not living w/ spouse	-0.537*** (0.152)	-0.337*** (0.0911)	-0.357*** (0.0451)	-0.106** (0.0459)	-0.0661 (0.0515)
Never married	-0.346*** (0.0607)	-0.306*** (0.0571)	-0.243*** (0.0404)	-0.135*** (0.0471)	-0.0448 (0.0429)
Divorced	-0.359*** (0.0399)	-0.297*** (0.0354)	-0.251*** (0.0328)	-0.164*** (0.0286)	-0.0854*** (0.0219)
Widowed	-0.331*** (0.0438)	-0.319*** (0.0345)	-0.258*** (0.0297)	-0.178*** (0.0218)	-0.0721*** (0.0157)
Area of residence (ref: A big city)					
Suburbs / outskirts of a big city	0.0333 (0.0351)	0.0703** (0.0302)	0.0159 (0.0252)	-0.0126 (0.0319)	0.0146 (0.0267)
A large town	-0.0184 (0.0486)	-0.00116 (0.0257)	0.00939 (0.0253)	-0.00518 (0.0318)	-0.00494 (0.0308)
A small town	0.0182 (0.0326)	0.000324 (0.0218)	0.00591 (0.0244)	-0.0279 (0.0254)	0.0123 (0.0192)
A rural area or village	-0.0639** (0.0284)	-0.0519** (0.0245)	-0.00421 (0.0194)	-0.00618 (0.0219)	-0.0118 (0.0213)
Make ends meet (ref: With great difficulty)					
With some difficulty	0.707*** (0.0647)	0.534*** (0.0478)	0.378*** (0.0436)	0.281*** (0.0402)	0.257*** (0.0448)
Fairly easily	1.146*** (0.0629)	0.858*** (0.0558)	0.625*** (0.0432)	0.523*** (0.0444)	0.377*** (0.0415)
Easily	1.440*** (0.0719)	1.082*** (0.0547)	0.839*** (0.0417)	0.705*** (0.0397)	0.456*** (0.0429)
Current job situation (ref: Retired)					
Employed or self-employed	0.101** (0.0501)	0.0435 (0.0289)	-0.00251 (0.0207)	0.0378 (0.0244)	0.00373 (0.0231)
Unemployed	-0.407*** (0.0906)	-0.474*** (0.106)	-0.336*** (0.0699)	-0.214*** (0.0676)	-0.237*** (0.0660)
Permanently sick	-0.385*** (0.0968)	-0.298*** (0.0759)	-0.181** (0.0714)	-0.0667 (0.0770)	0.0379 (0.0869)
Homemaker	-0.0428 (0.0643)	-0.0731 (0.0477)	-0.0313 (0.0409)	0.0140 (0.0388)	0.0264 (0.0208)

Life satisfaction	Q10	Q25	Q50	Q75	Q90
Other	0.0208 (0.152)	0.0572 (0.0988)	-0.00643 (0.0688)	-0.0228 (0.0619)	0.0384 (0.0843)
Perceived self-health (ref: Poor)					
Fair	0.820*** (0.0881)	0.843*** (0.0475)	0.543*** (0.0491)	0.310*** (0.0452)	0.183*** (0.0641)
Good	1.300*** (0.0890)	1.173*** (0.0540)	0.766*** (0.0497)	0.524*** (0.0464)	0.281*** (0.0615)
Very good	1.586*** (0.0843)	1.372*** (0.0520)	0.979*** (0.0533)	0.684*** (0.0481)	0.335*** (0.0613)
Excellent	1.630*** (0.0869)	1.597*** (0.0571)	1.394*** (0.0596)	0.927*** (0.0463)	0.525*** (0.0653)
EuroD scale	-0.275*** (0.00987)	-0.225*** (0.00646)	-0.181*** (0.00493)	-0.150*** (0.00361)	-0.0832*** (0.00490)
Level of education (years)	0.00782* (0.00446)	0.00307 (0.00263)	-0.00241 (0.00184)	-0.00941*** (0.00199)	-0.00863*** (0.00202)
Social network satisfaction	0.188*** (0.0106)	0.241*** (0.00958)	0.292*** (0.00722)	0.339*** (0.00634)	0.290*** (0.0166)
No. of given help to others	0.0418** (0.0169)	0.0256** (0.0115)	0.0198* (0.0111)	-0.00769 (0.00774)	-0.0181** (0.00857)
No. of received help fr. others	-0.0644** (0.0284)	-0.0486*** (0.0159)	-0.0472*** (0.0117)	-0.0282* (0.0148)	-0.0143** (0.00701)
Macroeconomic performance					
Real GDP growth	-0.0417 (0.0301)	-0.00839 (0.0135)	0.0458*** (0.00878)	0.0691*** (0.0137)	0.0234** (0.0106)
Inflation	-0.119** (0.0490)	-0.257*** (0.0280)	-0.271*** (0.0417)	-0.260*** (0.0465)	-0.118*** (0.0307)
Unemployment rate	0.0306** (0.0133)	-0.0246*** (0.00691)	-0.0449*** (0.00997)	-0.0486*** (0.0111)	-0.00854 (0.00825)
Unemployment 55–74 yrs (%)	-0.0310*** (0.00571)	-0.0158*** (0.00398)	-0.0160** (0.00668)	-0.0260*** (0.00611)	-0.0351*** (0.00599)
Stock price volatility	0.0220* (0.0114)	0.0298*** (0.00630)	0.0334*** (0.00605)	0.0310*** (0.00657)	-0.0173** (0.00794)
Public finance (% of GDP)					
Exp. public order & safety	1.171*** (0.402)	1.494*** (0.192)	1.438*** (0.164)	1.193*** (0.196)	0.369** (0.170)
Exp. environmental protection	0.246*** (0.0597)	0.253*** (0.0404)	0.138*** (0.0446)	-0.0714* (0.0393)	-0.293*** (0.0539)
Exp. community development	0.248* (0.137)	-0.0534 (0.0759)	-0.176* (0.101)	-0.168* (0.0918)	-0.156 (0.0968)
Exp. health	-0.143*** (0.0367)	-0.0889*** (0.0182)	-0.0602*** (0.0149)	-0.00694 (0.0132)	-0.0482*** (0.0152)
Exp. social protection	-0.0240 (0.0291)	-0.117*** (0.0165)	-0.132*** (0.0197)	-0.128*** (0.0246)	0.00145 (0.0126)
Exp. old-age benefits	0.0914*** (0.0235)	0.132*** (0.0143)	0.134*** (0.0125)	0.110*** (0.0159)	0.0191* (0.0115)
Exp. unemployment benefits	-0.00435 (0.148)	0.394*** (0.0858)	0.520*** (0.0985)	0.404*** (0.114)	-0.198*** (0.0717)
LT interest rate	0.290*** (0.0546)	0.366*** (0.0364)	0.358*** (0.0403)	0.316*** (0.0414)	0.0875*** (0.0276)
Societal conditions					
Gini coefficient	-0.0312*** (0.00611)	-0.0246*** (0.00538)	-0.0247*** (0.00444)	-0.0104* (0.00556)	0.0104** (0.00506)

Life satisfaction	Q10	Q25	Q50	Q75	Q90
Social capital score	0.0553*** (0.00532)	0.0285*** (0.00276)	0.0141*** (0.00375)	0.00819** (0.00412)	0.0215*** (0.00357)
Governance					
Corruption Perceptions Index	0.0113** (0.00525)	0.000997 (0.00223)	-0.00178 (0.00226)	-0.00266 (0.00306)	-0.00431* (0.00255)
Government effectiveness	0.273 (0.189)	0.642*** (0.0982)	0.527*** (0.116)	0.403*** (0.140)	0.0215 (0.120)
Democracy index	-0.140 (0.0909)	-0.00911 (0.0428)	0.110** (0.0477)	0.190*** (0.0449)	0.0867** (0.0356)
Economic freedom	0.210 (0.137)	-0.0647 (0.0706)	-0.0836 (0.0941)	-0.320*** (0.117)	0.0144 (0.0939)
Observations	**39,742**	**39,742**	**39,742**	**39,742**	**39,742**

Notes: Bootstrap standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Reference categories: Marital status – Married, living with spouse; Area – A big city; Make ends meet – With great difficulty; Job situation – Retired; Perceived self-health – Poor. Source: SHARE Wave 8; Eurostat; World Bank; Transparency International. Authors' own processing.

Source of data: SHARE, Wave 8.

GDP growth has a positive but uneven impact on SWB, benefiting individuals primarily in the middle of the distribution (Q50–Q75), with coefficients rising from 0.046 at Q50 to 0.069 at Q75. Growth has no significant effect at Q10, Q25, or Q90. At lower quantiles, individuals are more likely to be unemployed or financially constrained, lacking the resources – employment, investment access, business opportunities – to capitalise on economic expansion. At Q90, diversified income sources (pensions, savings, real estate) already insulate well-being from aggregate fluctuations.

These distributional findings offer a partial resolution to the Easterlin Paradox (Easterlin, 1974; 1995). Rather than concluding that growth universally improves or fails to improve well-being, our results suggest a non-linear relationship across the distribution. At lower quantiles, the buffering role of fixed-income constraints may reflect why GDP growth translates poorly into well-being gains. At the upper quantiles, the satiation hypothesis (Kahneman & Deaton, 2010) and income diversification explain the ceiling effect. This interpretation aligns with Binder & Coad (2011), who found non-linear income - well-being associations across the happiness distribution in a general population; our contribution is to demonstrate this pattern specifically for older adults, where pension dependence creates distinct distributional dynamics. These findings are especially relevant in the EU context, where economic disparities persist. In Nordic and Western European countries, strong social protection systems already provide high baseline living standards, while in post-communist countries (Romania, Bulgaria, Latvia), weaker pension systems limit older adults' capacity to benefit from growth.

These distributional results do not support H1, which predicted stronger GDP growth effects at lower quantiles. The evidence instead indicates that growth benefits accrue primarily to individuals in the middle of the well-being distribution (Q50-

Q75), suggesting that structural barriers – rather than diminishing returns – explain the absence of a growth effect at the lower tail.

Inflation has a strongly negative effect on SWB across all quantiles, peaking at Q50 (-0.271). The peak effect at Q50 rather than Q10 may reflect that very-low-well-being respondents have already adjusted psychologically to chronic deprivation, while middle-quantile individuals experience a relative deprivation shock when inflation erodes their modest financial comfort – consistent with reference point theory (Ferrer-i-Carbonell, 2005). Social support provides a partial cushion at lower quantiles, but this protection is insufficient in countries where pension systems are not adequately indexed. At Q90, inflation remains negative (-0.260), though high-income individuals can partially mitigate effects through diversified investments.

These findings corroborate theoretical predictions about pension recipients' vulnerability to price increases (Bullard et al., 2012; Fujiwara et al., 2019). From a policy perspective, the peak impact at Q50 suggests that inflation control and pension indexation are especially important for the middle of the distribution – not merely the poorest. EU-wide price-stabilisation mechanisms and targeted financial support programmes should be designed with this distributional asymmetry in mind. These findings provide only partial support for H2b. While inflation is consistently negative across all quantiles – in line with the hypothesis - the strongest coefficient emerges at Q50 rather than Q10, suggesting that middle-quantile individuals experience the sharpest relative deprivation shock, while those at the lowest quantile may already have adjusted to chronic financial hardship.

Unemployment has contrasting effects across quantiles. At Q10–Q25, higher unemployment is associated with a slight positive effect on SWB. A possible theoretical interpretation - consistent with the social safety-net literature (Ouweneel, 2002) – is that higher unemployment rates may coincide with expanded social assistance and informal community support networks that partially buffer economic hardship. However, these mechanisms are not directly measured in the present model, and this interpretation should be understood as a theoretical conjecture rather than an empirically demonstrated causal pathway. From Q25 onward, unemployment has a clearly negative effect, reflecting economic insecurity and reemployment difficulties, with the negative impact intensifying for those aged 55-74 (from -0.016 at Q25 to -0.035 at Q90). At Q90, general unemployment has no significant effect, as diversified financial resources insulate this group from labour market fluctuations.

The intensification of unemployment effects at higher quantiles for the 55-74 age group aligns with the structural barriers older workers face – ageism, skill gaps, and gender discrimination – that make unemployment more permanent and psychologically costly for those who had greater attachment to work identity (OECD, 2021; Clark et al., 2001). These results underscore the need for labour market policies that extend employment opportunities and combat age-related discrimination.

These results broadly support H2a. Unemployment exhibits weak or marginally positive associations at Q10, while its negative effects intensify progressively across

Q25-Q75, particularly for the 55-74 age group. This gradient is consistent with the hypothesis that psychological and social costs of unemployment predominate for individuals with a higher baseline well-being and stronger prior attachment to work identity.

Price volatility has a positive effect on SWB from Q25 to Q75, but turns negative at Q90. This seemingly counterintuitive result can be explained by distinguishing between price levels (captured by inflation) and price uncertainty. The positive association between stock-price volatility and well-being at middle quantiles should be interpreted cautiously. Rather than directly reflecting stock-market participation, the coefficient may capture broader perceptions of macroeconomic dynamism or financial expectations within national economies. The reversal at Q90 is consistent with the wealth-preservation concerns of higher-income retirees who depend more heavily on stable financial markets. This finding underscores the importance of distinguishing between price-level and price-uncertainty effects in well-being research – a distinction often conflated in macroeconomic analyses (Lawless & Lucas, 2011).

Public expenditures on public order have a strong positive effect across all quantiles, highest at Q25 (1.494) and Q50 (1.438), diminishing but remaining positive at Q90 (0.369). Investments in public safety provide psychological relief that is particularly valued by financially vulnerable individuals who rely more heavily on public services and face greater personal security concerns. At higher quantiles, other factors - health, social networks, lifestyle - become more relevant to well-being, reducing the relative importance of public order expenditures.

Expenditures on environmental protection have a positive impact at Q10 (0.246) and Q25 (0.253), but turn negative at Q90 (-0.293). Financially vulnerable individuals are more likely to experience poor environmental conditions - air pollution, limited access to green spaces - so improvements in environmental policy provide tangible well-being gains. At higher quantiles, wealthier individuals may view environmental regulations as economically restrictive, raising costs through taxation or energy prices, or as less personally relevant given their capacity to privately manage exposure.

The negative association between public healthcare expenditures and subjective well-being should be interpreted with caution. One possible explanation is that higher healthcare spending may partly reflect underlying population-health pressures or delayed policy responses to deteriorating health conditions rather than improved healthcare quality itself. Another possible interpretation is that expenditure volume alone may not adequately capture accessibility, efficiency, or responsiveness of healthcare systems. Consequently, the findings should not be interpreted as evidence that healthcare spending reduces well-being, but rather as indicating a more complex relationship between healthcare resources, institutional efficiency, and perceived well-being.

Social protection expenditures negatively impact SWB at Q25 (-0.117) and Q50 (-0.132), while remaining neutral at Q90. This suggests that increased social spending does not necessarily enhance well-being for financially vulnerable groups, possibly due to inefficiencies in resource distribution, bureaucratic barriers, or stigmatisation. By contrast, old-age pension expenditures consistently boost SWB across all quantiles, with the strongest effects at Q25 (0.132) and Q50 (0.134). State pensions are a vital source of financial stability for middle-income retirees who rely on them as their primary income source; the effect diminishes at Q90, where wealthier retirees benefit from alternative financial assets. These findings reinforce OECD (2023) evidence that well-structured pension systems reduce financial stress in Germany, France, and the Netherlands, while pension inadequacy remains a major concern in Southern and Eastern Europe. Taken together, these public finance results provide partial support for H3. Old-age pension expenditures consistently enhance SWB across all quantiles, with stronger effects at lower quantiles - consistent with the enhancement mechanism. However, broader social protection expenditures display mixed or negative associations rather than the expected positive effects at lower quantiles, suggesting that the distributional consequences of welfare generosity depend critically on the type and targeting of expenditure, rather than its aggregate level.

Long-term interest rates have a positive effect across all quantiles, strongest at lower well-being levels, confirming that macroeconomic financial conditions interact with individual financial vulnerability.

Community development expenditures show no significant effect at lower quantiles (Q10–Q50) but become significantly negative at Q75 (-0.168) and Q90 (-0.156). A possible interpretation is that higher-SWB individuals may associate community development expenditures with increased local taxation or neighbourhood transformations perceived as misaligned with the preferences of older residents (OECD, 2022); however, attitudes toward such spending are not directly measured in SHARE and this interpretation is offered as a theoretical conjecture.

The Gini coefficient has a negative effect at lower quantiles, with the coefficient nearly twice as large at Q10 compared to higher quantiles. Income inequality generates financial stress, social isolation, and a sense of deprivation that disproportionately reduces SWB among the most vulnerable, consistent with the psychological distress literature (Wilkinson & Pickett, 2009; Oishi et al., 2011). Notably, the effect diminishes at higher quantiles and turns positive at Q90, where a possible theoretical interpretation - consistent with relative position theory (Clark et al., 2019) - is that income differentiation may be perceived as creating opportunities for wealth accumulation; however, this mechanism is not directly observed in the data and should be treated as a theoretical conjecture.. This pattern suggests that redistributive policies are essential for protecting those at the lower end of the distribution, while economic policies promoting mobility can maintain well-being at higher quantiles.

Social capital strongly influences well-being across all quantiles, with its effect most pronounced at lower SWB levels. Older adults who receive social support experience significant well-being gains, particularly when facing financial hardship or unemployment. Strong social ties provide emotional support, access to informal financial assistance, and community engagement opportunities – mitigating the stress of economic insecurity. At higher quantiles, the impact of social capital remains positive but weaker, as financially stable individuals rely less on social networks for economic survival, though community involvement continues to enhance well-being.

The Corruption Perception Index has no significant impact across the distribution, suggesting that corruption concerns do not directly affect older adults' SWB – possibly because immediate financial and social conditions take precedence over broader institutional concerns. Government effectiveness positively influences SWB between Q25 and Q75, but weakens at lower and upper quantiles: those in severe financial hardship may be more concerned with direct financial security than governance quality, while those with high SWB may not depend heavily on government services.

The democracy index significantly boosts SWB from Q50 onward, peaking at Q75 (0.190), indicating that political stability and civil liberties matter more to those with moderate-to-high well-being who may be more politically engaged. The negative impact of economic freedom at Q75 (-0.320) is counterintuitive but may reflect that market liberalisation introduces financial uncertainty for older adults: while economic freedom benefits younger, entrepreneurially active populations, it may generate concerns about income security and public service stability for retirees dependent on stable institutional frameworks (Gehring, 2013). This reinforces the need for a balanced policy approach that promotes economic flexibility while ensuring robust safety nets.

Throughout the discussion above, mechanistic interpretations are advanced as theoretically plausible explanations rather than causally demonstrated findings. The quantile regression framework estimates conditional associations between macroeconomic indicators and subjective well-being; it does not identify the pathways through which these associations operate. A distinction should therefore be drawn between the statistical results reported in Table 3 and the theoretical interpretations proposed to contextualise them. Where specific mechanisms are invoked – such as safety-net activation, institutional efficiency, or portfolio effects – these represent theoretically grounded conjectures consistent with the existent literature, not claims that such mechanisms are directly tested or measured in the present study. The empirical findings provide partial support for the proposed hypotheses.

H1 predicted that the positive effects of GDP growth would be stronger at lower quantiles of the well-being distribution. The fact that H1 is contradicted rather than merely unsupported - growth benefits the middle rather than the bottom of the distribution - represents a substantively important finding that challenges a common assumption in the welfare economics literature.

H2a predicted that unemployment would have stronger negative effects at higher quantiles. The findings broadly support this hypothesis. While unemployment shows weak or even slightly positive associations at lower quantiles, its effects become increasingly negative across middle and upper well-being levels, especially for the 55–74 age group.

H2b predicted that inflation would exert stronger negative effects at lower quantiles. This hypothesis is only partially supported. Inflation negatively affects all quantiles, but the strongest coefficients emerge around the middle of the distribution rather than exclusively at the bottom tail.

H3 predicted heterogeneous effects of welfare state generosity across the well-being distribution. The findings provide partial support for this expectation. While older-age expenditures consistently display positive associations with subjective well-being, larger social protection expenditures exhibit mixed or negative associations across several quantiles.

Several coefficient patterns should be interpreted as exploratory distributional associations rather than definitive evidence regarding underlying behavioural mechanisms.

5. Conclusions

This study examined how macroeconomic and institutional factors shape SWB across the well-being distribution among older adults in 27 EU countries, using quantile regression on SHARE Wave 8 data. The central finding is that macroeconomic effects are systematically heterogeneous: the same economic condition produces meaningfully different outcomes depending on where an individual sits in the well-being distribution.

GDP growth improves well-being primarily for those with moderate SWB (Q50–Q75), leaving both the most deprived and the most affluent unaffected.

GDP growth appears to primarily increase the well-being of those with moderate SWB because, for this category, additional economic resources have a significant positive impact on daily life. For these individuals, income growth and economic opportunities reduce financial limitations and improve safety, thus generating measurable gains in terms of subjective well-being. In return, those at the lower end of the SWB spectrum often face structural barriers, such as poor health, lack of skills, or exclusion from the labour market. All these prevent any positive impact of economic progress on the quality of their daily life. On the other hand, at the upper end, individuals enjoy a high level of financial stability, and, therefore, additional income generates diminishing marginal returns on well-being. Consequently, economic growth mainly favours people with an average level of well-being, while both the most vulnerable and the very rich remain unaffected by its effects.

Inflation imposes a consistently negative burden across all quantiles, with the heaviest impact on middle-quantile individuals experiencing relative deprivation shocks.

For these individuals, the increase of prices undermines purchasing power in a manner which directly limits consumption and enhances financial insecurity; moreover, they do not benefit from any protection tools such as savings, financial assets, or social security mechanisms, which normally protect superior-quantile groups. At the same time, they are more sensitive to differences in terms of status and shifts in living expenses compared to lower-quantile individuals, who may already be facing below-subsistence-line challenges, in which case inflation-triggered changes hardly have an impact. Consequently, despite negatively affecting all quantiles, inflation strongly affects both perceived and real economic pressure on the middle-quantile individuals, thus generating a disproportionate decrease of well-being.

Unemployment has a dual effect – partially beneficial at the lowest quantiles through social safety net activation, but increasingly harmful for those with moderate-to-high baseline well-being.

For those at the lowest distribution level, job loss can determine access to social security networks - unemployment benefits, housing grants, or specific support - which can temporarily alleviate financial difficulties, and which can generate a modest improvement of subjective well-being compared to their state before unemployment. However, for individuals with an initially high level of well-being, unemployment represents a significant disruption of financial stability, social status, of daily life, and perceived purpose, which is associated with substantial declines of life satisfaction. This divergence emphasises the fact that the consequences of unemployment are heterogeneous: while the activation of social security networks can partially alleviate its impact on the lowest-quantile groups, the economic and psychological impact of job loss is dramatically amplified for those whose stakes are higher.

Old-age pension expenditures are the most consistent public finance contributor to well-being, while healthcare expenditures paradoxically reduce SWB – pointing to efficiency and accessibility deficits rather than a problem of spending volume.

Pension expenditures are by far the most reliable public finance factor which can contribute to citizens' well-being because it ensures a stable and predictable financial support at a stage when individuals are highly vulnerable to financial insecurity, thus directly increasing life satisfaction. On the other hand, healthcare expenditures are associated with a decrease in subjective well-being, a tendency which suggests that the problem does not reside in expenditure volume but in the efficiency and accessibility of provided services. High healthcare expenditures often indicate high pressure on the system – long waiting times, unattended needs, or increasing personal costs – which can all amplify the insecurity feeling regarding health and can thus diminish general well-being. This divergence points to the fact that, while pension systems efficiently transform public resources into tangible well-being returns, medical assistance systems may be subject to structural inefficiencies, generated by additional expenditures, which limit their benefits in terms of well-being.

Income inequality intensifies financial stress at lower quantiles, but may benefit the financially secure at the top.

Higher inequality amplifies the feeling of economic insecurity and relative deprivation among low-income groups, which is due to the fact that the deeper the income gap, the more difficult it becomes to meet higher and higher social and financial standards. This enhancement of financial pressure directly undermines SWB. Nevertheless, benefitting from new opportunities and social standing, the individuals in higher quantiles can perceive inequality as a reinforcement of their relative status and economic position. Therefore, inequality simultaneously erodes the well-being of those with limited resources and provides advantages to those financially secure, thus generating an effect pattern on the income spectrum.

Social capital and governance quality display heterogeneous associations across the distribution, with their effects varying across the distribution.

Social capital and governance quality are heterogeneously associated with subjective well-being across the distribution, conditioning – though not formally moderating in a statistical sense – the extent to which macroeconomic conditions translate into well-being outcomes. A strong social capital – reflected in the level of trust, social cohesion, and support networks – can mitigate the negative effects of economic shocks particularly for those in lower quantiles, who mainly rely on informal support systems when formal resources are limited. At the same time, for those in the middle and upper quantiles, good quality governance improves the efficiency and equity of public policies, thus ensuring the homogenous distribution of economic gains and the secure, coherent functioning of institutional protection mechanisms. However, weak governance, or divided social networks can deepen inequality in terms of well-being thus enhancing the vulnerability of the deprived and reducing the perceived legitimacy and stability, otherwise highly appreciated by those in higher quantiles. All these aspects emphasise the fact that social and institutional contexts crucially influence the distributive consequences of economic conditions.

These findings contribute to three strands of the SWB literature. First, they offer a distributional resolution to the Easterlin Paradox - growth neither universally improves nor fails to improve well-being; its effects depend on the individuals' position in the distribution and their capacity to participate in economic opportunities. Second, they suggest that the enhancement-versus-dependency debate about welfare state effects cannot be resolved at the aggregate level: pension transfers unambiguously enhance well-being, while broader social protection expenditures may be inefficient or stigmatising for their recipients. Third, the distinction between price-level and price-uncertainty effects - rarely made in the literature - proves consequential: inflation uniformly reduces SWB, while price volatility can be beneficial for middle-quantile individuals with mixed financial portfolios.

For policymakers, these findings highlight the need to move beyond aggregate economic management toward distributionally sensitive frameworks. Pension indexation, targeted financial support during inflationary periods, and active labour market policies that address age discrimination are especially important. The findings suggest that healthcare reforms focused on service accessibility and institutional responsiveness may be more strongly associated with subjective well-being improvements than expenditure increases alone. Community and governance reforms will have differential impacts depending on the financial security of target populations.

Several limitations should be acknowledged. First, the cross-sectional design of SHARE Wave 8 prevents causal inference: while macroeconomic indicators are country-level and exogenous to individual responses, we cannot rule out reverse causality in individual-level relationships. Longitudinal analyses using multiple SHARE waves would strengthen causal claims. Second, life satisfaction measured via a single-item scale does not capture hedonic or eudaimonic dimensions that may respond differently to macroeconomic conditions (Diener et al., 1999). Third, aggregating macroeconomic data at the country level obscures within-country regional variation, which may be substantial in larger EU states. Fourth, the sample covers 27 EU countries for a single year (2019-2020), limiting generalisation to other time periods or non-EU ageing economies. Finally, while we have tested for multicollinearity and robustness, potential endogeneity between welfare state generosity and the SWB of its primary beneficiaries remains a methodological challenge for future research using instrumental variable approaches.

Future research should build on these findings in three directions. First, panel analyses using multiple SHARE waves would allow fixed-effects estimation that controls for time-invariant country characteristics and tests whether within-country macroeconomic changes generate the distributional effects identified here. Second, given the paradoxical negative association between healthcare expenditure and SWB, qualitative comparative analysis or process-tracing studies could illuminate the mechanisms linking spending patterns to perceived service quality across different healthcare systems.

In conclusion, ensuring well-being in older age requires moving beyond aggregate economic management toward distributionally sensitive, life-course-aware policy frameworks. The same macroeconomic condition – GDP growth, inflation, welfare expenditure – can enhance well-being for one segment of the older population while leaving another unaffected or worse off. Recognising this heterogeneity is not merely a statistical refinement; it is a precondition for designing social protection systems that reach those who need them most in ageing Europe.

Several limitations should be acknowledged. First, the cross-sectional design precludes causal inference. Second, macroeconomic indicators are measured at country level and may mask within-country heterogeneity. Third, the overlap between SHARE Wave 8 and the onset of the COVID-19 pandemic may have influenced both subjective well-being and macroeconomic conditions in ways that cannot be fully isolated in the present framework.

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Appendix

Table A1. Robustness Check: OLS (clustered SE) vs. Quantile Regression at Q50 — Macroeconomic Variables Only

Variable	OLS Coef.	OLS (Clust. SE)	QR Q50 Coef.	QR Q50 (Boot. SE)
Real GDP growth rate	0.0458***	(0.0152)	0.0458***	(0.00878)
Inflation	-0.271***	(0.0273)	-0.271***	(0.0417)
Unemployment rate	-0.0449***	(0.00962)	-0.0449***	(0.00997)
Unemployment 55–74 yrs (%)	-0.0160***	(0.00553)	-0.0160**	(0.00668)
Stock price volatility	0.0334***	(0.00634)	0.0334***	(0.00605)
Exp. public order & safety	1.438***	(0.173)	1.438***	(0.164)
Exp. environmental protection	0.138***	(0.0467)	0.138***	(0.0446)
Exp. community development	-0.176**	(0.0794)	-0.176*	(0.101)
Exp. health	-0.0602***	(0.0173)	-0.0602***	(0.0149)
Exp. social protection	-0.132***	(0.0128)	-0.132***	(0.0197)
Exp. old-age benefits	0.134***	(0.0122)	0.134***	(0.0125)
Exp. unemployment benefits	0.520***	(0.0816)	0.520***	(0.0985)
LT interest rate	0.358***	(0.0223)	0.358***	(0.0403)
Gini coefficient	-0.0247***	(0.00529)	-0.0247***	(0.00444)
Social capital score	0.0141***	(0.00343)	0.0141***	(0.00375)
Corruption Perceptions Index	-0.00178	(0.00209)	-0.00178	(0.00226)
Government effectiveness	0.527***	(0.0781)	0.527***	(0.116)
Democracy index	0.110**	(0.0429)	0.110**	(0.0477)
Economic freedom	-0.0836	(0.0529)	-0.0836	(0.0941)
Observations	**39,742**		**39,742**	
SE type	**Clustered (country)**		**Bootstrap**	

Notes: OLS estimated with vce(cluster country); Q50 from simultaneous quantile regression (sqreg) with bootstrap standard errors. All individual-level controls included (age, gender, marital status, education, health, financial situation, social support, employment status). *** p<0.01, ** p<0.05, * p<0.1. *Source*: SHARE Wave 8; Eurostat; World Bank; Transparency International.