



Pensioen en geluk



Nederlands pensioenstelsel uitgeroepen tot
beste ter wereld

**Nederlands pensioenstelsel is opnieuw het beste
van de wereld**

Nederland heeft opnieuw het beste
pensioenstelsel ter wereld

**Waarom het Nederlandse pensioenstelsel het
beste ter wereld is, volgens deze ranglijst**

Nederland behoudt koppositie in ranglijst van
beste pensioenstelsels



Help, wat gebeurt er nu weer met mijn pensioen?

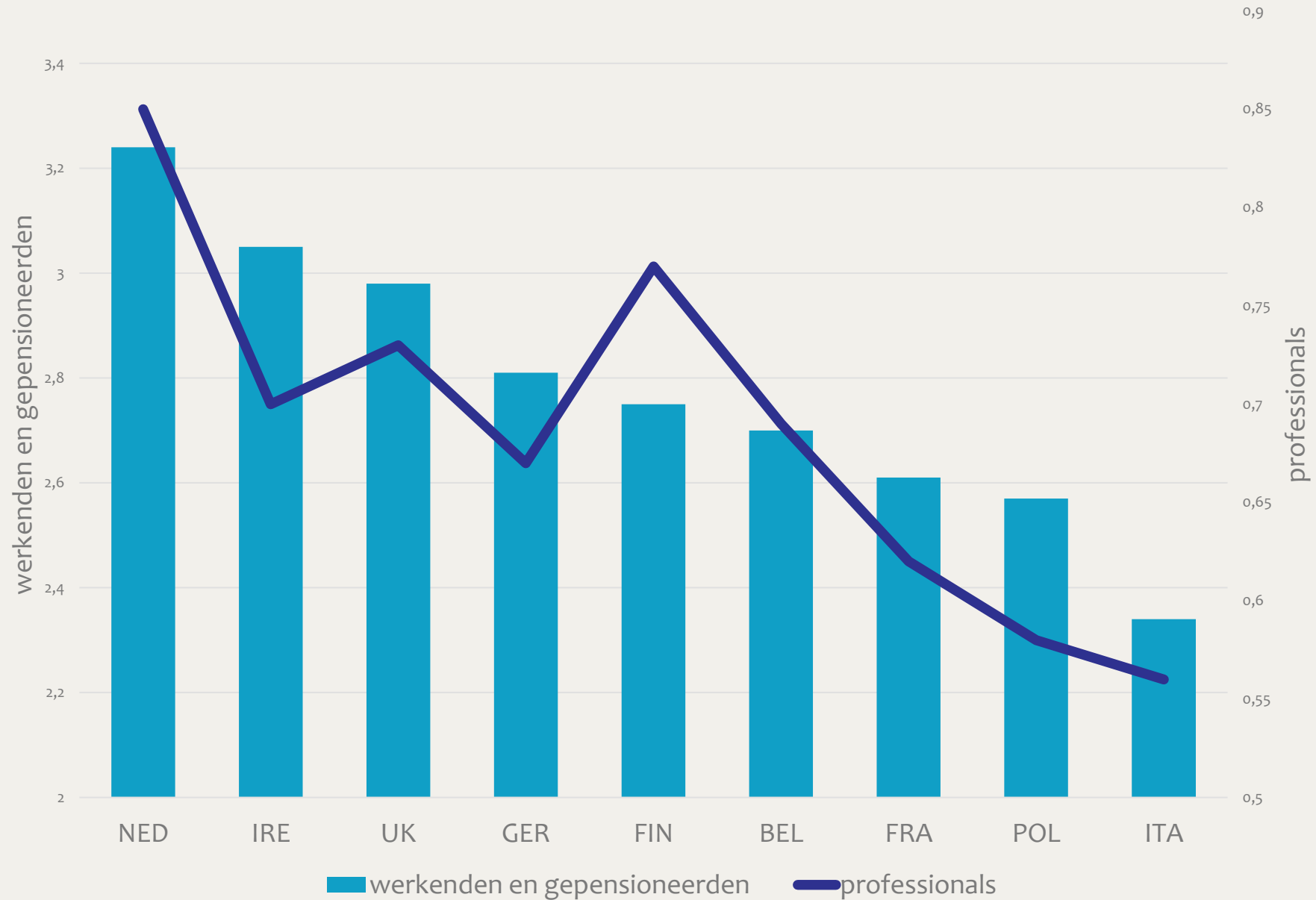
Is er straks nog pensioen voor ons?

Dat nieuwe pensioenstelsel wordt een ramp

Stel 'invaren' pensioenen uit!

Kabinet stuurt willens en wetens aan op pensioenchaos van ongekende omvang

beoordeling pensioensystemen





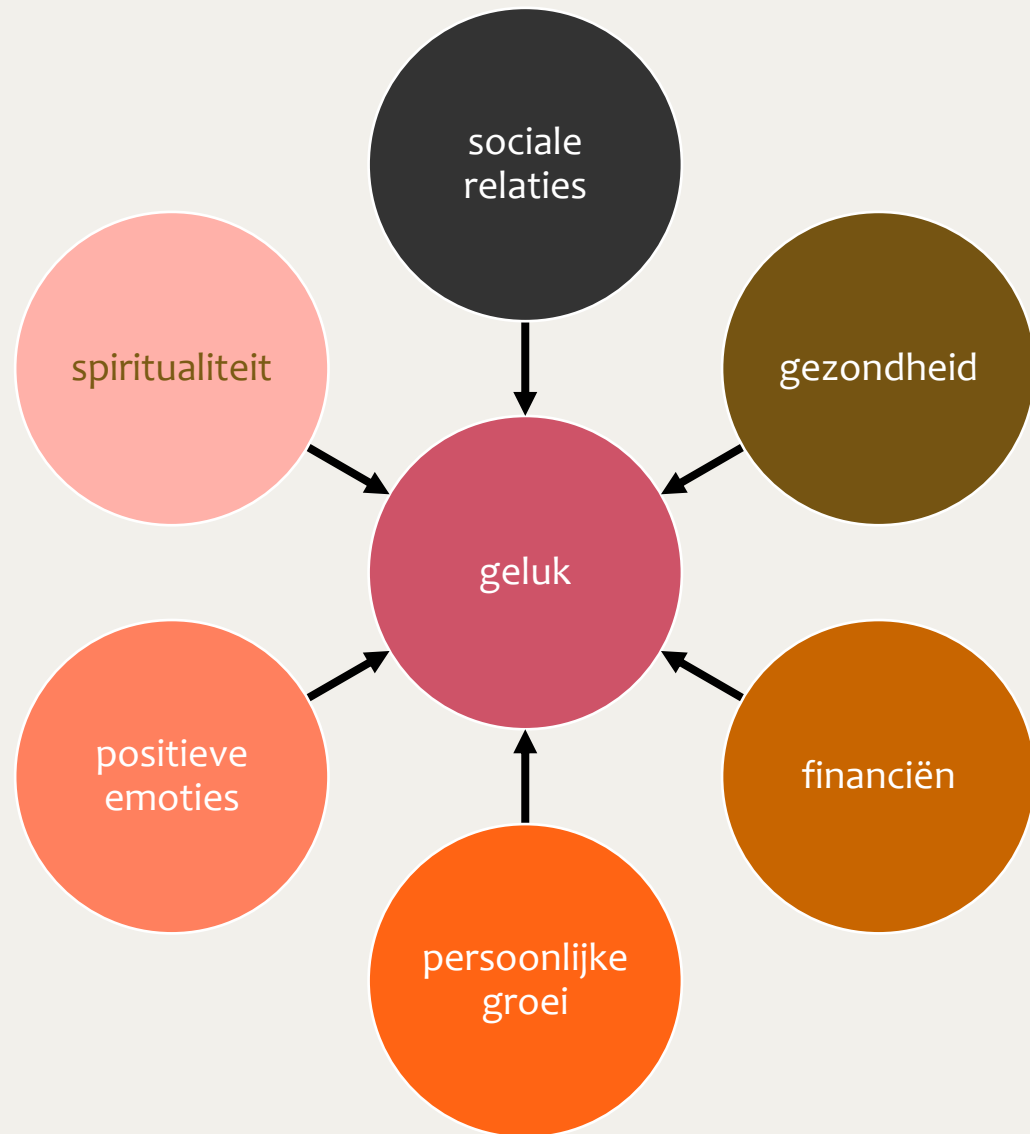
Nederland een van de 'gelukkigste' landen

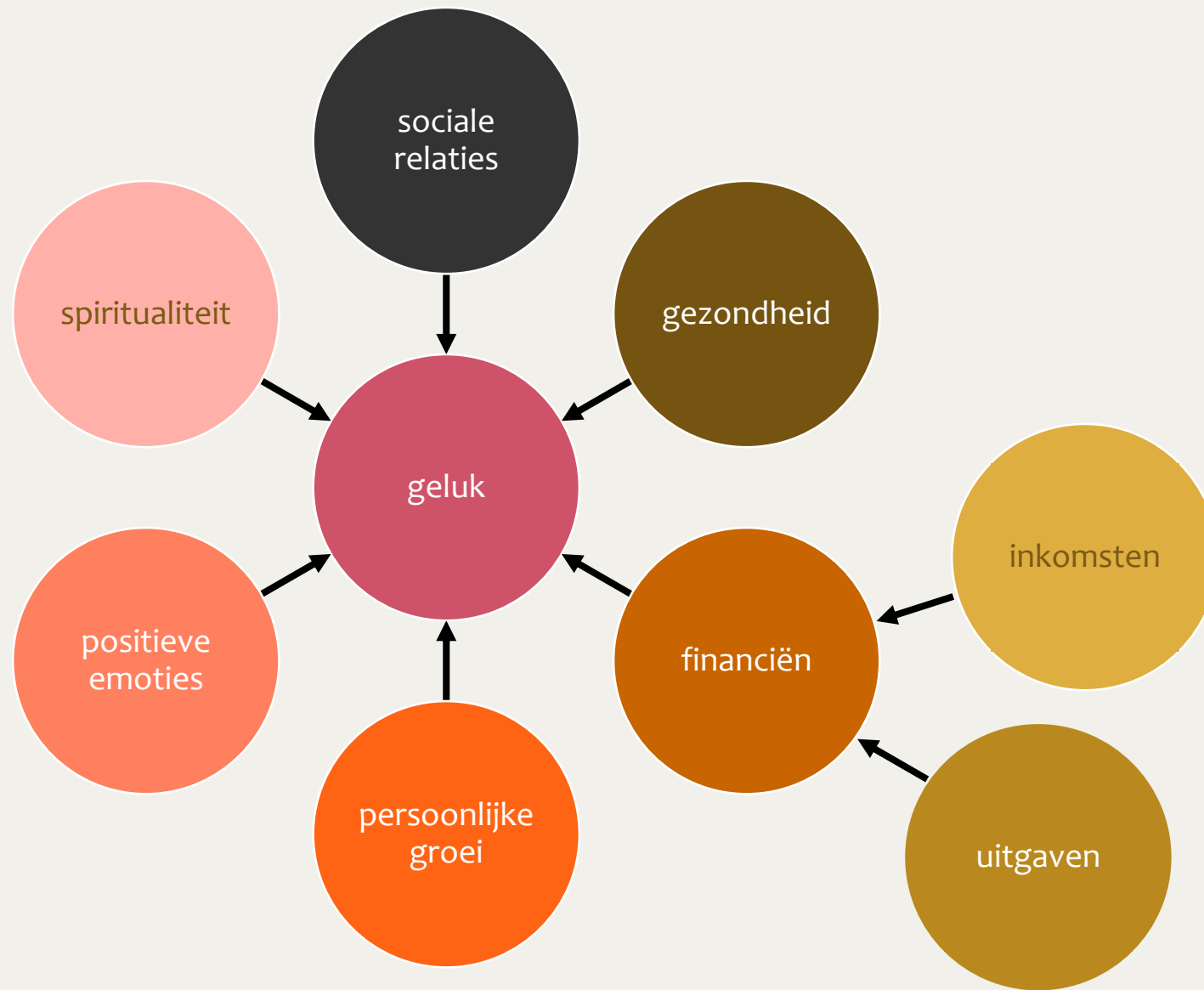
Nederlanders horen bij de gelukkigste aardbewoners

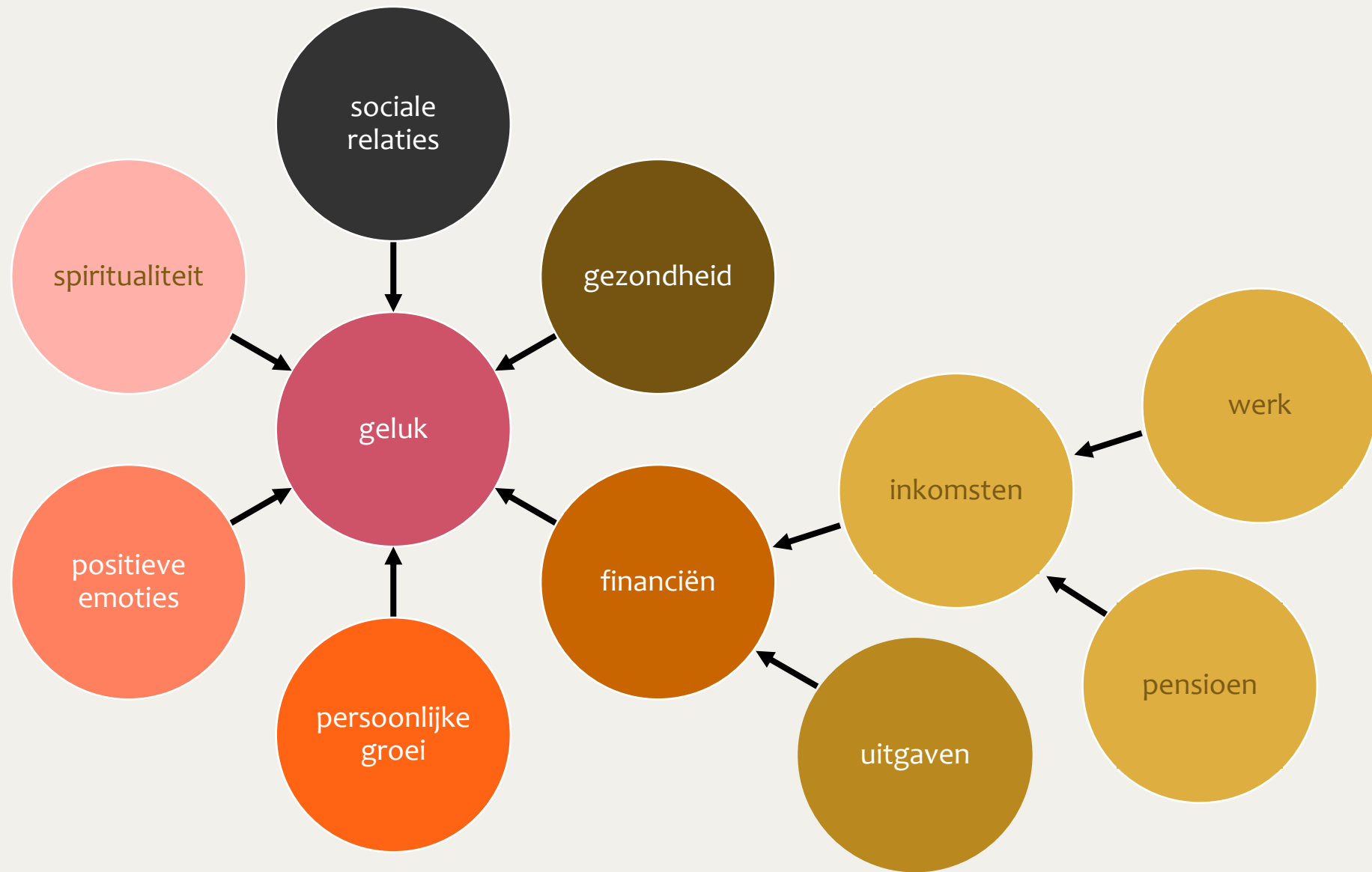
Nederland nog steeds in top vijf gelukkigste landen

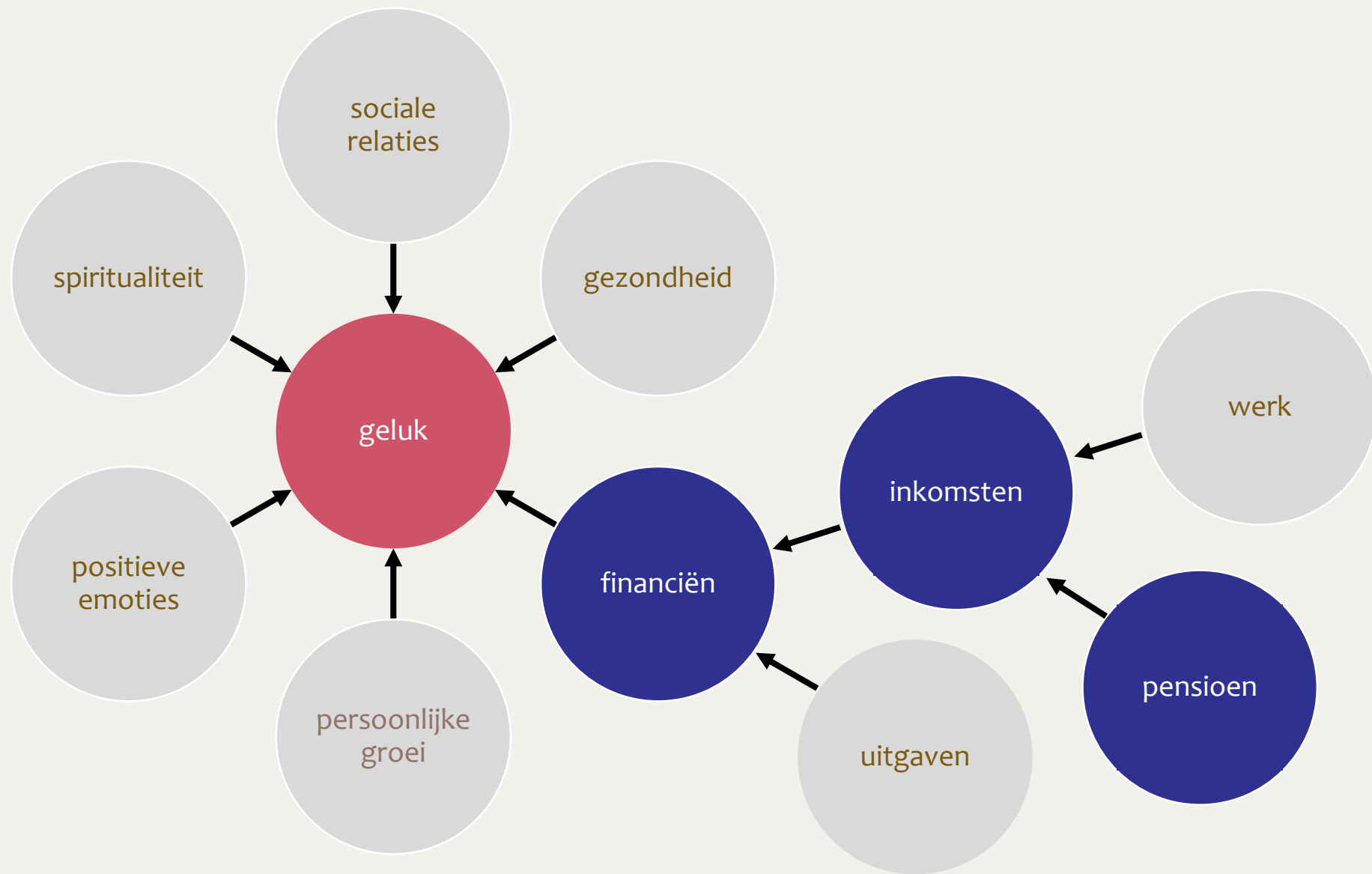
Nederland nog nooit zo hoog in lijst gelukkigste landen wereldwijd

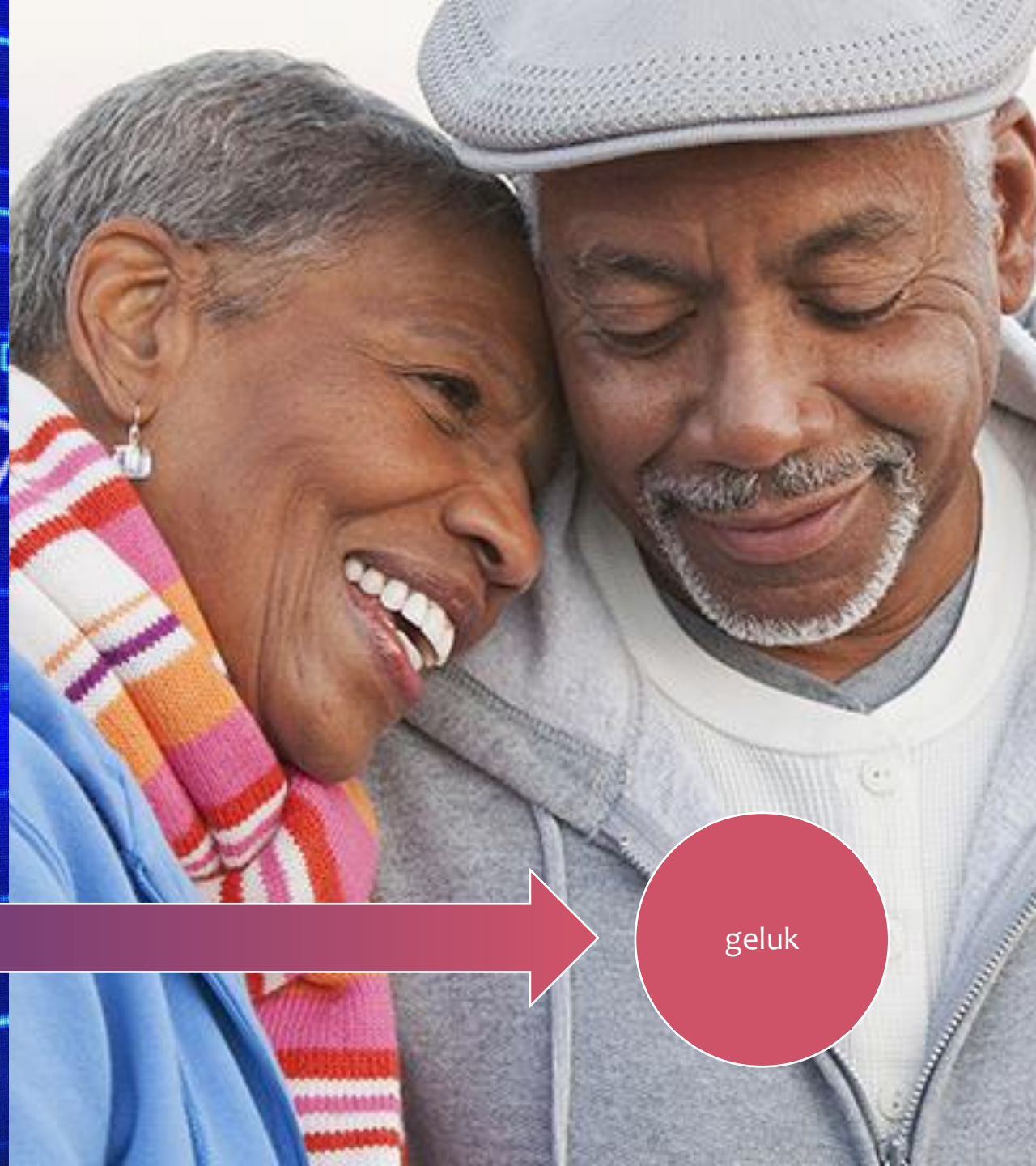
Nederland op 5de plaats van gelukkigste landen











pensioen

geluk

Pensions and Subjective Wellbeing—A Causal Mediation Analysis for 18 Advanced Countries *

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Abstract

This study examines the impact of national pension systems on subjective well-being, highlighting the mediating role of financial security in old age. Employing causal mediation analysis, we assess how different pension financing structures—pay-as-you-go (PAYG) versus funded systems—affect financial security and, in turn, well-being. The analysis is conducted at both the country level, covering 18 advanced economies, and the individual level, using data from 2,241 respondents across 9 European countries. Our findings indicate that private pension funding significantly enhances well-being, primarily by improving financial security, while PAYG-based public pensions are associated with lower financial security, thereby reducing well-being. The impact of pension financing structure on well-being is more pronounced in countries with higher levels of population ageing. The results remain consistent when accounting for key determinants of subjective well-being, such as interpersonal trust, social expenditure, and GDP per capita. To further validate our findings, we conduct robustness checks using multiple well-being indices (WHR, WVS, and OECD), the consistency of the WHR happiness studies and pension assets as an alternative explanatory variable. Remarkably, pension financing diversely explains additional variance in well-being beyond the standard WHR covariates.

JEL classification: H55, I31, J26.

Keywords: pension system, subjective wellbeing, happiness, causal mediation analysis, pay-as-you-go, pension funding.

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1 Introduction

Countries vary in their measured levels of subjective well-being. Factors such as per capita income and mutual trust play a significant role in explaining these differences. This study explores the impact of national pension systems on well-being.

Diagram (a) in Figure 1 illustrates a strong correlation between the well-being index from the annual published World Happiness Report WHR (Helliwell et al. [2024b]) and a Pension system quality index (Mercer [2024]) for 18 developed countries. Ensuring financial security in old age is a fundamental objective of pension systems worldwide. Diagram (b) of Figure 1 shows that the WHR well-being index is positively correlated with perceived or expected financial security in old age (OECD [2022]).

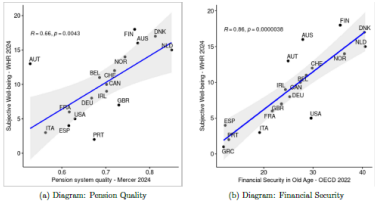


Figure 1: Relationship between well-being and quality of pension systems (Diagram a) and between well-being and perceived financial security around old age income (Diagram b)

Is there also a causal relationship between these observations? Does a well-structured pension system enhance financial security in old age and, in turn, contribute to higher well-being at the national level?

This study investigates the impact of national pension systems on subjective well-being, proposing that the relationship is mediated by individuals' perceived financial security in retirement. To test this hypothesis, we apply causal mediation analysis [Dippel et al., 2020], focusing on the causal link between the financial structure of national pension systems—particularly the mix of pay-as-you-go and funded components—and well-being outcomes. The analysis draws on two complementary datasets: a country-level dataset covering 18 advanced economies, compiled from publicly available sources, and an individual-level dataset based on survey responses from 2,241 individuals across 9 European countries.

It is reasonable to assume that pension institutions influence well-being. These institutions are designed to help individuals to plan their finances throughout their lives. In many developed

7 Methodology

7.1 Causal mediation analysis

This study investigates whether there is a causal mechanism from pensions to subjective well-being, with experienced financial security in old age as mediating variable. Broadly, there are two primary approaches to examining causality: the Instrumental Variable (IV) approach [Angrist and Krueger, 1994] and mediation analyses [Baron and Kenny, 1986]. While both methods provide insightful findings, each has inherent limitations due to their methodological structure. The IV analysis allows for the identification of a true causal effect, but it cannot provide insight into the precise causal channel of how pensions affect well-being. The inherent limitation of mediation analyses approach lies within the assumption of exogeneity which is barely realistic. Multiple factors can be discerned that may bias the mediation pathway. Dippel et al. [2020] effectively address these shortcomings. They propose a causal mediation analysis that integrates the strengths of both the IV and mediation approaches.

7.2 Framework

Effectively, the mediation analysis by Dippel et al. [2020] involves a three-stage framework. This is depicted in Figure 4 which illustrates the causal pathway from pensions to subjective well-being, with financial security as a mediator.

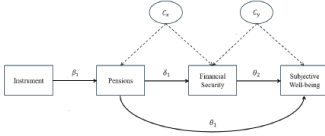


Figure 4: Causal diagram illustrating the Relationship between Variables.

Notes: The diagram shows the total effect of Pensions on SWB, split into direct (δ_1) and indirect (δ_2) effects. Unobserved confounders C_x and C_y affect Pensions, Financial Security, and SWB, but not directly between Pensions and SWB. The variable Instrument isolates exogenous variation in Pensions, enabling the decomposition of the total effect.

Stage 1: Predict Pension using Instrument Z

In the first stage, the causal effect of the instrument (Z) on pensions is estimated to establish its relevance and to isolate exogenous variation in the explanatory variable. The first stage model is specified as follows:

$$Pension_{it} = \alpha_0 + \beta_1 \cdot Z + \gamma_2 \cdot Control_{it} + \epsilon_{it} \quad (1)$$

The coefficient β_1 measures the effect of the instrument on pensions.

Stage 2: Predict Financial Security using Pension

To clarify the causal mechanism, the second stage examines the effect of pensions on financial security (FS) using the predicted value from the first stage. The second stage model isolates the extent to which differences in pensions affect financial security.

$$FS_{it} = \alpha_0 + \delta_1 \cdot Pension_{it} + \gamma_2 \cdot Control_{it} + \nu_{it} \quad (2)$$

Here, δ_1 represents the causal effect of pensions on financial security, leveraging exogenous variation from the instruments.

Stage 3: Estimate Subjective Well-being using Pension and FS

In the third stage, the impact of the mediator—financial security—is estimated while controlling for pensions.

$$SWB_{it} = \alpha_0 + \theta_1 \cdot Pension_{it} + \theta_2 \cdot FS_{it} + \gamma_2 \cdot Control_{it} + \epsilon_{it} \quad (3)$$

In this equation, θ_1 represents the direct effect of pensions on the outcome while θ_2 captures the mediated effect via financial security.

7.3 Decomposition Effect

The analysis decomposes the total effect (TE) of the pension system on subjective well-being into two effects: direct effect and indirect effect. The direct effect (DE) represents the effect of pensions on subjective well-being that is independent of financial security. The indirect effect (IDE) indicates the effect mediated through financial security—a change in subjective well-being. Therefore the effects are expressed as:

$$DE = \theta_1$$

$$IDE = \delta_1 \times \theta_2$$

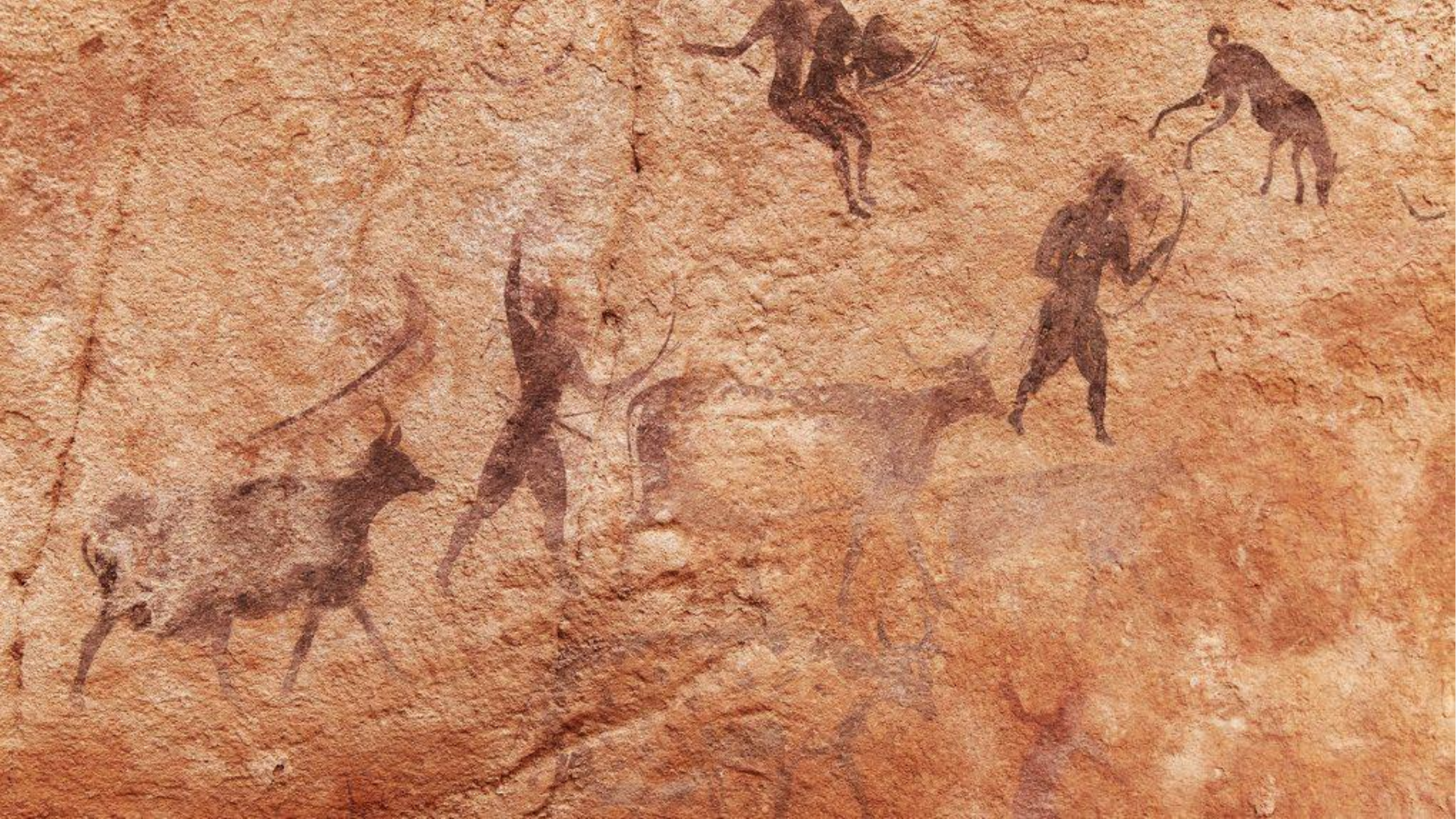
$$TE = DE + IDE$$

Regarding the indirect effect, δ_1 represents the pathway from independent variable to mediator (Pensions → Financial Security); θ_2 represents the pathway from mediator to outcome variable (Financial Security → Subjective Well-being). The total mediated pathway, which is the indirect effect (IDE), is indicated by the product of these two coefficients ($\delta_1 \times \theta_2$). The

Table 4: Causal Mediation Analysis between Pensions and SWB at the Country Level

	Dependent variable:		
	Private Replacement Rate (1)	Financial Security in Old Age (2)	SWB (WHR) (3)
Financial Security in Old Age			0.032*** (0.011)
Private Replacement Rate		0.115*** (0.033)	0.002 (0.004)
Inflation 1919-1940	-2.138*** (0.310)	-1.194*** (0.136)	0.006 (0.021)
log GDP per capita	3.215 (4.037)	4.478*** (1.326)	1.059*** (0.191)
Uncertainty Avoidance residual	-0.401*** (0.060)	0.028 (0.040)	-0.0004 (0.000)
Trust residual	-0.138 (0.120)	-0.442*** (0.043)	-0.381 (0.007)
Financial architecture residual	1.122 (1.287)	-0.791 (0.887)	-0.009 (0.000)
Welfare residual	-2.568*** (0.438)	-0.190 (0.192)	0.049* (0.023)
Healthy life expectancy	-2.109*** (0.581)	-0.709*** (0.230)	0.002*** (0.009)
Dependency Ratio	0.039 (0.381)	0.542*** (0.132)	-0.029* (0.017)
Central Bank Independence	0.554 (7.472)	7.691*** (2.818)	0.026 (0.351)
Retirement Age	-1.839*** (0.642)	-0.504** (0.249)	-0.019 (0.031)
Constant	255.352*** (62.665)	39.821 (26.963)	-9.729*** (3.071)
Observations	144	144	144
R ²	0.752	0.855	0.629
Adjusted R ²	0.712	0.842	0.606
Residual Std. Error	8.360 (df = 132)	3.381 (df = 132)	0.410 (df = 131)
F Statistic	36.281*** (df = 10; 132)	70.045*** (df = 11; 132)	19.362*** (df = 12; 131)

Note: *p<0.1; **p<0.05; ***p<0.01. Note: This table presents the results of a causal mediation analysis over the period 2009-2023 between private replacement rate and subjective well-being, with financial security in old age as a mediator at the country level and average inflation rate over the period 1919-1940 as instrument. The residual variables result from orthogonalizing the main variables with the instrument to strip the overlap in variance.





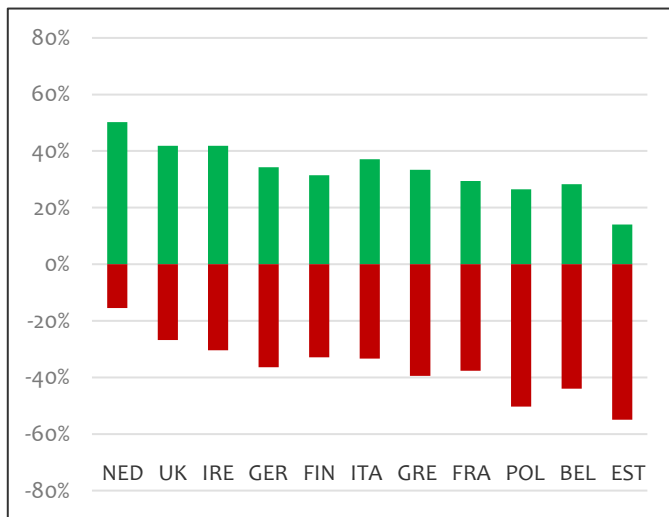
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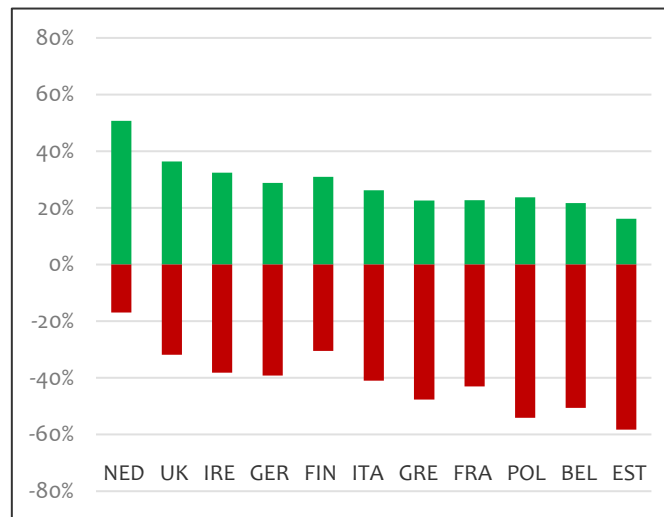
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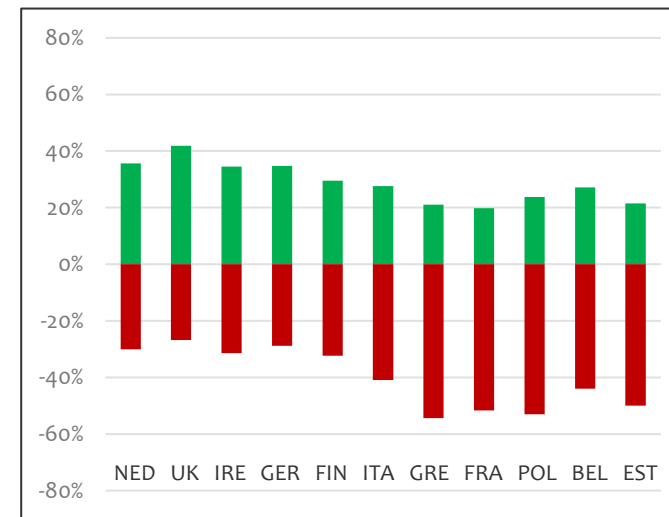
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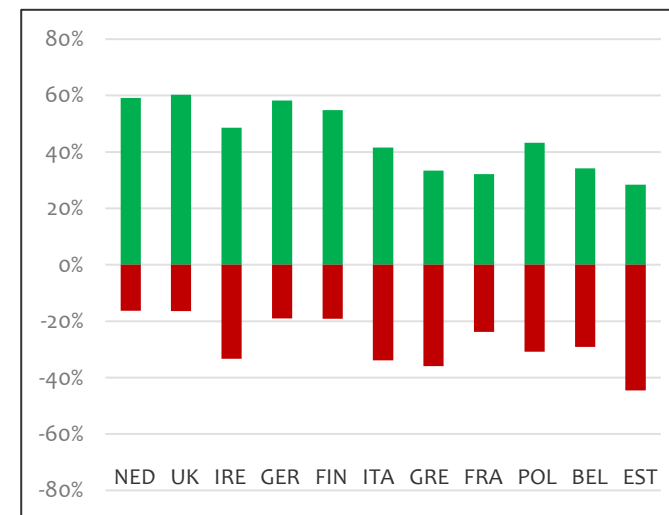
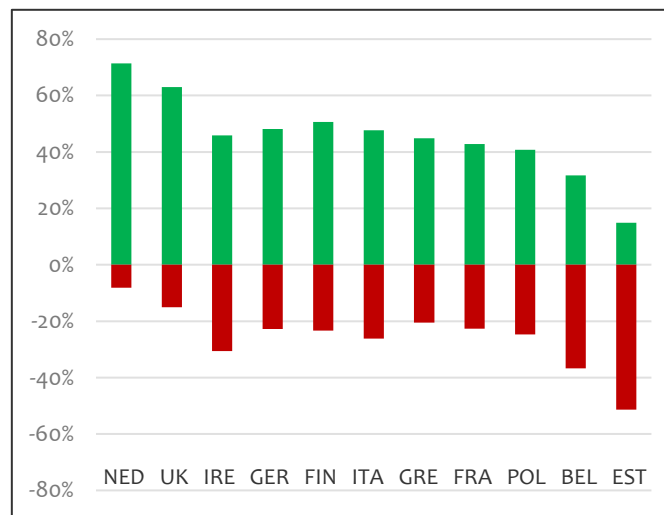
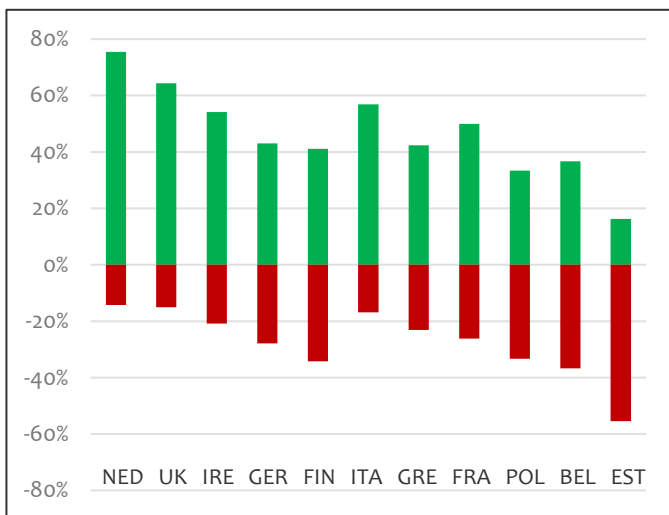
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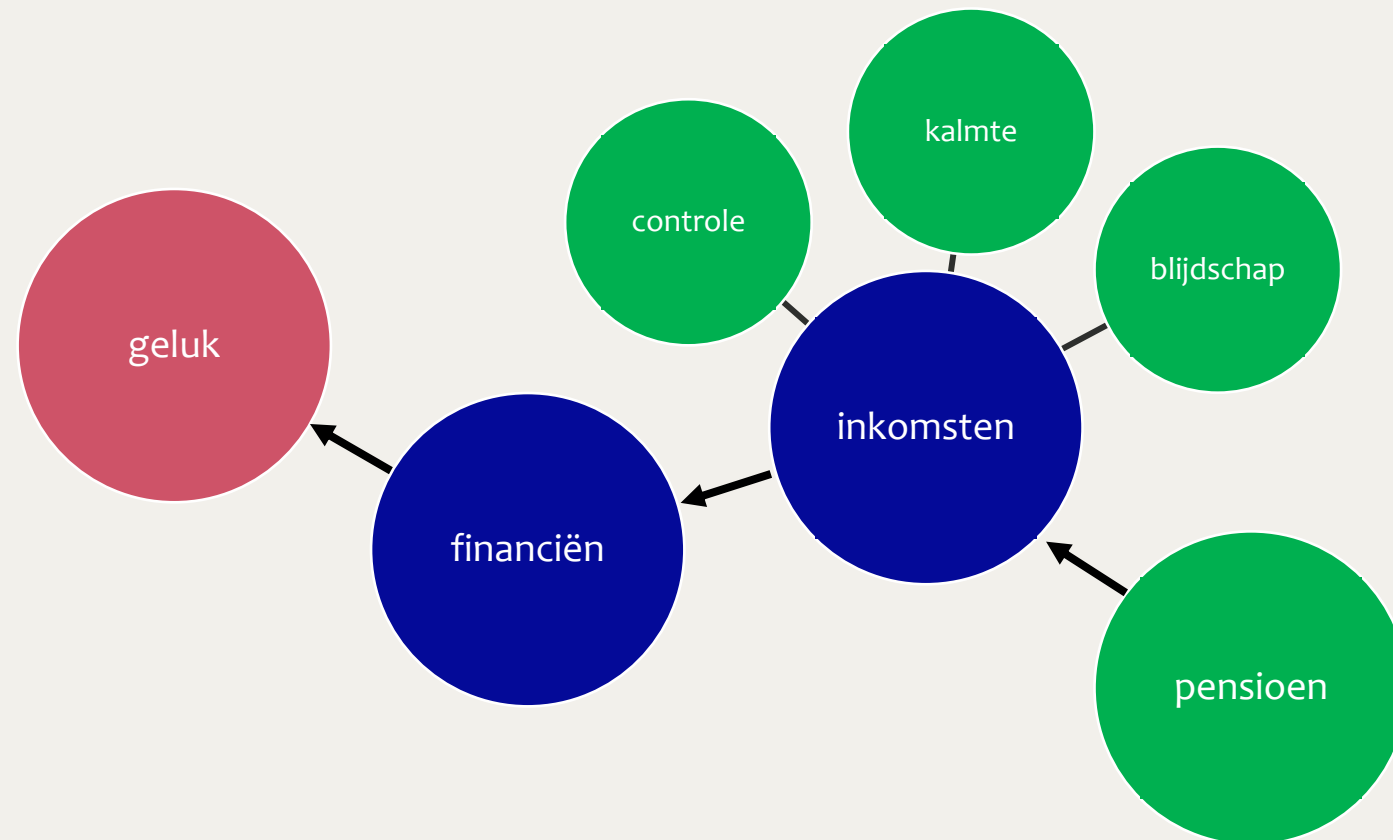


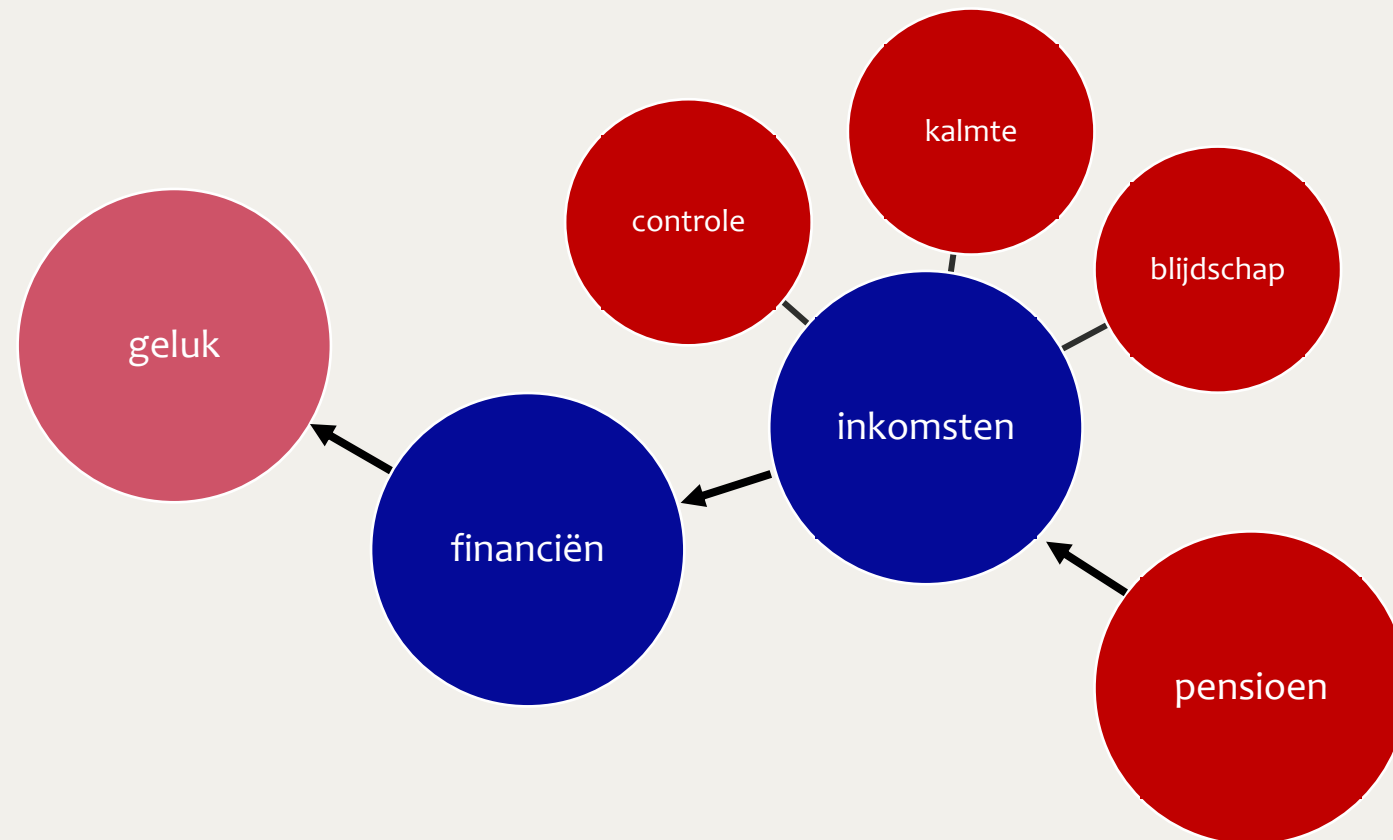
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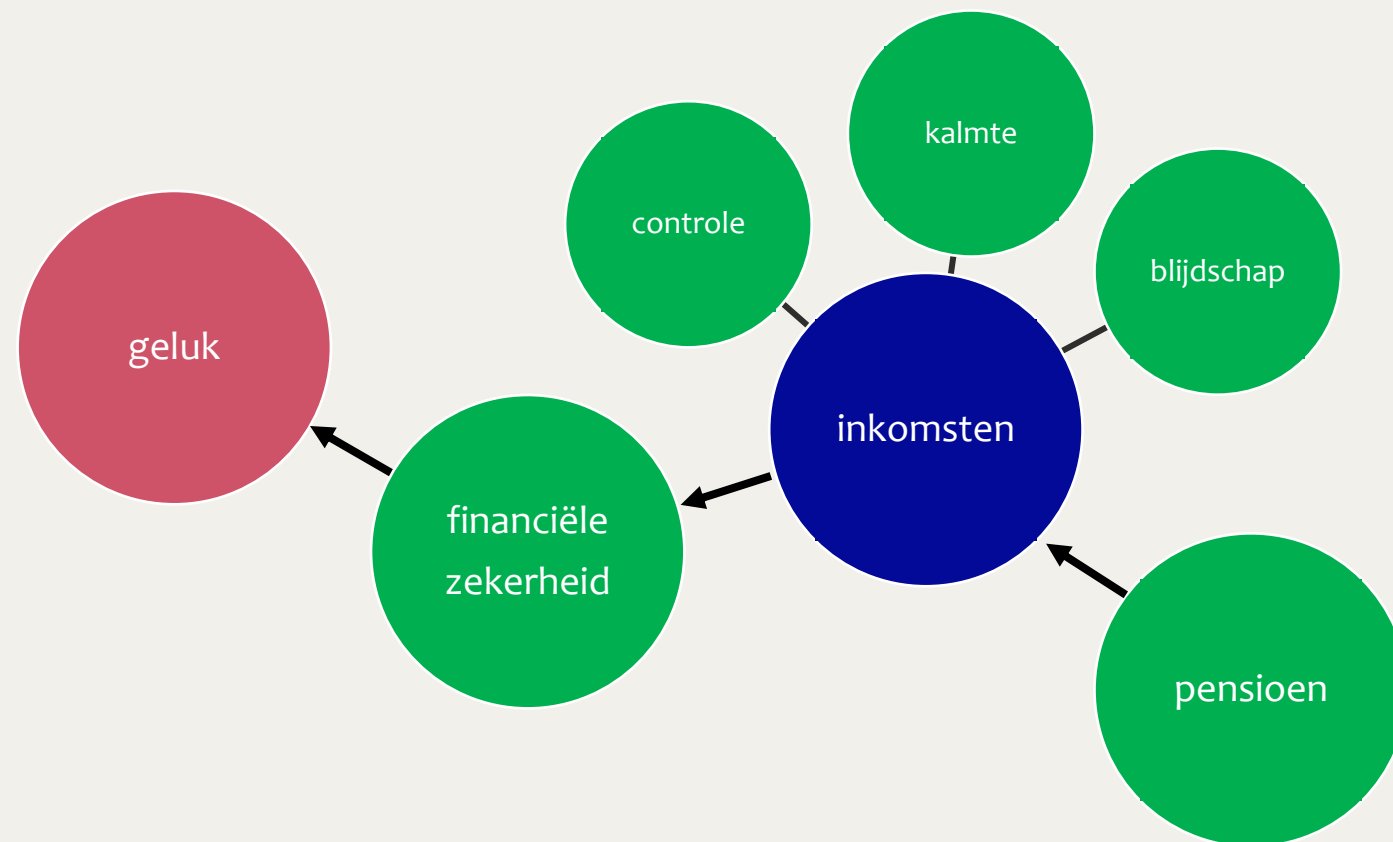


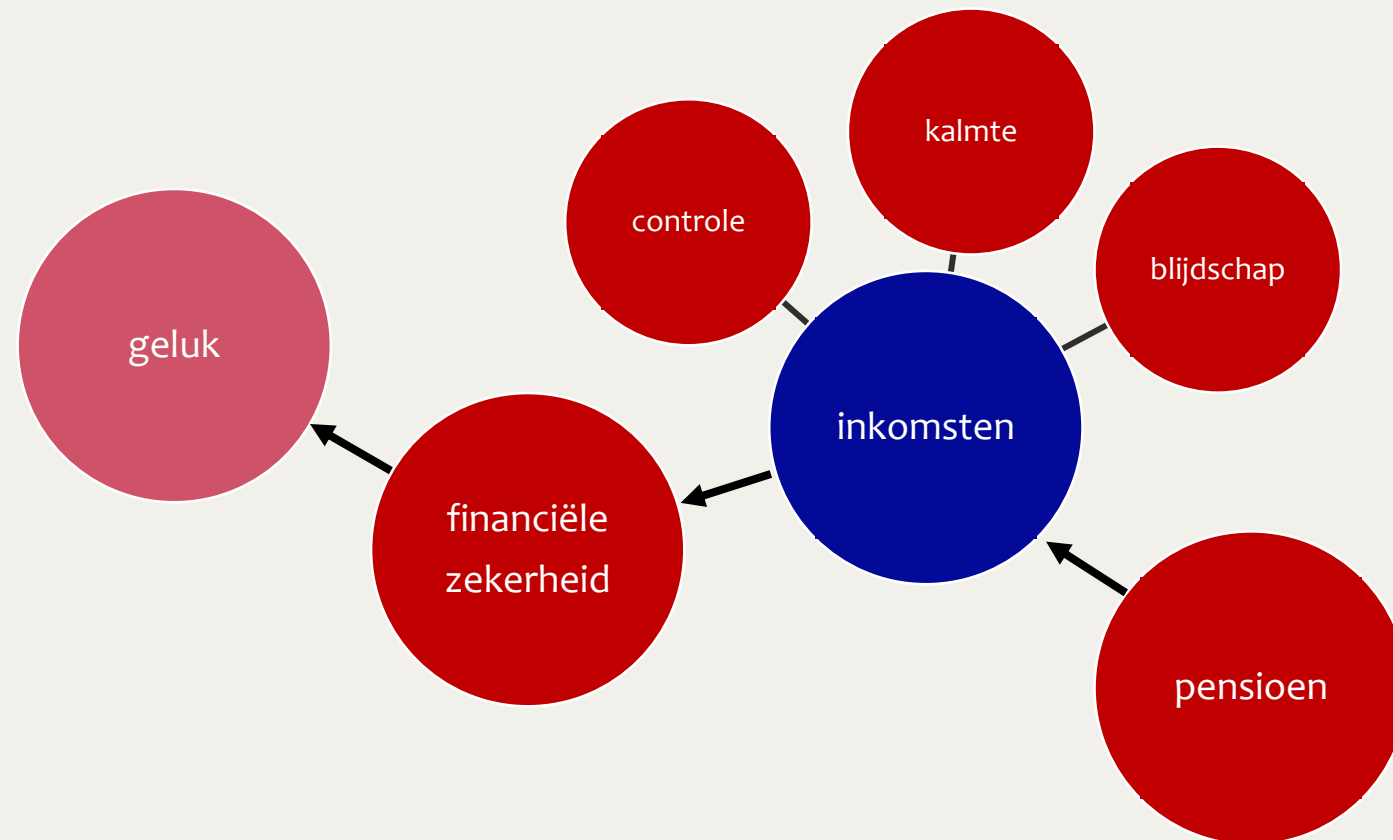
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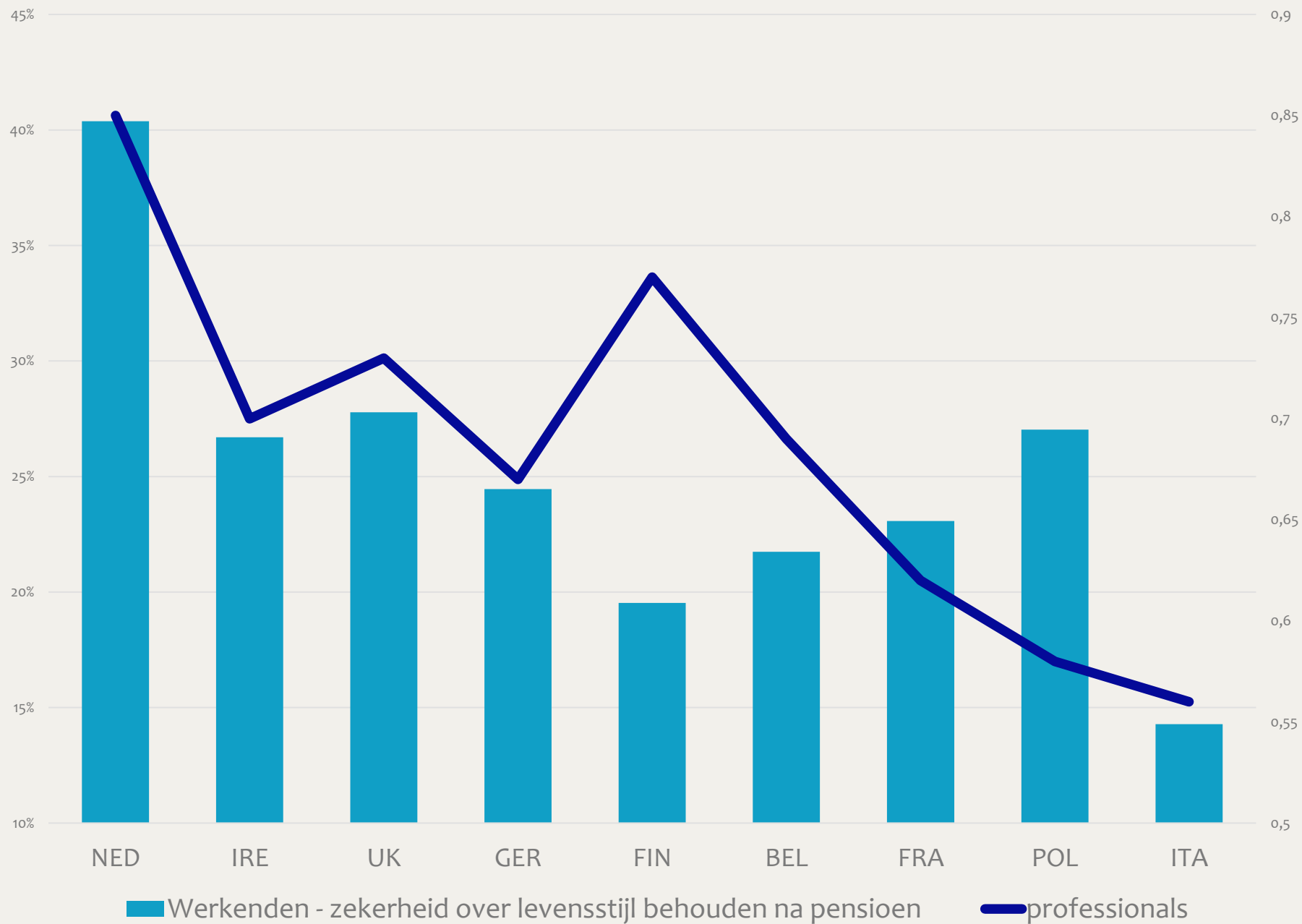


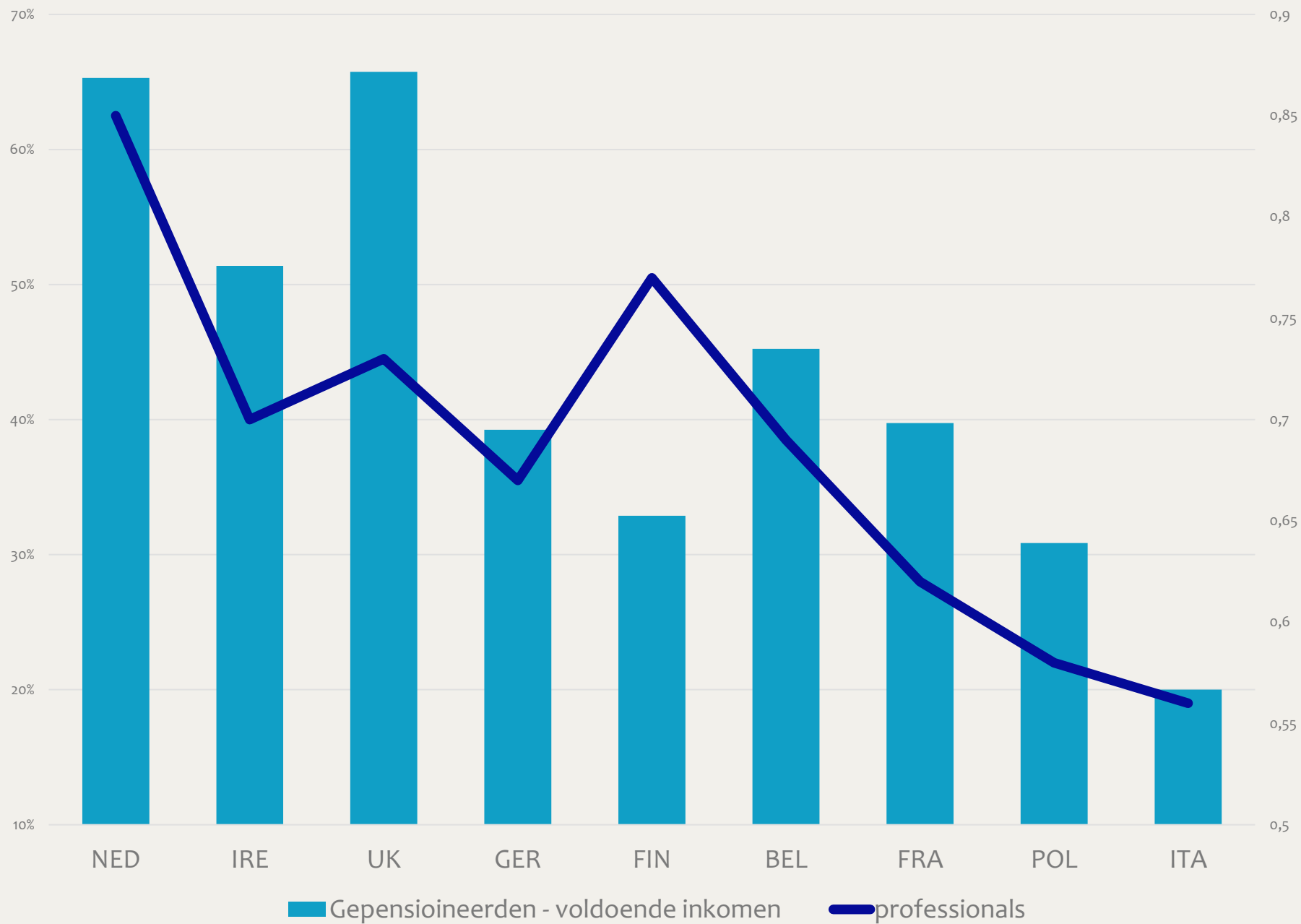


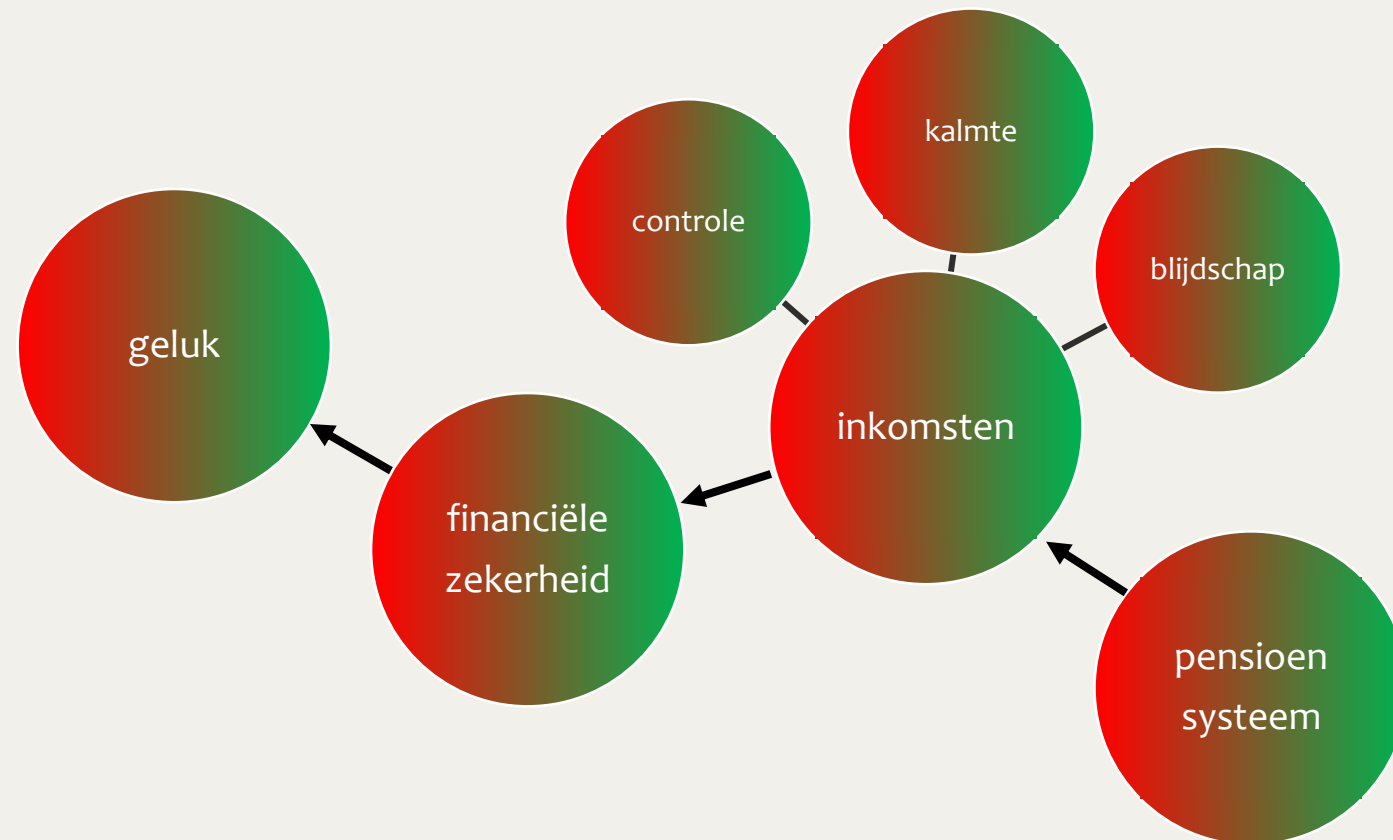


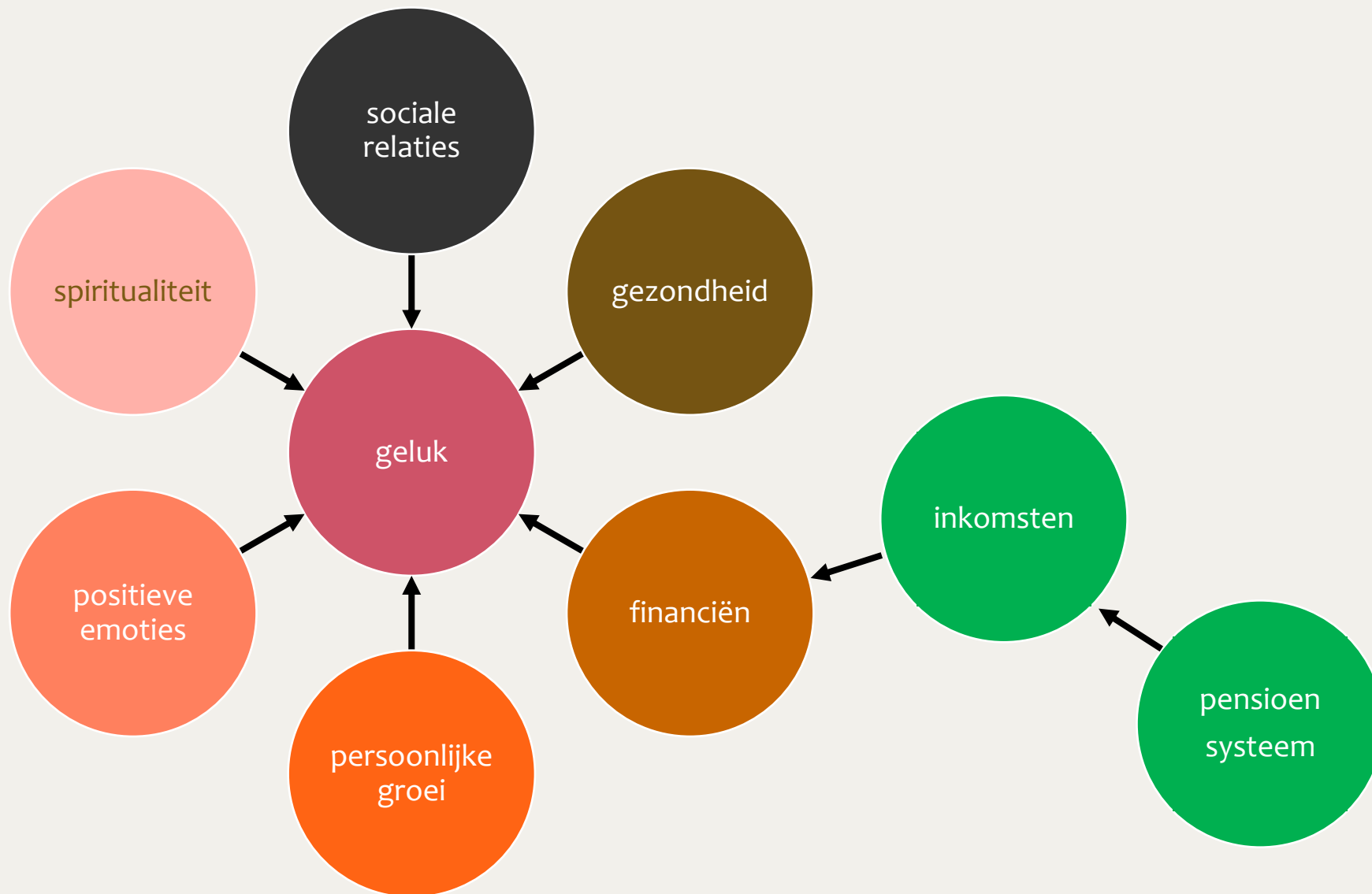


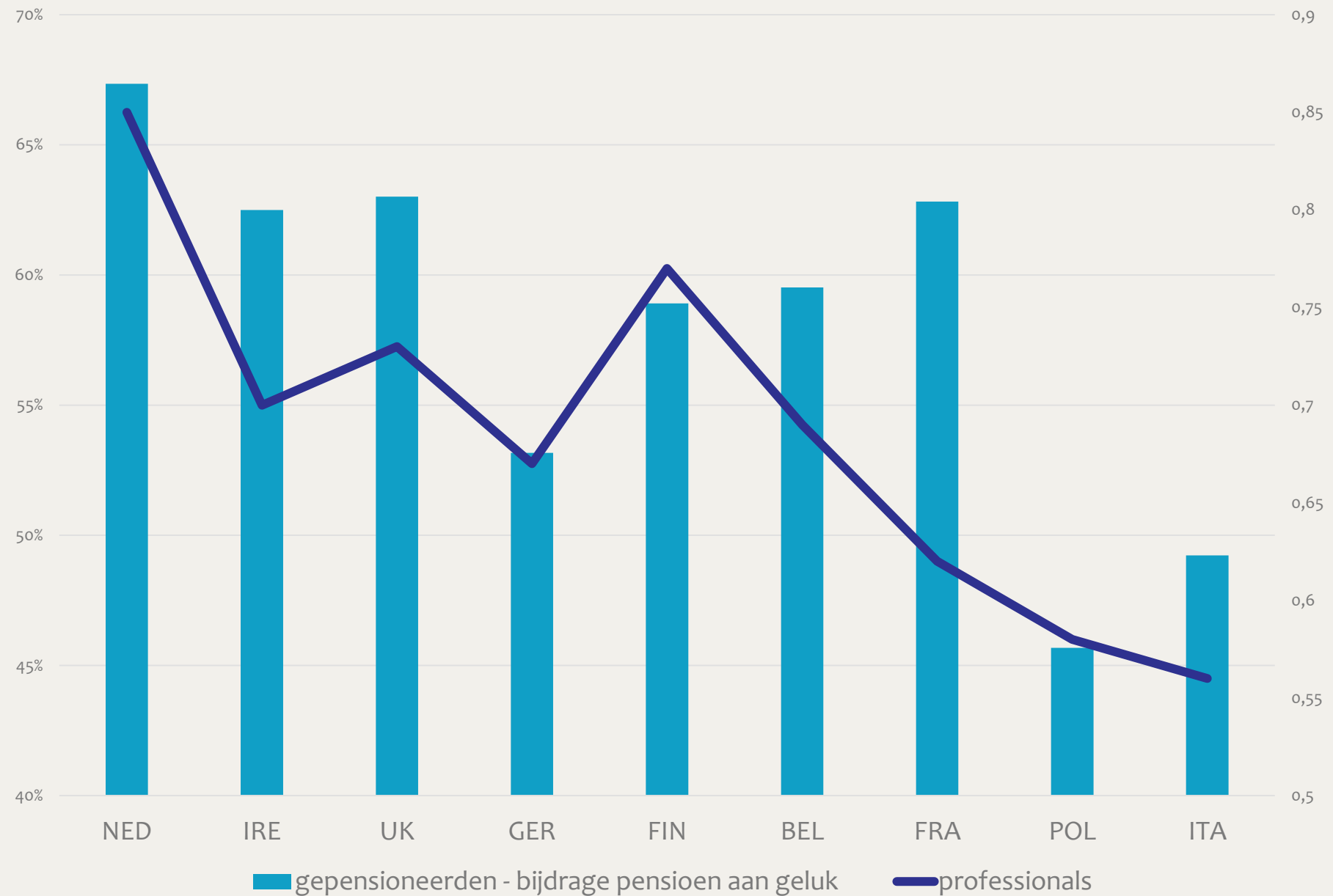












A photograph of an elderly couple embracing in a grassy field at sunset. The woman has brown hair and is wearing a denim jacket. The man has a white beard and is wearing a blue shirt. The sun is low in the background, creating a warm, golden glow.

Vragen?