The impact of pension amount on money illusion

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Abstract: In this project we consider the effect of money illusion on the daily life of retired people. Considering money illusion as a deviation from rationality that brings people to think in terms of nominal rather than real monetary values, we argue that retired people in economic restriction should be more prone to this bias than those who do not have money constraints. We report a series of three studies that examine how pension amount disposability influenced the money illusion effect. Results showed that people in the poorest economic condition were more prone to incur in the money illusion effect.

Introduction: Previous works showed the cognitive consequences of not having enough to satisfy proper needs (Mani, Mullainathan, Shafir, & Zhao, 2013; Vohs, 2013; Haushofer & Fehr, 2014), but less is known about how retired people in economic hardship manage their economic decisions. For this reason, we decide to study money illusion (Shafir, Diamond, & Tversky, 1997; Weber, Rangel, Wibral, & Falk, 2008) and the consequential lack of rationality it entails. Despite plenty of evidence showing that thinking in nominal terms is common and that simple nominal changes can affect individual choices, we believe that it is very important to understand the consequences of economic hardship on the extent to which people incurs in the money illusion bias. The goal of this project was to show that retired people with lower economic disposability should be more prone to money illusion than those who do not have money constraints.

Hypothesis 1: Retired people with low economic disposability should be more prone to make decisions in nominal terms because this should facilitate cognitive elaboration.

Hypothesis 2: Individual differences influence the effect of pension amount on money illusion, as the pension amount increases the effect of environmental sensitivity on how fair participants perceive the change in pension amount should increase, too.

Study 1

Method: We manipulated the pension amount that participants (N=176) would hypothetically receive per month (€500, €1500 or €2500 per month), then we presented (within subject) two scenarios of money illusion adapted from Tversky and Kahneman (1986) and we asked participants how acceptable they consider the government decision (from 1 to 7).

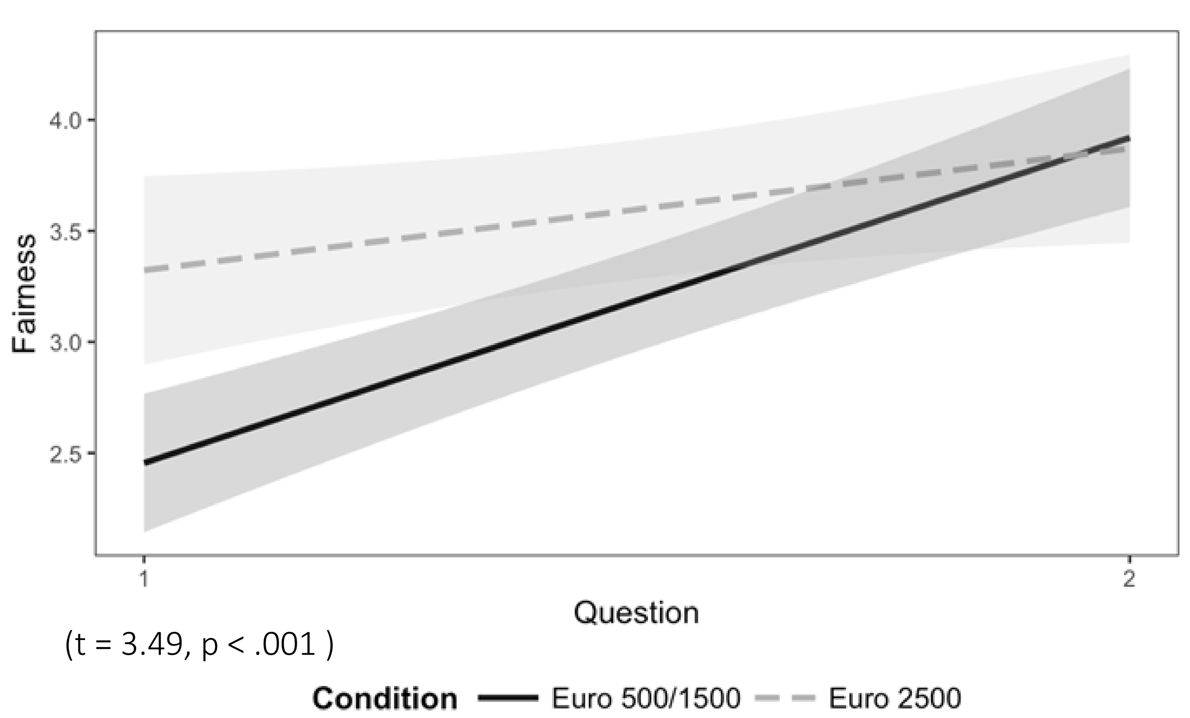
PENSION CUT: Due to a severe economic crisis, the country is facing a difficult time. There is a strong recession and zero inflation. The government is forced to reduce pensions by 3%.
PENSION RISE: Due to a severe economic crisis, the country is facing a difficult time. There is a strong recession and 12% inflation. The government decides to raise pensions by 5%.

Results

	Pension cut		Pension rise	
	M	SD	M	SD
€500	2.4	1.4	3.8	1.9
€1500	2.5	1.5	4.0	1.9
€2500	3.4	1.7	3.9	1.8

Descriptive statistics.

We found a significant effect of the money illusion scenario ($\chi^2 = 45.02$, $\beta = 1.16$, SE = .17, t = 6.71, p < .001) and a significant effect of condition ($\chi^2 = 12.59$, p = .002), but the effect of condition was significant only for the two lowest pension amount groups ($\beta = .32$, SE = .09, *t* = 3.52, *p* < .001).



(t = 3.49, p < .001)

Study 2

Method: We investigated how individual differences influence the effect of pension amount on money illusion.

Economic manipulation

Money illusion scenarios

(N=317)

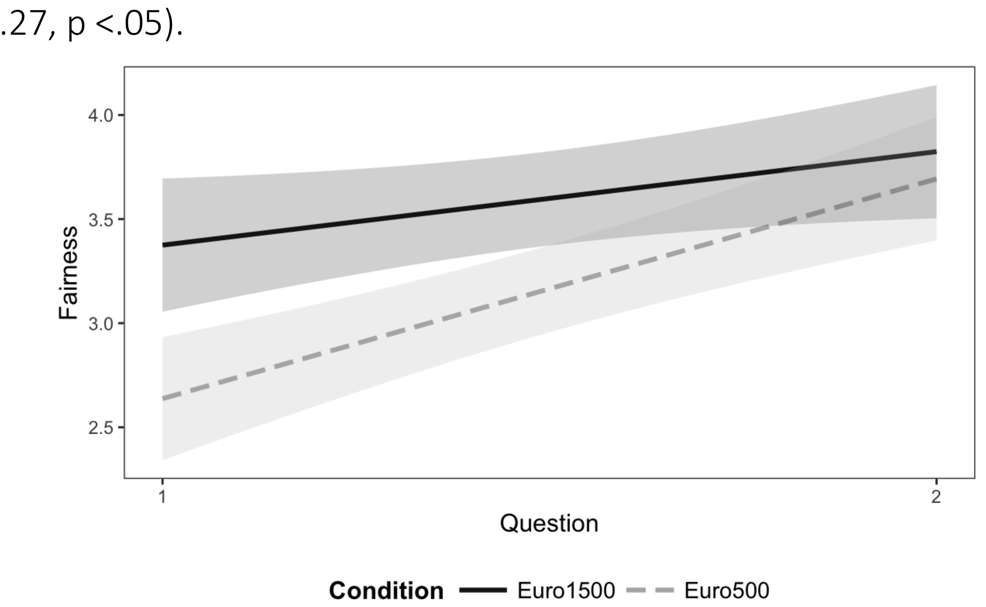
Highly Sensitivity Person Scale (Aron & Aron, 1997; Pluess, 2013)

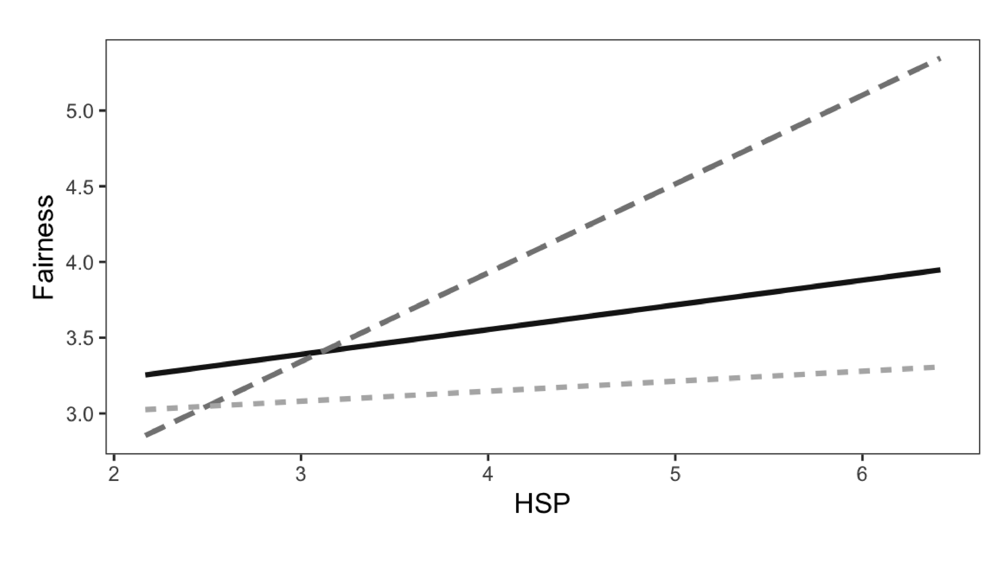
Results:

	Pension cut		Pension rise	
	M	SD	M	SD
€500	2.7	1.5	3.7	1.7
€1500	3.4	1.6	3.8	1.8
€2500	4.0	1.9	4.2	1.9

Descriptive statistics.

We found a significant interaction between scenario and condition ($\chi^2 = 6.15$, p < .05) and an interaction between condition and environmental sensitivity was also significant ($\chi^2 = 6.77$, $\beta = .20$, SE = .09, t = 2.27, p <.05).



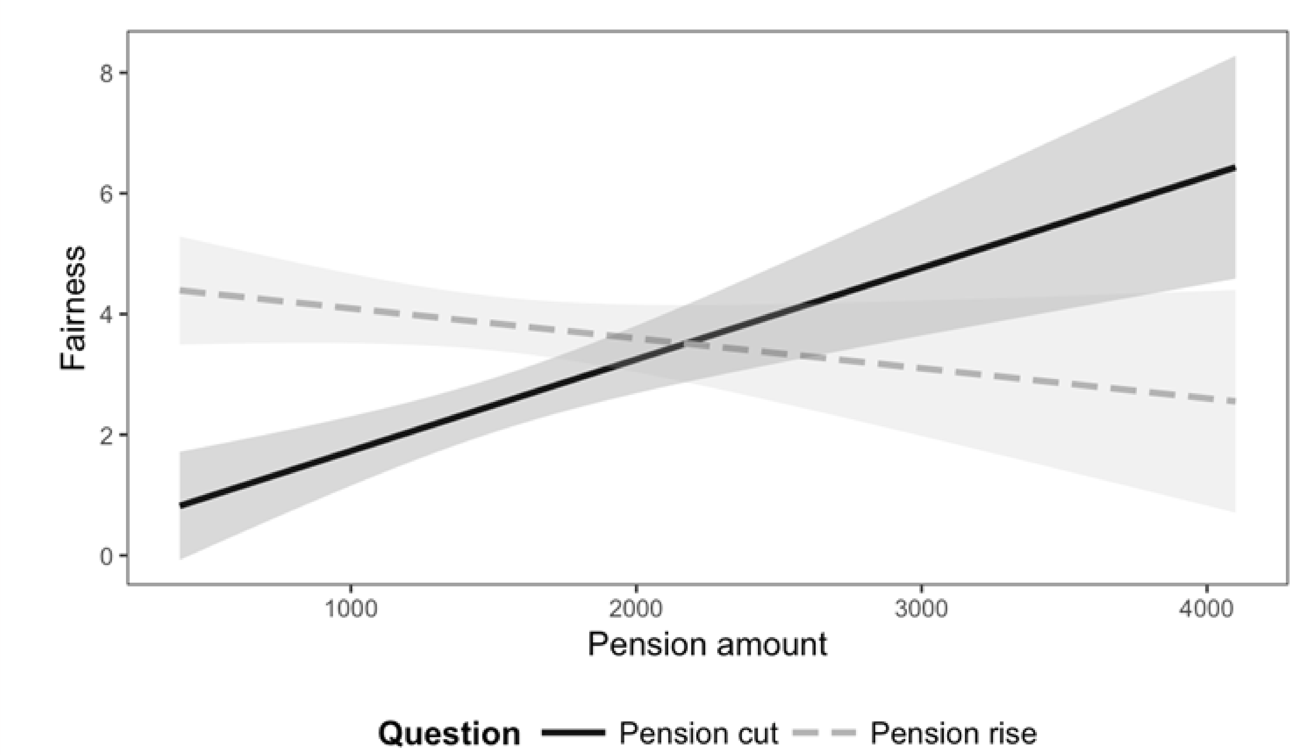


Moreover, a slope analysis showed that HSP had a significant impact on the fairness ratings of participants in the two low amount conditions (t = 4.05, p < .001).

Study 3

Method: We investigate a sample of retired people (N=59), and we used the same scenarios of the previous studies.

Results revealed a significant effect of scenario (β= 4.37, SE = 7.46, t = 5.86, p < .001), of pension amount (β = .001, SE = .001, t = 4.33, p < .001), and a significant interaction between scenario and pension amount (β = .001, SE = .001, t = -4.45, p < .001), indicating that retired people with lower pension amount had a stronger money illusion bias.



(t = 4.26, p < .001)

Discussion

- Retired people with scarce and static economic resources were more prone to incur in the money illusion effect, with consequent economic instability.
  - This demonstrated that those with a lower pension amount were more likely to consider the nominal value of money, instead of its real value.
- Participants with higher pension amount perceived as fairer a cut in the pension amount, compared to those in a condition of lower economic disposability.
  - In Study 2, environmental sensitivity moderate the effect of how fair the change in pension amount in the money illusion scenario was perceived across different experimental conditions.
- A better management of retired savings and of their pension amount, could reduce future social cost.

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