

Anchoring inflation expectations: French students' perception in a post economic crisis context

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Abstract

This study explores inflation expectations among French students in a post economic crisis context. The aim of this paper is to assess the level of inflation intrinsically associates with the representation of the euro and understand whether economic background and knowledge can influence this representation. We argue that understanding the representation of the euro as currency and how laypeople reason through money illusion is required in order to define a more effective monetary policy. We used a survey questionnaire which requires answers over a free association task, an economic knowledge questionnaire and a socio-demographic questionnaire. The data was collected between November 2014 and May 2015. We found that the social representation of the euro is stable and formed by the words “money” and “cash”. The euro appears to be the support of daily life transactions. However, we noticed differences in the peripheral zones among participants' economic background and knowledge. These differences highlight issues such as monetary policy communication during a crisis, citizens' trust in central banks, and also draw attention to the polymorphic definition of money in social sciences and in daily life.

1. INTRODUCTION

Inflation expectations have a crucial role in the conduct of monetary policy by indicating at a given point crucial information about the credibility of central banks. The recent financial crisis and the European public debt crisis (2010) could have led to a significant upward and downward trend in the general price level which could compromise this stability of the general price level. Inflation expectations could then reveal necessary information for the future design of monetary policy. Moreover, pursuant to Article 105 §1 of the Maastricht Treaty, the primary objective of the European System of Central Banks is "*to maintain price stability without prejudice to this objective and support the general economic policies in the community*". On 13 October 1998, the European Central Bank (ECB henceforth) clarified its price stability goal as to maintain the year-on-year increase in the euro-area Harmonised Index of Consumer Prices below 2%. In recent years, public perceptions about inflation rates became central in monetary policy-making. For instance, the ECB adopted a formal and informal inflation target in order to anchor inflation expectations of "*the markets*" and of "*the people*" (Schmidt, 2014). The keystone of this monetary policy strategy is communication. Indeed, Blinder, et al, (2008) highlight that communication and transparency can improve the effectiveness of monetary policy.

However, we have to point out the existence of a "*communication gap between economists and the public*" (Shiller, 1997, p59). It is well known that household's expectations of inflation are different than those of professional forecasters (Carroll, 2003). Besides, analyzing the perception of central banks, Krill, Leiser, and Spivak (2016) found that respondents who perceive them as independent, transparent and trustworthy institutions tend to be more exposed to economic media and have a higher social-economic status than other respondents. In addition Farvaque, Hayat and Mihailov (2012) found that people with higher levels of education and income, right-wing political orientation, and optimistic expectations about the economy tend to trust the ECB. Besides, Hayat and Farvaque (2012) explain that individual characteristics (such as income, gender, level of education, satisfaction with national democracy and use of media) rather than the level of inflation itself, are more likely to explain support for central bank independence. Indeed few households read monetary policy reports which suggests that central bank communication failed to have a large influence over household's inflation expectation Kumar et al (2015).

Besides, the profound social and economic changes brought about by the 2008 financial crisis and the ensuing global recessions are shaping the social representations of the euro. In

2002, Roland-Lévy (2002) found that the central core of the “euro” was mainly formed by the words *Europe* and *Money*. More than ten years after the introduction of the euro in January 2002, the Eurozone crisis may have changed – at least partially – the social representations of the euro. The Eurozone crisis questioned the ability of European institutions (e.g ECB) to deal with the Greek public debt crisis and its referendum. For instance the Eurozone crisis can be viewed as an “*event of sufficient gravity which can affect the mental attitude of the society*” (Durkheim, 1898, p.609). Furthermore, Jones (2009) argues that policy-makers should take into account laypeople’s perceptions about the euro for two reasons: one is economic (to enhance the *effectiveness* of monetary policy-making) and the other is political (to maintain the independence of ECB communication from national politicians and policy makers)¹. Thus, since social representations of economic objects make it possible to apprehend “*the articulation between systems of thought and system of behaviors*” (Apostolidis, 2006, p212), then they may be considered as tools in order to collect inflation expectations spontaneously associated to euro.

Therefore, the purpose of the article is to assess the level of inflation intrinsically associates with the representation of the euro and understand whether economic background and knowledge can influence this representation. In other words: what is the level of inflation which is spontaneously associated with the euro?

This paper is organized as follows. We begin with a literature review providing an overview of the euro as money, money illusion and the Fisher equation as well as descriptions of our hypotheses. In section 2, we present the methodology of our survey. Section 3 describes our results. Finally, section 4 provides discussion and concluding remarks. Experimental materials are given in the appendices.

1.1 The euro as money, money illusion and the Fisher equation

In January 1999 eleven European countries adopted the Euro as a common unit of account. According to the standard characteristics of money, since 2001 three functions can be attributed to the euro: means of exchange, unit of account, and store of value. As a means of exchange, the euro allows to acquire goods and services, thus improving economic efficiency and minimizing the time spent in the exchange. As a unit of account, the euro makes it

¹ For more details see Jones (2009) pp.1101-1102.

possible to measure the value of heterogeneous goods, and consequently to minimize the amount of information and calculation necessary for the exchange: that is, it simplifies the price system. Finally, as a store of value, the euro enables to save and transfer value over time. The role of money, however, cannot be reduced to a purely economic one. According to a broader notion drawing from different social sciences (sociology, and anthropology), money is a social institution, shaped by different human societies (Cartelier, 1996). Indeed, the euro appears to be a source of social integration in Europe, by conferring European citizens a sense of belonging to the same society. That is, the euro contributes to the creation of a European identity, especially with the enlargement of the Eurozone which since 2015 counts 19 countries. Accordingly, money (and thus the euro) is intended not only to facilitate economic activity, but also to regulate social relations. As a result, the social representation of the euro used in daily transactions may differ from the standard economic definition.

In the Neo-classical framework, money is a veil of exchange. Money is by nature neutral: a change in the quantity of money causes a proportional change in nominal prices and leaves real prices (or purchasing power) unchanged. In practice, however, some economists noted a difficulty to reason in real terms, which they called “money illusion”. Money illusion may then be defined as agents’ tendency to think in nominal rather than real terms, or as their inability to correctly take prices variation into account in everyday calculations. Money illusion is linked to perceptions of money (see Bourgeois-Gironde and Guille, 2011) and may lead, in period of price instability, agents to make choices that are irrational from the point of view of the standard economic theory. Indeed, the rationality assumption of the *homo economicus* rules out the money illusion from economic models. However, Fisher (1928) and Keynes (1936) argued in favor of money illusion by looking at macroeconomic fluctuations, or in the labor market, observing workers’ inability to negotiate their nominal wages downward for example.

According to Fisher (1928) it is “*the illusion of money that hides the distinction between real wages and money wages and even covers the distinction between monetary interest and real interest. In the absence of stable prices, the rate of interest, expressed in money, is not equal to the rate of interest expressed in goods.*” (Fisher, 1928, p.63). Nominal interest rates are distinguished from real interest rates. Real interest rates are calculated by deducting the expected inflation rate to more accurately reflect the cost of credit in real income. This rate has the greatest importance for economic decisions such as saving, borrowing or investment. We can define more precisely the relationship between nominal interest rate, real interest rate and inflation rate via the Fisher equation. If i denotes the nominal interest rate, i_r the real

interest rate and Π^e the expected inflation rate, then: $(1 + i) = (1 + i_r)(1 + \pi^e)$, where $i = i_r + \pi^e + (i \times \pi^e)$ and is commonly simplified to: $i_r = i - \pi^e$. In other words, the real interest rate equals the nominal interest rate minus the expected inflation rate.

1.2 Hypotheses

The financial crisis of 2008 and its consequences (Eurozone crisis, public debt crisis, high unemployment rates, etc.) have severely altered the economic and social environment in Europe. If we assume, as stated by Jodelet (1994), that any change in the environment may affect the elements and the structure of the social representation, it is possible that the Eurozone crisis may have undermined trust in the most well established expression of the European Union – the euro – especially when several countries of the Eurozone have difficulty to repay their public debt denominated in euro². Some authors indeed suggested that the 2008 financial crisis triggered a crisis of trust (Sapienza and Zingales, 2009) and of confidence (Tonkiss, 2009). This loss of trust in the ECB can have dramatic consequences (e.g. bank runs) which can potentially jeopardize the monetary system, “*since central banks are commonly identified as the major guardians of the financial system*” (Healy, 2001, p. 22). The resulting shift in the social representation of the euro may be viewed as an illustration of the loss of trust that individuals subscribe to the euro due to a loss of trust in the ECB which can lead to a shift in inflation expectation. In this paper, it is hypothesized that the euro is still perceived as the support of everyday transactions in the context of the Eurozone crisis. Further, it is assumed that the context of the Eurozone crisis may also lead to some variability in the valence of the words, and to changes in the peripheral zones which highlight the presence of inflation (*Hypothesis 1*).

It is secondly assumed that economic knowledge and distance to the object may affect the social representation of the euro. The choice of the sample allows us to test the notion of distance to the object (Abric 2001) via the academic discipline of surveyed students (Economics vs Law), and to check empirically the level of economic knowledge in specific areas (money illusion and perception of the relation between interest rate and inflation rate). Hence, we make the general hypothesis that the degree of implication with respect to the

² In 2015, in the Eurozone, five countries have a ratio debt/PIB superior to 100%: Belgium (105.8%), Chypre (107.5%); Portugal (129%); Italy (132, 3%) and Greece (177,4%) (source: *Eurostat*) (for more details see appendix 1)

monetary system and euro may explain the variation of social representations between several groups (*Hypothesis 2*).

Specifically, we first assume that participants who study economics are more familiar with the euro as a scientific object than participants who study law. As a result, the two groups' social representations of the euro may be different in terms of verbal productions particularly in the peripheral zones (*Hypothesis 2.A*). Secondly, we make the hypothesis that participants who are subject to money illusion have different social representations it and in their attitude toward inflation than participants who are not subject to (*Hypothesis 2.B*). Thirdly, we expect that participants who do not have knowledge of the Fisher equation will have a different social representation of the euro and in their attitude toward inflation than participants who do (*Hypothesis 2.C*). Finally, we combined the knowledge of the Fisher equation and money illusion. If such economic knowledges matter in the social representation of the euro then we hypothesis different social representation among participants who have both knowledge of the Fisher equation and are not subject to money illusion and participants who have not (*Hypothesis 2.D*).

As the social representation of the euro can be conceived as a proxy of the perception that individuals subscribe in the monetary system and more importantly in the ECB this can used to assess the anchoring of inflation expectations. We assume that representation of the euro (e.g cognitive association between the euro and the ECB), the different level of economic knowledge (Money illusion, the Fisher equation, having an Economics cursus) and some socio-demographic characteristics (e.g gender, political opinions etc.) could explained difference in the anchoring baseline of inflation expectation across individuals (*Hypothesis 3*)

2. METHOD

2.1 Participants

Overall, 46.5% of participants who started the questionnaire completed it. After cleaning the data, we kept 270 participants. They were French citizens (51,9% are woman) aged between 18 to 27 years ($M=21.77$, $sd=3.52$), either Economics or Law students (86.3 % are undergraduates, 13.7% postgraduates, of which 11.5% are at Master's level and 2.2% at PhD level) at University Paris 2 Panthéon-Assas. It is worth mentioning that participants were on

average between 6 and 15 years old when the euro was introduced in France as currency. They had therefore lived most of their economic lives in the euro monetary system.

Table 1: Description of the participants

	<i>Total</i>
Money illusion	
Absence of Monetary Illusion (AMI)	91 (33.7%)
Subject to Monetary Illusion (SMI)	179 (66.3%)
Fisher equation (EqF)	
False (EqF = 0)	150 (55.6%)
True (EqF = 1)	120 (44.4%)
Academic Discipline (proximity to the object)	
Economics	124 (45.9%)
Law	146 (54.1%)

2.2 Measures and data analysis

2.2.1 Social representation of the euro: free and hierarchical association

The content of the social representation of the euro was collected through a free association task with the target word *euro*. As stated by De Rosa (1988) this method enables us to get access to latent dimensions of the social representation. First, participants were asked to provide five words that came spontaneously to their minds when they read the target word *euro*. According to Moliner, Rateau and Cohen-Scali (2002), having the constraint of a limited number of words allows to homogenize verbal productions across participants. The spontaneity of this task also allows direct access to the semantic universe of the object studied. The second step is a hierarchical structuring phase. Each participant is asked to rank his own answers according to the importance she attaches to each term (rank 1, as the lowest rank, to rank 5, as the highest rank). We create scores for several words that were mentioned by participant in this task (1 if the word is mentioned by the participants; zero otherwise) Moreover, participants were asked to give a valence – positive (+3), negative (-3) or neutral (0) – for each word they suggested. We compute a “valence score” for each word through the calculation of the mean of the valence for each word.

Based on the words produced during this task, a prototypical analysis was performed in order to determine both content and structure of the social representation. We cross-checked the frequency of appearance with the average rank of importance of each word in order to obtain the organization of the representation in terms of its central core and peripheral zones (Vergès

and Bastounis, 2001). According to the structural approach of social representations (Abric, 1976), every representation has a central nucleus, or central core, consisting of stable elements that determine its meaning and internal organization. Peripheral elements, organized around the central core, are more malleable and aid the adaptation of the representation to various social environments.

2.2.2 Economic knowledge

Money illusion

We compute an index for money illusion through the answers of participants to three problems that were already used to study money illusion (Shafir, Diamond and Tversky, 1997; Guille and Mercier, 2015). Our first problem : Participants choose between two scenarios: “A 2% raise in your salary for the coming year knowing that the annual inflation rate will be at 4%: the prices will increase by 4%” or “A 2% diminution in your salary for the coming year knowing that there will be no inflation or deflation: prices will be stable”. If the participant chose the first sentence, then she is subject to money illusion. Indeed if we compute in terms of logarithms, the loss in terms of salary is slightly more significant in the first scenario than in the second one. Our second problem (see Appendix 2) was used by Shafir, Diamond, & Tversky (1997). This problem is a transactional one: participants have to make two choices (selling and buying a good) in two scenarios in which prices either increase or decrease by 25%. Participants are considered subject to money illusion if they contradict themselves in both choices (buying and selling). Our third problem (see Appendix 2) was firstly used Shafir, Diamond, & Tversky (1997) and Guille & Mercier (2015). Participants are subject to money illusion if they did not choose scenario A as the scenario that provides the greatest satisfaction, and did not choose scenario C as the scenario that provides the smallest satisfaction.

Fisher equation or the relationship between nominal and real interest and inflation rates

In order to investigate participants' knowledge of the Fisher equation, from a theoretical point of view, we ask them the following question: “When the inflation rate decreases, it is expected that the nominal interest rate...” They have to complete the sentence by choosing between “Increases”, “Remains stable” or “Decreases”. If a participant chose “Decreases”, then we consider that she has knowledge of the Fisher equation.

Inflation expectations

We ask participants to give us the inflation rate at the time of survey. We ask a similar question for the key interest rate. For these two questions participants have the possibility of

not answering. We consider this as information *per se*. Then the inflation-rate-NSP is a dummy variable: it takes 1 if participant skip the question; 0 otherwise (similar coding, for the variable Key-interest-rate-NSP). When participants answer to these questions, we treat there answer as 1 if it rights and 0 otherwise (we named these dummy variables: inflation-rate-T and key-interest-rate-T). Finally, we were interested to measure the distance of the error i.e. the distance between the actual inflation rate / key-interest rate and the actual number give by the participants. We then compute the normative distance. We named these variable inflation-rate-norm, respectively key-interest-rate-norm.

2.3 Procedure

We used a survey questionnaire which contained a free association task, an economic knowledge questionnaire and socio-demographic questionnaires. Sociodemographic questions such as gender, political opinions or income are asked at the end of the questionnaire (for each of these questions participants have the possible to not answer). Participants could stop the questionnaire at any time. The data was collected between November 2014 and May 2015.

3. RESULTS

3.1 Descriptive analysis

The corpus of analysis is composed of 1327 occurrences for 392 terms including 276 hapax legomena³. A lemmatization was done on the corpus, implying that we kept for all the terms produced only the lexeme of the word (singular, masculine, infinitive). Apart from this, no other categorization of the terms was used.

We calculated two indices, diversity and hapax, in order to characterize the corpus. The first index (“diversity”) enables us to calculate the consensus of the discourse among participants. We divide the numbers of terms by the numbers of occurrences (Flament and Rouquette, 2003), the idea being that the lower the diversity, the higher the consensus among participants. The diversity index is equal to .29 and shows a strong consensus of the representation of the euro for French students confirming the existence of an overall structured social representation. The hapax index refers to the cognitive organization of the representation (Flament and Rouquette, 2003). We calculated the index by dividing the number of hapax legomenon by the number of terms: as before, the lower the hapax, the

³ Terms which only appear once.

stronger the cognitive organization. The hapax index is equal to .70 and indicates that the social representation of the euro is quite cognitively well organized.

3.2 Prototypical analysis

In a second step, a binomial distribution is employed to select which of the words cited by enough participants are statistically significant (Salès-Wuillemin, Castel & Lacassagne, 2002). The binomial law takes into account the number of participants, the maximum number of words cited by the participants, and the number of different words mentioned. For $p < .001$, only the terms cited by at least 9 participants (3.33%) will be considered as having been mentioned with a statistically significant probability. This implies that these terms in the social representation cannot be associated to chance. It corresponds to 24 terms which is too high to make a Prototypical Analysis (Lemoine, Kmiec, & Roland-Lévy, 2016). We therefore choose an arbitrary criterion of 5% - same as Vergès, Tyszka & Vergès (1994) - and keep only 16 terms (Appendix 3). The frequency organization (high frequency versus low frequency) is based on the mean frequency of occurrence of these 16 remaining terms. It suggests that each term mentioned by more than 16.9% of the participants is treated as frequently produced, while the remaining terms are considered as not frequently produced. This threshold is not far from the threshold suggested by Vergès, Tyszka & Vergès (1994). According to them, a term which is reported by a minimum of 20% of the participants is considered as having a high frequency.

The mean rank categorization (low mean rank of appearance versus high mean rank) is based on the mean rank of the 16 kept terms, which is equal to 2.57. This implies that each terms with a mean rank lower than 2.57 is designed as low rank, while the remaining terms are identified as high rank.

3.2.1. Prototypical analysis of the euro in the overall sample (Hypothesis 1)

The first box of table 2 illustrates that the words with the lowest mean rank and a frequency superior to 16.9% are *Money*, *Europe*, and *Cash*. These three words constitute the central core of the social representation of the euro. All three words are perceived as being positive. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains three words: *European Union* (EU) and *Eurozone* which have positive valences, and *Crisis* which has a negative valence. In the second peripheral zone, the word *Single currency* has positive valence. In the distant periphery we found *ECB*, *Trade* and *Currency* have positive valences,

while *Dollar* has a neutral valance. On the contrary the words, *Inflation*, *Economy*, *Loss of purchasing power*, *Franc* and *Maastricht* have negative valence.

Table 2: Prototypical analysis of *euro* (N= 270)

	Rank<2.57				Rank≥2.57			
High frequency ≥16.9%	Money	141	1.9	1.20	EU	101	2.8	1.83
	Europe	112	2.5	1.82	Crisis	70	2.9	-2.87
	Cash	66	2.3	1.32	Eurozone	52	2.7	1.56
5% < Low frequency <16.9%	Single currency	33	2.2	2.23	ECB	39	3.4	0.30
					Dollar	35	3.6	0.00
					Trade	20	2.8	2.35
					Currency	20	2.9	1.04
					Inflation	20	3.1	-2.57
					Economy	16	3.4	-0.35
					Loss of purchasing power	14	4.2	-1.20
					Franc	14	3.4	-0.25
Maastricht	14	3.4	-0.27					

Note: The first figure is the frequency, the second is the mean rank of appearance of the word and the third is the valence of the word.

After this analysis of the social representation of the euro for the entire sample, the same analysis was carried out in relation to the degree of proximity from the object and the different level of economic knowledge.

3.2.2 Social representation of the euro according to distance to the object and economic knowledge (Hypothesis 2)

A. Prototypical analysis of the euro: Economics versus Law students (Hypothesis 2.A)

Table 3: Characteristics of the Economics and Law students

	Economics N=124 (%)		Law N=146 (%)	
EqF				
EqF=0	76	61,29	74	50,68
EqF=1	48	38,71	72	49,32
MI				
AMI	41	33,06	50	34,25
SMI	83	66,94	96	65,75

Table 4: Prototypical analysis of the euro: economics and law students

		Economics (N = 124)						Law (N = 146)								
		Rank<2,57			Rank≥2,57			Rank<2,57			Rank≥2,57					
High frequency ≥16.9%	Money	67	1.9	1.43	Europe	55	2.7	1.6	Money	74	1.8	0.93	EU	47	2.7	1.78
	Cash	22	2	1.3	EU	54	2.8	1.94	Europe	57	2.2	1.94	Crisis	45	2.6	-3
					Eurozone	30	2.6	1.5	Cash	44	2.5	1.29	ECB	28	3.4	0.11
					Crisis	25	3.4	-2.64								
5% <Low frequency <16.9%	Single currency	15	2.1	1.8	Currency	14	2.9	1.28					Dollar	22	3.6	0.27
					Dollar	13	3.6	0.69	Single currency	18	2.2	2.33	Eurozone	22	2.8	1.63
					Trade	12	2.8	2.5					Economy	13	3.2	0
					ECB	11	3.5	0.54					Inflation	11	3.1	-2.18
					Inflation	9	3.1	-2.67					Maastricht	11	3.5	0.27
													Loss of purchasing power	10	4.3	-1.5
													Trade	8	2.6	2.62
													franc	9	3.1	0

Note: The first figure is the frequency, the second is the mean rank of appearance of the term and the third is the valence.

The prototypical analysis (Table 4) shows that the central core for Economics students is consisted of the words *Money* and *Cash*, both of which are perceived as positive. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains four words: *Europe*, *European Union* and *Eurozone* which have positive valences, and *Crisis* which has a negative valence. In the second peripheral zone appears the word *Single currency* with a positive valence. In the distant periphery we found the words: *Currency*, *Dollar*, *Trade France*, *ECB* with positive valence and the words *Inflation* and *Exchange rate* with negative valence associated to them. The central core (Table 4) is composed of *Money*, *Europe* and *Cash*, all of which have positive valence for the law students. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains three words: *European Union* and *ECB* (positive valence) and the word *Crisis* (negative valence). In the second peripheral zone, the word *Single currency* has positive valence, while in the distant periphery we found the words: *Dollar*, *Eurozone*, *Maastricht*, *Loss of purchasing power* with positive valence, *Economy* and *France* having a neutral valence and *Inflation* a negative one.

Comparison: According to the structural approach (Abric, 2001) the two identified social representations are different since their presumed central core are not similar. Indeed, their central cores are slightly different: while *Money* and *Cash* are both part of their central core, law students referred to the word *Europe* in the central nucleus, attesting the European character of the euro. We have to point out that for both groups the word *Crisis* has a negative valence and belongs to the first periphery. Our results out show a difference statistically significative between these two groups for the words ECB ($odd_{law} = .41$ vs $odd_{Economics} = .17$; with $p < 0.05$). We can also note that for both groups the word *inflation* is part of the distant periphery and has a negative valence.

B. Prototypical analysis of the euro according to level of monetary illusion (Hypothesis 2B)

In order to identify participants that are subject (or not) to money illusion we constructed an index of money illusion according to the participants' answers to the money illusion questionnaire: the lower the score of each participant in this questionnaire, the higher is the degree of money illusion.

Table 5: Characteristics of students subject or not to money illusion

	SMI N=179		AMI N=91	
		(%)		(%)
Fisher Equation				
EqF=0	104	58,10	46	50,55
EqF=1	75	41,90	45	49,45
Academic Discipline				
Economics	83	46,37	41	45,05
Law	96	53,63	50	54,95

Table 6: Prototypical analysis of the euro: subject or not to money illusion

	SMI Participants (N = 179)								AMI Participants (N = 91)								
	Rank < 2,57				Rank ≥ 2,57				Rank < 2,57				Rank ≥ 2,57				
High frequency ≥ 16.9%	Money	96	1.8	1.29	EU	71	2.8	1.78	Money	45	2	1.02	EU	30	2.6	1.94	
	Europe	74	2.5	1.95	Crisis	55	2.9	-2.84	Europe	38	2.3	1.58		Cash	21	2.2	1.29
	Cash	45	2.3	1.33	Eurozone	40	2.8	1.88	Cash	21	2.2	1.29		Eurozone	12	2.2	0.50
5% < Low frequency < 16.9%	Single currency	21	2.2	1.86	ECB	28	3.3	0.31	Eurozone	12	2.2	0.50	Crisis	15	2.6	-3.00	
					Dollar	22	3.8	0.00	Single currency	10	1.7	3.00	Dollar	13	3.2	0	
					Currency	16	2.6	1.13					ECB	11	3.5	0.27	
					Inflation	15	3.2	-2.45					Trade	9	2.8	3.00	

Economy	14	3.4	0.43	Currency	6	3.4	0.86
Trade	11	2,7	1.85	Maastricht	6	2.8	0
Franc	11	3	0.30	Loss of purchasing power	5	4.6	-3
Exchange rate	9	3.6	0	Inflation	5	2.8	-3
Loss of purchasing power	9	4	0.43				

Note: The first figure is the frequency, the second is the mean rank of appearance of the term and the third is the valence.

The central core (Table 6) is constituted of the words *Money*, *Europe*, and *Cash*, all having a positive valence for SMI participants. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains three words: *European Union*, *Crisis* and *Eurozone*. In the second peripheral zone, the word *Single currency* has positive valence. In the distant periphery we found the words: *ECB*, *Trade*, *Currency* and *France* with positive valence, while *Dollar* and *Exchange rate* have neutral valence. However, *Inflation*, *Economy*, *France* and *loss of purchasing power* have negative valence.

The central core (Table 6) consisted of three words: *Money*, *Europe*, and *Cash*. These three words have positive valence for AMI participants. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains one word: *European Union* which has positive valence. In the second peripheral zone, the word *Single currency* has positive valence as well as *Eurozone*. In the distant periphery we found the words: *ECB*, *Trade* and *currency*, all having positive valence, while *dollar* and *Maastricht* are neutral. Besides, *Crisis*, *loss of purchasing power* and *Inflation* have all negative valences.

Comparison: According to the structural approach (Abric, 2001) the two identified social representations are not different since their presumed central core elements (*Money*, *Europe*, and *Cash*) are similar. Central elements of the social representations are positive elements. Besides, *inflation* in both groups is being part of the distant periphery and has negative valence. However, we noticed that the word *crisis* (negative valence in both group) is part of the first periphery for the group subject to money illusion, but only part of the distant periphery for the group who is not subject to money illusion and a difference statistically significative between both groups ($odd_{SMI} = 2.24$ vs $odd_{AMI} = 1.15$; with $p < 0.05$).

C. Prototypical analysis of the euro according to knowledge of the Fisher equation (Hypothesis 2.C)

As above, we formed two groups of participants according to their knowledge of the Fisher equation (i.e. the relation between inflation, nominal and real interest rates).

Table 7: Characteristics of participants according to their knowledge of the Fisher equation

		<i>EqF=0</i> N=150	(%)	<i>EqF=1</i> N=120	(%)
MI					
AMI		46	30,6	45	37,50
SMI		104	69,3	75	62,50
Academic discipline					
Economics		76	50,6	48	40,00
Law		74	49,3	72	60,00

Table 8: Prototypical analysis of the euro: knowledge or not of the Fisher equation

		EqF = 0 Participants (N = 150)						EqF = 1 Participants (N = 120)								
		Rank<2,57			Rank≥2,57			Rank<2,57			Rank≥2,57					
High frequency ≥16.9%	Money	75	1.9	1.18	EU	67	2,8	1.71	Money	66	1.8	1.24	EU	34	2.7	2.06
	Cash	66	2.3	1.18	Crisis	40	3	-2.93	Europe	54	2.5	1.72	Crisis	30	2.7	-2.81
	Europe	58	2.4	1.91	Eurozone	29	2.6	1.97	Cash	33	2	1.45	Eurozone	23	2.7	1.04
5% <Low frequency <16.9%	Single currency	17	2.1	2.25	Dollar	23	3.4	0.27	Single currency	16	2.2	2.20	ECB	19	3.5	0.63
	Currency	13	2.5	1.00	ECB	20	3.2	0					Dollar	12	4	0.50
	Trade	11	2.5	2.50	Loss of purchasing power	14	4.2	0.75					Trade	9	3.1	2.18
					Inflation	12	3.2	-2.70					Inflation	8	2.9	-2.25
					Maastricht	9	3.8	0.75					Economy	8	3	0.67
Franc	10	3.1	0.43	Currency	7	3.6	1.13									

Note: The first figure is the frequency, the second is the mean rank of appearance of the term and the third is the valence.

Four words constitute the central core (Table 8) of the social representation of the euro: *Money*, *Cash* and *Europe*, all having positive valence for participants not aware to Fisher equation. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains two words: *European Union* (positive valence), *Crisis* (negative valence) and *Eurozone* (positive valence). In the second periphery, the words *Single currency*, *Currency* and *Trade* have

positive valence. In the distant periphery we found the words: *Maastricht* has a positive valence, and *ECB* have a neutral valence. On the contrary the words *Dollar*, *loss of purchasing power*, *Inflation* and *Franc* have negative valence.

Three words constitute the central core (Table 8) of the social representation of the euro: *Money*, *Cash*, and *Europe* have positive valence for participants aware of the Fisher equation. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains three words: *European Union*, *Crisis* and *Eurozone*. *Crisis* has negative valence while *European Union* and *Eurozone* have positive valence. In the second peripheral zone, the word *Single currency* has positive valence. In the distant periphery we found the words *ECB*, *Dollar*, *Trade* and *currency* which have positive valence. However, *Inflation* and *Economy* have negative valence.

Comparison: According to the structural approach (Abric, 2001) the central elements of the social representation are similar for both groups. We pointed out statistical significant differences between these two groups for the words Cash ($\text{odd}_{\text{EqF}=0} = 2.071$ vs $\text{odd}_{\text{EqF}=1} = 1.202$; with $p < 0.05$) and European Union ($\text{odd}_{\text{EqF}=0} = 2.04$ vs $\text{odd}_{\text{EqF}=1} = 1.19$; with $p < 0.05$). We also noticed that for both groups the word *Crisis* appears in the first periphery with negative valence, while *inflation* (negative valence in both groups) appears in the distant periphery.

D. Prototypical analysis of the euro according to both knowledge of the Fisher equation and money illusion (Hypothesis 2.D)

Table 9: participants' answer and the actual level of inflation ration and key interest rate by demographic, perception and economic knowledge variables

	participants aware of the Fisher equation with absence of money illusion (n= 45)						participants not aware of the Fisher equation with subject of money illusion (n= 104)									
	Rank<2,57			Rank \geq 2,57			Rank<2,57			Rank \geq 2,57						
High frequency $\geq 16.9\%$	Money	23	2	1.17	Europe	18	2.7	1.83	Money	54	1.9	1.22	UE	50	2.9	1.98
	Cash	15	2.1	1.4	UE	14	3	2.35	Europe	37	2.5	2.18	Crisis	31	3.1	-2.90
	Crisis	7	2.4	-3									Cash	27	2.6	2.77
													Euro zone	23	2.7	2.21
5% <Low frequency <16.9%	Single currency	6	2	3	ECB	5	3	0.6	Single currency	13	2.4	2.07	Dollar	14	3.6	0
	Eurozone	6	2.2	0	Dollar	4	3.2	1.5	Currency	11	2.4	1.09	ECB	13	3	0.46
	Trade	3	1.7	3	currency	4	3.5	0.75	Trade	8	2.2	2.25	Inflation	8	3.3	-3

Note: The first figure is the frequency, the second is the mean rank of appearance of the term and the third is the valence.

Three words constitute the central core (Table 9) of the social representation of the euro: *Money*, *Cash* and *Crisis* for participants aware to Fisher equation and not subject to money illusion. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains two words: *European Union* (positive valence) and *Eurozone* (positive valence). In the second periphery, the words *Single currency*, *Eurozone* and *Trade* have positive or neutral valence. In the distant periphery we found the words: *ECB*, *Dollar* and *currency* having a positive valence.

Two words constitute the central core (Table 9) of the social representation of the euro: *Money*, and *Europe* have positive valence for participants not aware of the Fisher equation and subject to money illusion. The first peripheral zone (mean rank ≥ 2.57 and frequency $\geq 16.9\%$) contains four words: *European Union*, *Crisis*, *Cash* and *Eurozone*. *Crisis* has negative valence while *European Union*, *Cash* and *Eurozone* have positive valence. In the second peripheral zone, the word *Single currency*, *currency* and *Trade* have positive valences. In the distant periphery we found the words *Economy* and *Dollar* which a neutral valence and *ECB* have a positive one. However, *Inflation* has negative valence.

The results partly support *hypothesis 2*: they highlight the stability of the central core of the social representation of the euro and suggest that the variability of the peripheral elements is more related to the distance to the object (Law vs Economics) rather than to the knowledge of specific economic notions.

3.2.3 Effects of economic knowledge, social representation of the euro and socio-demographic variable over the anchoring of inflation expectations (Hypothesis 3)

The dependent variables are respectively inflation rate NSP, Key interest rate NSP. The key explanatory variables are gender, academic backgrounds, and scores over inflation, euro zone and of the ECB, income⁴, political opinions, money illusion and the Fisher equation⁵. We

⁴ We remove from our data set all the participants who did not declare their income which explained the decrease in the number of observations.

conduct two probit regressions (table 10). Only marginal effect at the mean are reported in the tables. Our results show that participants, who are in a law cursus, make a cognitive association between euro and the ECB, and have knowledge of money illusion are more willing to answer to question asking about the actual inflation rate in the euro zone (Table 10 column 1). Moreover, our results show that male participants, participants who are in a law cursus and have a right-wing political opinion are more willing to answer to question asking about the actual key interest rate (Table 10 column 2).

Table 10: estimation: inflation rate and key interest rate

VARIABLES	(1)	(2)
	Predicted prob. Inflation rate NSP PROBIT	Predicted prob. Key int rate NSP PROBIT
Gender (2)	0.119 (0.076)	0.145* (0.076)
Academics (2)	-0.152** (0.076)	-0.195** (0.077)
Score Inflation (3)	-0.100 (0.132)	0.004 (0.136)
Score Euro Zone (3)	-0.026 (0.099)	-0.125 (0.098)
Score ECB (3)	-0.226** (0.102)	-0.104 (0.114)
Income (2)	0.077 (0.078)	0.103 (0.079)
Pol. Opinion	-0.033 (0.046)	-0.129*** (0.047)
Money illusion (1)	0.170** (0.079)	0.151* (0.079)
Fisher Equation (1)	-0.096 (0.075)	0.011 (0.076)
Observations	198	198

*Note: the table reports regression marginal effects and associated robust standard errors (in parentheses). The dependent variables and the estimation method are reported at the top of each column. Inflation rate NSP and Key interest rate NSP are dummy variables that takes values of 1 when the participant did not answer to the question. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

The dependent variables are respectively Inflation rate T and Key interest rate T. The key explanatory variables are gender, academic backgrounds, and scores over euro zone and of the ECB⁶, income, political opinions, money illusion and the Fisher equation. We conduct two probit regressions (table 11). Only marginal effect at the mean are reported in the tables. Our results show that participants, who have right wing political opinions, are likely to give a

⁵ Spearman correlation between the explanatory variables are presented in the Appendix.

⁶ We suppress the score inflation from the list of the explanatory variable since zero participants who answer these two questions make a spontaneous association between euro and inflation.

wrong estimation of the actual inflation rate. (Table 11 column 1). Moreover, our results show participants who are in an Economics cursus are more willing to give the right level of the actual key interest rate. (Table 11 column 2)

Table 11: estimation: inflation rate and key interest rate

VARIABLES	(1) Predicted prob. Inflation rate T PROBIT	(2) Predicted prob. Key int. rate T PROBIT
Gender (2)	-0.050 (0.059)	0.146 (0.102)
Academics (2)	0.043 (0.060)	0.201** (0.089)
Score Euro Zone (3)	0.090 (0.096)	0.011 (0.114)
Score ECB (3)	0.094 (0.094)	0.133 (0.142)
Income (2)	-0.007 (0.059)	0.041 (0.100)
Pol. Opinion	-0.060* (0.032)	0.022 (0.066)
Money illusion (1)	0.023 (0.070)	0.090 (0.119)
Fisher Equation (1)	0.050 (0.059)	0.032 (0.093)
Observations	105	103

*Note: the table reports regression marginal effects and associated robust standard errors (in parentheses). The dependent variables and the estimation method are reported at the top of each column. Inflation rate T and Key interest rate T are dummy variables that takes values of 1 when the participant give the right answer. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

We conducted linear regression⁷ analyses to examine the relative contribution of the different variable to explain the distance of error (table 12). The column 1 shows a linear regression explaining the distance of error between the answer of the participants to the actual level of inflation. The explanatory variables are similar to the precedent regression. Participants from the right wing and women are more likely to have a large distance of error from their anchoring level of inflation rate to the actual inflation level. On the contrary for participants who have knowledge of the Fisher Equation. The column 2 shows a linear regression explaining the distance of error between the answer of the participants to the actual level of the key interest rates. Participants having an Economics background are less likely than the ones having a Law background to have a large distance between their perceptions of the key

⁷ We check the heteroscedasticity for our regression but in order to get a normal distribution of our residuals we decide to use a Winsor approach in order to suppress some outliers which explained the diminution of observations.

interest rates of their actual level. On the contrary, participants who associated to the euro the concept of inflation are likely to have a large distance of error.

Table 12 : Explanations of the distance of error between participants' answer and the actual level of inflation ration and key interest rate by demographic, perception and economic knowledge variables

VARIABLES	(1) Inflation rate norm OLS	(2) Key int. rate norm OLS
Gender	0.159* (0.094)	-0.188 (0.164)
Academics	-0.114 (0.093)	-0.332** (0.163)
Score Inflation	0.032 (0.038)	0.135** (0.055)
Score Euro Zone	-0.054 (0.037)	0.009 (0.064)
Score ECB	-0.043 (0.039)	-0.024 (0.073)
Income	-0.014 (0.093)	-0.075 (0.155)
Pol. Opinion	0.140*** (0.051)	0.009 (0.099)
Money illusion	-0.040 (0.095)	-0.219 (0.161)
Fisher Equation	-0.154* (0.087)	-0.109 (0.143)
Constant	-0.473 (0.339)	0.849* (0.436)
Observations	93	89
R-squared	0.219	0.132

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4. DISCUSSION

The results showed that the central core of the social representation of the euro consists of elements that define the euro as money. More specifically, the prototypical analysis on the overall sample illustrated that the euro is generally defined as either *Money* or *Cash of Europe*. Roland-Lévy (2002) found a similar central core of the social representation of the euro among adults, the central elements being *Europe* and *Money*. The third and last element of the central core of this representation (Roland-Lévy, 2002) was *Conversion*, which is not present here. Indeed, participants of our study were children when the euro was adopted in France, and hence perfectly adopted the euro as the normal support of any transaction. Consequently, the representation of the euro seems to remain focused around the idea of “the money of Europe”. We also found that the attitude towards the euro as money is positive (i.e.

the elements of the central core have positive valence) which is consistent with a series of empirical studies and surveys. For instance, in 2007, before the financial crisis, it appeared that 72% of respondents to the Eurobarometer shared the opinion that “*the euro is a good thing for Europe*” and 45% of the respondents thought that “*the euro is a good thing for their country*” (Flash Eurobarometer Series #216, 2007). In 2014, 57% of respondents to the same survey continued to think to the euro as “*a good thing for their country*”, whereas 33% of respondents thought it as a bad thing, and nearly 8% spontaneously said that they could not decide (Eurobarometer, 2014). Additionally, attitudes towards the euro may depend on economic outcomes and anticipation of social and political changes (Müller-Peters, Pepermans, Kiell & Farhangmehr, 2001). Overall, we can then conclude that the euro is clearly described as the currency used in the Eurozone and participants have a positive attitude towards it.

While we noticed that the central core of the euro is quite similar among participants regardless of their economic knowledge and distance to the euro, we also observed that the presence of elements in the periphery with negative valence (such as the words *Crisis* and *Inflation*) are more or less significant according to their degree of economic knowledge and distance to the object, and this may lead to a slight variation of the representation. According to Vergès (1998) and Vergès and Bastounis (2001), areas of periphery, while presenting an unbalanced character, can be a source of potential changes in the representation. Indeed in 2009 (after the 2008 Economic crisis, but before the Eurozone crisis) across the European Union only 39% of respondents agreed that ‘*the euro has mitigated the negative effects of the current crisis*’ while 44% did not (Eurobarometer, 2009b, pp. 35–8). Hence, during the period 2008-2014 Eurozone citizens’ “net trust” in the European Central Bank appeared to have dwindled (Roth, Jonung & Nowak-Lehmann, 2016). Consequently, to the extent that the euro appears to be a source of European Identity (Dehm and Müller-Peters, 2001), the consequences of the Eurozone crisis on attitudes may be materialized in the loss of confidence in the euro, not as support of economic transactions, but rather as symbol of European identity. As social representations “*are modalities of knowledge having as a function the development of behavior and the communication between individuals*” (Moscovici, 1961, p26), they are prisms through which individuals see and explain the world. Moreover, these differences in terms of verbal production in the peripheral areas can be a source of misunderstanding of economic and monetary policy communications. As Surel points out, “*public policies are determined by common beliefs of public and private actors, who define public problems and devise appropriate responses according to their perceptions of*

*problems. [...]The actors act according to the representations they have of themselves and of their social position, and by the production of public policies whose axes of development are the product of shared beliefs”*⁸ (2000, p235).

Another interesting finding is that for all subjects (even “Economists” participants and participants aware of the Fisher equation) the word *Inflation* has always a negative valence. Interestingly, when the data was being collected, and years before, official inflation rates were rather low –the Harmonized Index of Consumer Prices (HICP) inflation in France was 0.6% in the second quarter of 2014, -0.2% in the first quarter of 2015, and 0.2% during the second quarter of 2015 (OCDE). If anything, at the time the greatest risk was deflation, not inflation. Yet, the word *Deflation* is absent from the social representation. Furthermore, we have to point out that on average people tend to overestimate inflation rate: for instance, 66% of respondents of the Eurobarometer in 2014 overestimate the inflation rate in France. In the Eurozone only 26% of the respondents are able to correctly estimate the inflation rate of their country (Eurobarometer, 2014). It should be noted that in the Eurozone the level of the nominal interest rates is “guided” by the ECB (which directly controls the policy rate). In our study, 44.4% of the participants have knowledge of the Fisher equation. In their study Dräger et al (2014), using the microdata of the Michigan Survey of consumers, evaluated the consistency of US consumers with economic concepts such as the Phillips curve⁹, the Taylor rule¹⁰ and the Fisher equation¹¹. They observe that 50% of the surveyed population has expectations consistent with the Fisher equation, 46% consistent with the Taylor rule and 34% with the Phillips curve. Plus, they found that this theoretical consistency with economic concepts is strongly related to changes in the communication policy of monetary authorities. For example, the communication and the introduction of the Fed ‘official inflation target’ had a strong and positive impact over “lay” consistency. Plus, it was pointed out by Blinder et al. (2008), that communication

⁸ Translated from french : « *les politiques publiques sont déterminées par des croyances communes aux acteurs publics et privés concernés, qui définissent la manière dont ces même acteurs envisagent les problèmes publics et conçoivent les réponses adaptées à cette perception des problèmes.[...] les acteurs agissant sur la base des représentations qu’ils ont d’eux-mêmes et de leur position sociale, et par la production de politiques publiques, dont les axes de développement sont le produit de ces croyances partagées* » (Surel, 2000, p.235)

⁹ The Phillips curve (Phillips, 1958) implies an inverse relationship between unemployment and inflation rates. The Phillips law can also be considered as the illustration of the main trade-off that central banks have to face.

¹⁰ The Taylor rule « *was formalized from empirical observation of the Fed’s monetary policy by Taylor (1993) and states that the central banks adjusts nominal short run interest rates in responses to both deviation of inflation from the target level and the output gap* » (Dräger et al., 2014, p 8)

¹¹ They authors did not test directly consistency of the Fisher equation concept but over the Income Fisher equation which is derived from the Fisher equation. They assumed “*that since income expectations concern households’ monetary income in the future, their real value should be depreciated with expected inflation similar to bonds’ returns in the Fisher equation*”(p 5, Dräger, et al, 2014)

and transparency improves the effectiveness of monetary policy - even if there is no consensus on what constitutes an optimal communication strategy.

Finally, it is worth noticing that the word *Crisis* appears in the first periphery of the global social representation of the euro and often among the social representations of different groups according to their level of economic knowledge and distance to the object. We have to point out that this is not a symmetric fact. The word *euro* is not *per se* a component of the social representation of the economic crisis: the verbal production of *Money* is. Indeed, Ernst-Vintila, Delouvé & Rouquette (2010) found that the central core of social representations of the economic crisis is based on the words “*unemployment*”, “*bank*”, “*USA*” and “*speculation*”. Using the same methodology, Roland-Lèvy, Kmiec & Lemoine (2016) found that the central core for the representation of economic crisis for French students is formed by the words “*Economy*” and “*Money*”. Galli, Bouriche, Fasanelli, Geka & Iacob (2010) found that the same social representation was based on “*unemployment*”, “*money*” and “*poverty*” in Italy, “*unemployment*”, “*bank*” and “*money*” in France, and “*unemployment*” and “*poverty*” in Greece. Consequently, definitions and representations of *economic crisis*, *euro* and *money* may be entangled in people’s mind. It would then be interesting to deepen this link in order to explore the social representation of the word *money* within the environment of the Eurozone crisis, so to unveil the intrinsic “lay” nature of the euro in the Eurozone. It appears that money is by nature complex. For example, unlike the Neoclassical and instrumental definition of money, Aglietta and Orléan (1998) perceive money as “*the expression of society as a whole*”. We found also a rejection of the postulate of fungibility of money in sociology (Zelizer, 1994). Moreover recent research in neuroeconomics highlights the duality of the nature of money: money as drug versus money as tool (Lea and Webley, 2005). Money as drug is a money held for itself. According to this view the money would provide a direct increase of utility: it would procure a direct feeling of pleasure independent from the instrumental function of money associated with the valuation of the goods, services or assets it can acquire. The question which arises is: although the euro is defined as a currency in the euro area, what is the nature of that money? Moreover, we may wonder about the nature of money, which is directly mentioned and linked to the social representation of *economic crisis*

In conclusion, the central core of the social representation of the euro appears to be stable over time, and the euro is perceived as the Eurozone currency and support for day-to-day economic transactions. There are however slightly differences in the peripheral zones in this representation depending on economic knowledge and distance to the object. Importantly, the word *inflation* found in the peripheral zones highlights the difficulty in monetary policy

communication in the context of crisis, and emphasizes the issue of citizens' trust in central banks. Additionally, the complexity of the relation between social representations of *economic crisis*, *euro* and *money* draws attention to the polymorphic definition of money in science (Economics, Sociology, and Psychology) and in daily life. Consequently, social representations and their practical orientations (e.g. valence of the euro or of the ECB) may provide a useful theoretical and operational framework (e.g. strategy to communicate monetary policies) to understand laypeople's explanations of the economic world and illustrate the transformation of lay knowledge.

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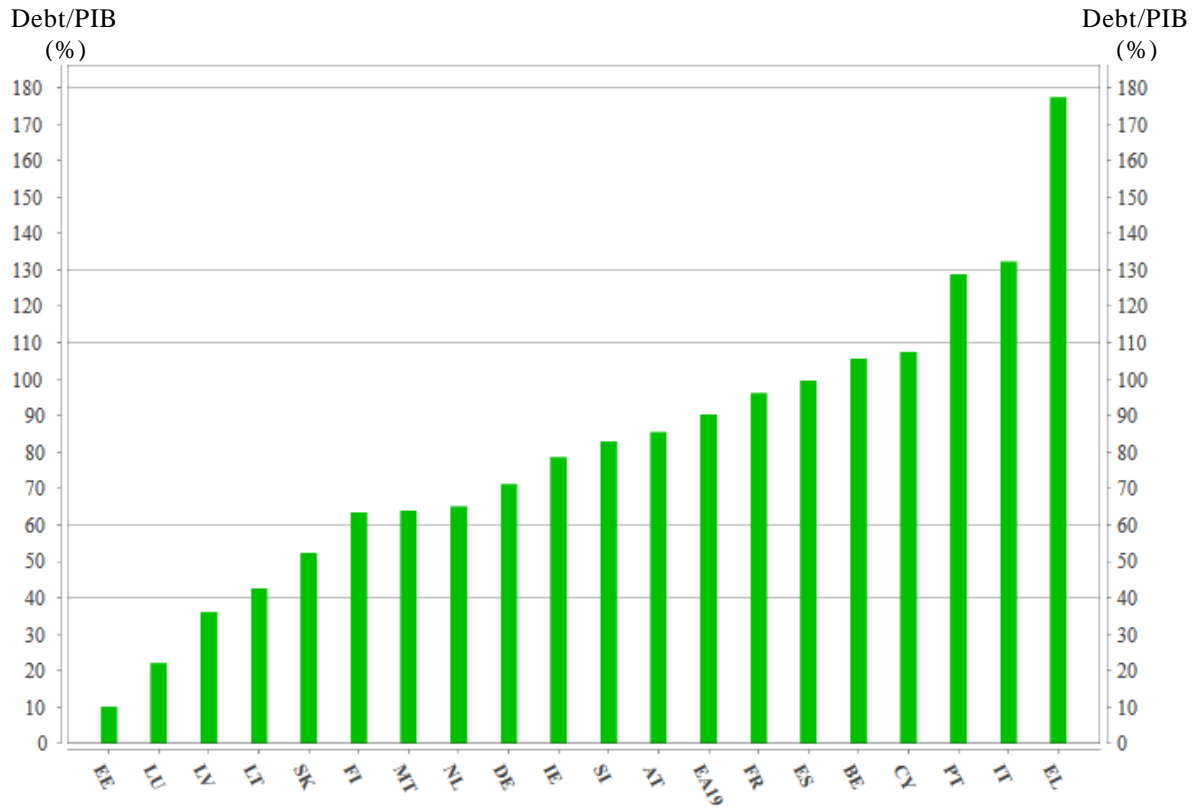
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6. APPENDICES

Appendix 1: The public debt/PIB ratio over the Eurozone in 2015



Source: Eurostat

Appendix 2: Questionnaire

PART I

Can you write spontaneously 5 words or phrases you associate the word "euro"?

word 1:

word 2:

word 3:

Word 4:

word 5:

Thank you to indicate for each word or phrase that you just mentioned, if that word brings to mind something positive, neutral or negative with respect to the word "euro"

	Positive	Neutral	Negative
Word 1			
Word 2			
Word 3			
Word 4			
Word 5			

PART II

Read the following statements and choose the answer that best fits you by surrounding (one possible answer for each question)

Problem 1:

a) An increase of 2% of your salary over the next year knowing that the annual inflation rate will be 4% (prices increase by 4%)

OR

b) A reduction in your salary by 2% over the year knowing that there is neither deflation nor inflation (prices will remain stable)

Problem 2:

Changes in the economy influence the financial decisions of individuals.

Imagine that the Eurozone suffers a high rate of inflation which affects all sectors of the economy.

Imagine that during this period of six months all benefits and wages and the prices of goods and services rose 25%. You win and you spend 25% more than before.

a) six months ago, you were planning to buy a chair whose price in the last six months has increased

from 400 to 500 euros. Would you be more or less likely to buy the chair now? (Only one answer possible, circle your response)

More likely

Less likely

b) six months ago, you were planning to sell an office whose price in the last six months has increased from 400 to 500 euros. Would you be more or less likely to sell the office now? (Only one answer possible, circle your response)

More likely

Less likely

Problem 3:

You lived in a house that you bought 200 000 euros, a year ago, but this year you decide to sell it immediately to buy another house in the same area with the full sale price. Consider the following three alternative scenarios:

Scenario A: The prices of all goods and services, as well as houses and apartments, decreased by 25%. You can sell your home at a price of 154,000 euros (23% less than what you paid).

Scenario B: There has been no inflation or deflation, prices remained stable, and you can sell your home at a price of 198,000 euros (1% less than what you paid).

Scenario C: The prices of all goods and services, as well as houses and apartments, increased 25%. You can sell your home at a price of 246,000 euros (23% more than what you paid).

Which scenario would bring you the greatest satisfaction?

Scenario A

Scenario B

Scenario C

Which scenario would bring you less satisfaction?

Scenario A

Scenario B

Scenario C

Problem 4:

When the inflation rate decreases are expected that the interest rate:

Increases

Decreases

Remains Stable

Appendix 3: Translation of the 16 words evoked by participants during the Free Association Task

Fr	Eng
Argent	Cash
Bce	ECB
Crise	Crisis
Devise	Currency
Dollar	Dollar
Echange	Trade
Economie	Economy
Europe	Europe
Franc	Franc
Inflation	Inflation
Maastricht	Maastricht
Monnaie	Money
Monnaie unique	Single currency
Perte du pouvoir d'achat	Loss of purchasing power
UE	EU
Zone Euro	Eurozone

Appendix 4: Spearman correlation between variables

	1	2	3	4	5	6	7	8	9
(1) Gender	1								
(2)Academics	0.1680*	1							
(3) Score inflation	0.0744	0.0053	1						
(4) Score euro zone	0.0007	-0.1153	-0.0664	1					
(5) score ECB	-0.0047	0.1461*	0.0849	0.0131	1				
(6) Income	-0.1166	0.0235	0.0554	0.0223	0.0730	1			
(7) Pol.opinion	-0.0497	-0.1024	0.0502	0.0480	-0.0876	-0.0854	1		
(8) Money illusion	-0.0656	0.0125	-0.0521	-0.0899	-0.0478	0.0079	-0.0346	0.0434	1
(9) Fisher equation	0.0265	0.1064	-0.0253	0.0357	0.0353	0.1014	-0.0493	0.0307	0.0718

N=198 (*p<0.10; **p<0.05; ***p<0.01)