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To Be or not to Be a Euro Country? The Behavioural Political Economics of Currency Unions

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To Be or not to Be a Euro Country?

The Behavioural Political Economics of Currency Unions

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Abstract

The aim of this paper is to use a behavioural political economy approach to revise the standard approach of optimal currency areas, and applying it to the Eurozone case. We discuss the pros and cons of the Euro membership if behavioural biases - prospect theory - influence the citizens and consequently the political actors. The theoretical framework is used to analyse in general under which conditions the Euro irreversibility assumption is likely to hold and specifically the support in favour of the Euro membership in a country case.

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1. Introduction

The recent global crisis challenged the stability of the European monetary integration process. That process, which is closely linked to the evolution of the European Currency Union (ECU), has gone through two stages: the Common Market era, which ran from 1958 through 1993, and the Monetary Union era, which started in 1994 and gained new impetus after the global crisis with the publication of the Four Presidents' Report in December 2012. The aim of the ECU has been to stabilize exchange rates, inflation and interest rates in order to boost capital mobility and trade, thereby promoting the growth of member countries. Thus far, the data show that there has been nominal convergence of inflation and interest rates, while real convergence of per capita income has not occurred among the original euro area participants.[1]

The creation of a currency union implies that its member countries can no longer use exchange rates and national monetary policies as tools for dealing with real and financial shocks. These limitations need to be compared with the medium to long-run benefits of a fixed exchange rate and the delegation of monetary policy to an independent, supranational central bank – the European Central Bank (ECB) in the ECU case . In this context, the pros and cons of a currency union need to be evaluated. The relevance of such as issue becomes even more relevant if we note that from 1946 to now a total of 123 countries have been involved in a currency union at some point, and that by the year 2015 83 countries followed to be involved in one (Chen and Novy 2018).

Our approach in this regard is to assume that the relevant decisions are adopted on the basis of a political cost-benefit analysis that weighs the expected economic gains and losses through the lens of the electorate and/or certain ideologies. Such perspective revisits the classic approach of optimal currency areas (Mundell 1961), zooming on the political actors that shape time to time each country decision, where the above mentioned traditional theory "ignores the "political economy" factors that made currency areas coincident with countries in the first place (…). If the USSR were an optimal currency area before its break – up it should have presumably remained so afterwards" (Goodhart, 1998). The political economy approach, which expresses monetary union as a transfer of sovereignty, seems to be more consistent with a truly theory of optimal currency areas (Bolton and Huang 2018).

Thus far, cognitive biases have not been assumed to affect the relevant players. But what are the effects if behavioural biases influence the preferences of the political actors, citizens and/or politicians? Such as perspective characterizes the behavioural political economics (BPE) (Schnellenbach and Schubert 2015). In the OCA research field such approach has been recently applied to analyse a currency union wherein expectations, instead to be rational, are formed through behavioural reinforcement learning

[1] Franks et al. (2018).

(Bertasiute et al. 2018). Here we study the consequences how the presence of loss aversion among citizens – can shape the decisions of the incumbent national politicians; if this is the case, a status quo equilibrium is more likely to occur. Such equilibrium can explain under which conditions the Euro membership can persist.

The paper is organized as follows. Section Two briefly reviews the traditional theory of optimal currency areas (OCA theory), highlighting the more recent political economy approach that enriches the OCA theory. Section Three presents our behavioural political economics framework, which analyses the ECU case when the relevant actors – citizens and politicians – take political decisions and on top can be affected by behavioural biases, as loss aversion. Section Four concludes.

2. The ECU Membership: From Economics to Political Economy

The literature on OCA first emerged in the 1960s (see Mundell, 1961; McKinnon 1963 and Kenen, 1969). Over the last three decades, it has become the theoretical basis for evaluating the viability and desirability of the ECU.[2] Today, the OCA approach is used to evaluate whether regional areas – such as the European Union or the United States – can be considered as optimal currency areas (Bayoumi and Eichengreen, 2017). In Europe, this debate started after the launch of the European Monetary System in 1979, when the majority of the countries in the European Community fixed their exchange rates around a central parity known as the European currency unit (ECU). It became even more vivid with the introduction of a single European currency – the euro –as an accounting currency on January 1, 1999. The euro was put into circulation on January 1, 2002.

The decision to establish a monetary union involved a complete and irreversible separation of countries' monetary powers in terms of both exchange-rate determination and monetary policy autonomy. When countries join the ECU, they fix their exchange rates and delegate their monetary policies to the European Central Bank (ECB), which implements these policies at the supranational level. This has economic costs and benefits.

The OCA theory's rationale for the ECU can be summarized as follows. Consider how the citizens of an individual European country *j* may address the decision to join the single currency. A relevant benefit of fixed exchange rates is that they provided a more predictable basis for trade decisions than floating rates. In other words, the monetary transaction costs are likely to be lower. The monetary transaction gains will be higher the more country *j* trades with other members of the single currency, which would also favour the mobility and flexibility of the factors of production (labour and capital). Therefore, the gains from

[2] Buiter (1999), Jonung and Drea (2010), Krugman (2012). See also Goodhart (1995) and Bordo and Jonung (1999). Mongelli (2002) describes the evolution of OCA theory as occurring in four phases: pioneering (from the early 1960s to the early 1970s), reconciliation (during the 1970s), reassessment (in the 1980s and early 1990s) and empirical (from the mid-1990s).

joining the single currency are positively related not only to the degree of economic integration in the markets for inputs and outputs, but also to the efficiency of those markets.[3]

The OCA theory's rationale for delegating monetary policy to an independent central bank is to further insulate monetary and exchange rate actions from political biases. At the same time, the OCA approach stresses that the medium- to long-term advantages of currency union membership have to be compared with the short-term costs of losing the ability to use national monetary and exchange rate tools to address short-term macroeconomic imbalances.

On the one side, the ECU membership implies that the national policymakers cannot use the nominal exchange rate flexibility to address and fix competitiveness problems. For each country the competitiveness depends on its relative prices of goods and services, i.e. on its real exchange rate. In general it is assumed that the real exchange rates are correlated with the total factor productivity (Balassa – Samuelson Effect)[4]. In a currency union, the bilateral nominal exchange rate are fixed: therefore any real exchange imbalance implies prices and productivity adjustments. On the other side in a currency union the national policymakers cannot managed discretionally interest rates and monetary aggregates to smooth macroeconomic unbalances. In both cases sovereignty losses emerge, given the presence of a supranational veto player, i.e. the independent central bank. The relevance of such as feature is further discussed in the Appendix.

The general conclusion on the debate surrounding the drivers of a country's attitude towards currency area membership is that the final outcome depends on the preferences of its players – i.e. the citizens and the incumbent policymakers.

If we apply the general principles to the ECU case and assume that monetary instability risks are proxied by inflation-rate dynamics, then, other things being equal, the monetary stability gains should be higher the more the country's *j* inflation is high or volatile. Therefore, the ECU gains are positively correlated with the relative degree of inflation-rate instability in country *j*. This implies that both monetary transaction gains and monetary stability benefits can motivate a country to join the ECU.

At the same time, however, ECU membership might be associated with certain risks, especially those related to losing the ability to use exchange-rate and monetary policies to address macroeconomic shocks. In other words, country *j* may face stabilization losses - or more generally sovereignty losses - resulting from its membership in the single currency area. Other things being equal, such losses are likely to increase the more country *j* needs to address and fix business cycle problems.

[3] On the degree of mobility and efficiency in the EU markets, see Bayoumi and Eichengreen (1996), OECD (1999), Rose and Van Wincoop (2001), Fidrmuc (2001), Bun and Klaassenn (2002), Mahlberg and Kronberger (2002), Mongelli (2002), EU Commission (2004), De Grauwe and Mongelli (2005), Dellas and Tavlas (2005), Andres et al. (2008), Buscher and Gabrish (2009) and Chukwuemeka (2011). On the effects of specific EMU membership cases, see Monga (2004), Rabanal (2009) and Baas (2014).
[4] On the relationships between real exchange rates and productivity in the Eurozone see Berka et al. 2018.

Overall, these losses might reduce the citizens' interest in joining the currency union. The size of the stabilization losses depends on the same drivers that influence monetary gains (i.e., mobility and efficiency in the markets for inputs and outputs). Lower levels of integration and efficiency call for supranational stabilization policies that differ from the monetary policies. When such policies are missing, the monetary stabilization losses will be higher.

Furthermore, recent literature on optimal currency areas points out that both gains and losses can be endogenous, rather than exogenous, given that they depend on how the currency area is designed and implemented.[5] The shape of the transaction costs; the level of integration in the markets for goods, services and human capital; political biases; and the shocks and their absorbers can be dynamically influenced by the evolution of the currency area's establishment and implementation. Such endogenous transaction costs can be either decreasing or increasing. Consequently, the integration process can become deeper or weaker over time, and it can differ across countries.

Almost twenty years after the adoption of the European single currency, it is possible to claim that some of the expected pros of adopting the euro have been realized. On the one side, monetary stability has produced less inflation and more trade, leading to more growth. While the gains in terms of less and more stable inflation are self-evident, the positive effects on the international trade need deeper inspection, given that in general the selected econometric methodology matters in estimating the effect of currency union on trade, [6] and consequently the results are far to be definitively clear-cut. However and so far, it is possible to argue that in general currency unions have been on average associated with 40% more trade between member countries, with a great deal of heterogeneity, which depends on the already existing bilateral relationships between member countries, where thin bilateral trade relationships are more sensitive in comparison to thick (well-established) trade relationships. On this respect, in the ECU the average trade effect seems to be modest, but with relevant heterogeneity across country pairs (Chen and Novy 2018).

Overall, the ECU benefits have been even more evident in the countries in which national policymakers have implemented policies that increase productivity, such as Germany, Austria, Belgium, Finland, Luxembourg and the Netherlands. [7] At the same time and on the other side, certain national imbalances still need to be addressed, including financial instability risks, debt and deficit risks, and the divergence in wages and productivity paths that leads to trade imbalances, as in the case of the peripheral euro area countries (i.e., Greece, Ireland, Italy, Portugal and Spain).[8]

[5] Frankel and Rose (1997 and, 1999), Glick and Rose (2002).
[6] Glick and Rose (2016).
[7] Dustmann et al. (2014).
[8] Thimann (2015).

Summing up, the analysis of the economic pros and cons of ECU membership has not provided a final answer on which of the two prevailed. What is arguably needed is a dynamic framework that can shed light on the evolution of the expected gains and losses – both economic and political – of joining or remaining in a currency union. The historical tales should not be treated as benchmarks but rather as useful food for thought.[9] This observation is strengthened by looking at the degree of financial integration and at the design of banking regulations, which are substantially more prominent today than in the 1990s and early 2000s.[10]

A final step deserves attention: thus far, cognitive biases have not been assumed to affect the relevant players. But what are the effects if behavioural biases influence the preferences of the political actors, citizens and/or politicians? Such as perspective characterizes the behavioural political economy (BPE). In the next section we will use the BPE methodology to show how the analysis of the ECU membership decisions can be further enriched using the prospect theory.

3.The ECU Membership: A Behavioural Political Economics Model

3.1 ECU Membership and Individual Preferences

Consider a population with a continuum of citizens (voters) in time *t*, each of them free to express his/her – thereafter her – ECU membership preferences, which means concretely having the Euro as own currency (*Europhilia*) (Guiso et al. 2015), where the variable π proxied such as preferences. We assume that the individual preferences are a continuous variable, rather than be a binary one, given that they approximated how each player is in favor - or against – to be in a ECU.

From the previous section we know that be in a ECU implies both expected benefits – medium term (MT) monetary stability - and expected costs - short term (ST) sovereignty losses. But each citizen weights benefits and costs through her personal beliefs. The individual heterogeneous preferences are summarized in a parameter *t*, that represent the individual type and captures her/his – thereafter her – degree of *aversion* toward the ECU membership (*Ecuphobia*). It is worth noting that we assume that Europhilia is an explicit variable, while Ecuphobia is a latent (hidden) variable.

The heterogeneity among citizens may arise from any driver that can affect personal preferences, for example from their ideology and culture, and the like. Using the utility function introduced in Alesina and Passarelli (2015) and then used in Favaretto and Masciandaro (2016), let $V(t_i, \pi)$ be the description of the preferences of the citizen *i*:

$$V(t_i, \pi) = B(t_i, \pi) - C(t_i, \pi) \qquad (1)$$

Where $B(t_i, \pi)$ and $C(t_i, \pi)$ are respectively the individual benefits and costs in being a ECU member. We assume that for each individual the comparative benefits are increasing and concave:

[9] As stated by Kirkegaard and Posen (2018).
[10] Aizenman (2016). See also Handler (2013).

$$\frac{\partial B(t,\pi)}{\partial \pi} > 0 \quad \frac{\partial B^2(t,\pi)}{\partial \pi} < 0 \qquad (2)$$

At the same time we assume that the individual comparative costs in of the ECU membership are increasing and convex:

$$\frac{\partial C(t,\pi)}{\partial \pi} > 0 \quad \frac{\partial C^2(t,\pi)}{\partial \pi} \geq 0 \qquad (3)$$

In other words we assume that in general for any citizen the MT monetary stability gains are more relevant than the ST sovereignty losses. This assumption implies in principles and potentially each individual can consider the possibility to share the Euro as common European currency. But at the same time the citizens are heterogeneous with respect to their degree of ECU aversion (Ecuphobia) , so the optimal degree of Euro support will be different, depending on their own aversion.

The individuals can be indexed such that more adverse individuals bear higher marginal costs and/or enjoy lower marginal benefits from being a ECU member:

$$\frac{\partial B_{\pi}(t_i,\pi)}{\partial t_i} \leq 0\,; \quad \frac{\partial C_{\pi}(t,_i\,\pi)}{\partial t_i} \geq 0 \qquad (4)$$

Given the assumption from (1) to (4), the equilibrium is interior, i.e. the Europhilia can be infinitely small, but however non negative (a consequence of the above mentioned assumption that each citizen can consider the possibility to share the Euro as common European currency):

$$\frac{\partial B(t_i,0)}{\partial \pi} > \frac{\partial C(t_i,0)}{\partial \pi} \qquad (5)$$

For each citizen at time *t* the optimal Europhilia $,\pi^*$ is such that marginal benefits match marginal costs:

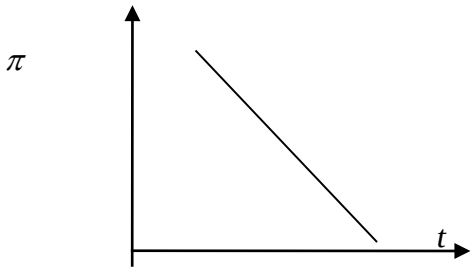
$$\frac{\partial B_{\pi}(t_i,\pi)}{\partial \pi} = \frac{\partial C_{\pi}(t_i,\pi)}{\partial \pi} \qquad (6)$$

And that:

$$\frac{\partial \pi^*}{\partial t_i} < 0 \qquad (7)$$

In words, the contingent optimal degree of Europhilia will be inversely associated with the personal degree of ECU aversion $\pi^*(t_i)$ (Figure 1):

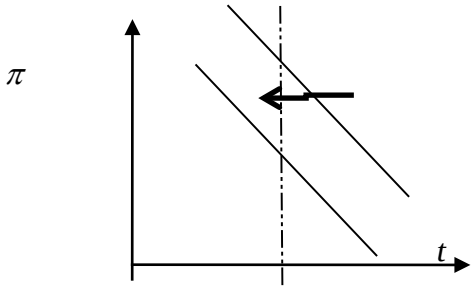
FIGURE 1 EUROPHILIA AND ECUPHOBIA



People that like the perspective of using the Euro as their own currency – i.e. with lower ECU aversion – will show higher level of Europhilia; the opposite is true with individuals that dislike the sovereignty losses.

It is worth noting that any shock that modify the drivers that influence both the benefits and costs in being a member of the Euro zone will change the optimal Europhilia, given the individual preferences; for example any policy/shock that decreases the individual gains of MT monetary stability and/ increase the individual costs of SR sovereignty losses will decrease the optimal Europhilia: (Figure 2):

FIGURE 2 EUROPHILIA AND SHOCKS



Our framework allows to capture in an extremely simple way the evolution of the individual Euro attitude as a function of structural beliefs – Ecuphobia – that can be influenced time to time by shocks, both economic and political ones.

Just to offer a concrete example, we can wonder how to describe the sentiments of a given European population regards the Euro membership, using the Eurobarometer surveys (European Commission, 1974-2018). The Eurobarometer series has been launched in 1974 in order to monitor the attitudes towards the Common Market and the European Community institutions in the member countries.

Among all the Eurobarometer questions, we zoom on the question about the attitude towards the euro ("support for the single European country"), where the meaning of such as question is as follows: " There has to be one single currency, the euro, replacing the national currencies of the member states of the European Union; Are you for it or against it?". In other words we share the view that such question assesses the individual towards a European common currency (Guiso et al. 2015).

For the sake of our exercise, we select one country – Italy – taking note of the share of respondents who answer "For Euro" (80%) in the year when the European currency union when established, i.e. when the Maastricht Treaty entered into force in 1993 (Eurobarometer, October 1993, figure 3.5, p.59) . The Euro

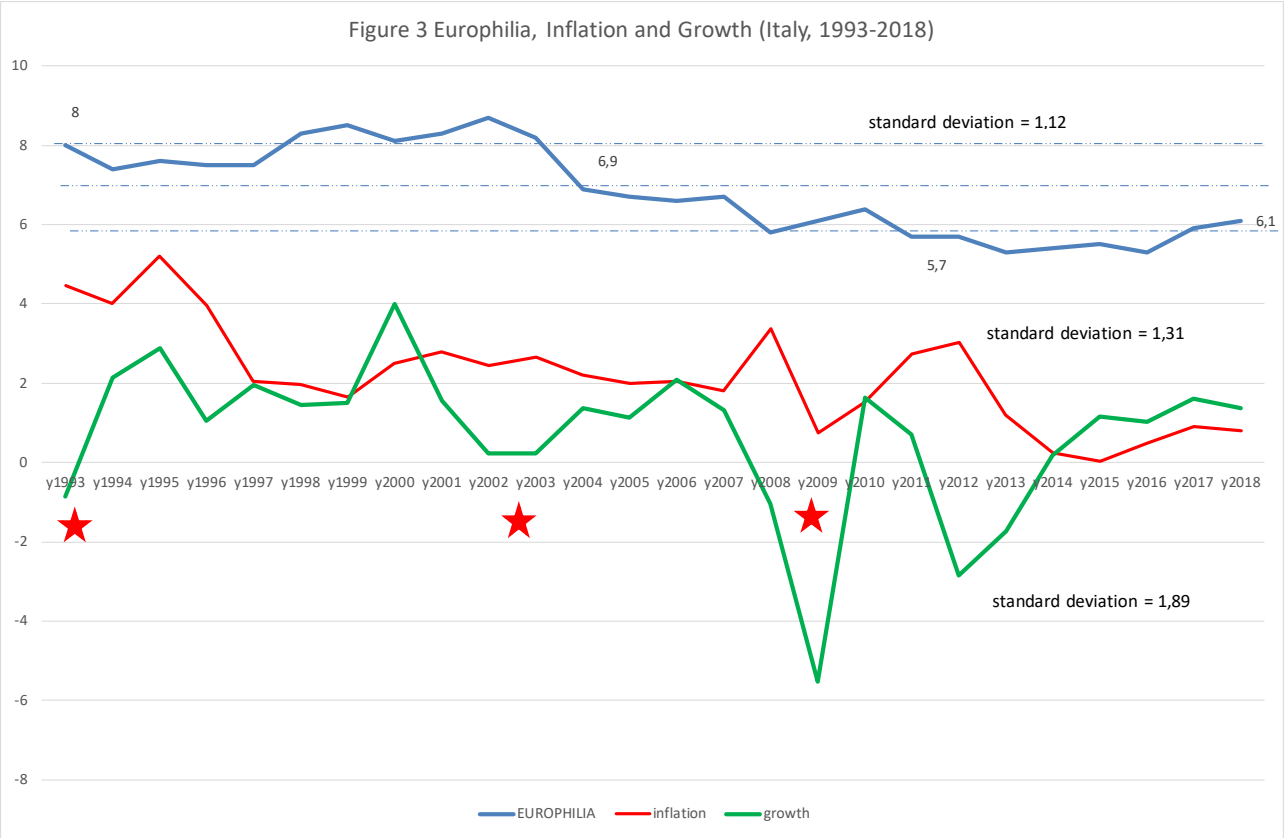
was launched in 1999 – when it becomes the official currency in eleven countries, including Italy - and the corresponding notes and coins were introduced on January, 1st, 2002; therefore we can assume that the 1993 Italian sentiments towards the Euro (Italian Europhilia) where associated with the corresponding level of attitude towards the future ECU membership.

Then the level of Italian Europhilia changed over time (Figure 3): looking at the temporal trend it is evident (blue line) that between 1993 and today the Italian Europhilia dropped from the 85% in 1993 to 61% in March 2018. How to explain the evolution of the Euro support among the Italian citizens?

In our framework two drivers can be in action: the expected MT monetary stability gains and the expected ST sovereignty losses. We can proxy the evolution of the benefits looking at the Italian inflation rate (red line). At the same time we can approximate the expected sovereignty losses using the output growth trend (green line).

The descriptive analysis highlights four features, showing that Italian Europhilia 1) is positively correlated both with inflation and 2) output growth. On top of that, 3) its temporal pattern drops following a series of three steps, in a range respectively between 80% and 70% in the period 1993-2003, between 69% and 60% in the years up to the 2007, and finally below 60& up to today (excluding the more recent figure, i.e. the March 2018 data). It is worth recalling that in Italy we had two severe recessions in the periods 1992-93 and 2007-2009, and a growth downturn in the years 2000-2002 (Bassanetti et al. 2009). Finally 4) the Italian Europhilia is more stable than inflation and output growth, using as indicator of stability the standard deviation performances (respectively Europhilia = 1.12, inflation = 1.31, output growth = 1,89).

The three stylized facts can be consistently explained using a behavioural economics approach, and specifically applying the loss aversion assumption; however for the sake of transparency we have to underscore that our interpretation is based on just 26 observations.



3.2 Behavioral Biases and Eurozone Membership

Here we adopt a prospect theory approach – which so far "remains the most important theoretical contribution to behavioral economics" (Thaler 2018) - assuming loss aversion, i.e. the citizens perceive any outcome as expected gains and losses relative to a reference point, which represents their endowment (Kahneman and Tversky 1979, Barberis 2012 and 2018); on top the reference point can be expectations-based (Heffetz 2018), which is consistent with our framework.

Here we assume that the reference point is the "status quo": the expected benefits and costs of different level of Eurozone membership are evaluated relative to the actual country situation. Given the status quo, the citizens assess the expected benefits due to the MT monetary stability and the expected costs in terms of ST sovereignty losses.

Then the evolution of the Italian Europhilia so far can be interpreted as follow: on the one side, the dropping inflation rate triggers a positive but decreasing endowment effect. Such as phenomenon should be consistent with the prospect theory, that assumes that the individuals displays diminishing sensitivity (Thaler 2018).

At the same time a support reduction materializes only if a sufficiently large drop in the output stresses the expected losses due to the missing ST sovereignty powers. It is a matter of fact that such as drops is roughly coincident with the three cases of output growth weakness. It is worth noting that the size of each drop seems to be roughly similar, so it could be matter of discussion if in this particular case the support losses are segregated rather than integrated (Thaler 2018).

Once a lower level of Euro support becomes the new status quo, the majority of the citizens does not wish to undo it. The status quo equilibrium is consistent with the role of the sunk costs in explaining the individual behavior (Thaler 2018).

Needless to say, the actual shape of the Italian Europhilia is neither irreversible nor foreseeable: it will depend time to time on the kind of shocks which will hit the country.

The behavioral political economy approach already briefly described can be formally developed as follows: with loss aversion, and for every choice, losses loom larger than gains, and both are evaluated with respect to a given *status quo*. Let $z > 0$ be the parameter which captures loss aversion and let π^{SQ} be the *status quo* Europhilia. Given condition (5), the status quo is non negative so we can analyze in general how a given Euro support can change if a shock occurs. With loss aversion an increasing ECU membership - $\pi > \pi^{SQ}$ - entails more benefits than costs, but higher expected costs in terms of ST sovereignty losses yield psychological losses which amount to:

$$z(C(t_i,\pi) - C(t_i,\pi^{SQ})) \qquad (8)$$

Vice versa reducing the ECU membership - $\pi < \pi^{SQ}$ - overall entails less benefits than costs, with psychological losses in terms of benefits due to less MT monetary stability gains which amount to:

$$z(B(t_i,\pi^{SQ}) - B(t_i,\pi)) \qquad (9)$$

Therefore the individual goal function with loss aversion $V(t_i,\pi/\pi^{SQ})$ is given by the basic utility $V(t_i,\pi)$ minus the psychological losses due to the departures from the *status quo* Euro support:

$$V(t_i\pi/\pi^{SQ}) = V(t_i,\pi) - z(C(t_i,\pi) - C(t_i,\pi^{SQ}))if\pi > \pi^{SQ}$$

$$V(t_i\pi/\pi^{SQ}) = V(t_i,\pi) - z(B(t_i,\pi^{SQ}) - B(t_i,\pi))if\pi < \pi^{SQ}$$

The optimal conditions are as follows:

$$B_\pi(t_i,\pi) = (1+z)C_\pi(t_i,\pi)if\pi > \pi^{SQ} \qquad (10)$$

$$(1+z)B_\pi(t_i,\pi) = C_\pi(t_i,\pi)if\pi < \pi^{SQ} \qquad (11)$$

Therefore for each individual it will be true that, given her level of aversion t_i , she will set her preferred Europhilia π_i according to the following rule:

$$B_\pi(t_i,\pi) = (1+z)C_\pi(t_i,\pi)if t_i < t^S$$

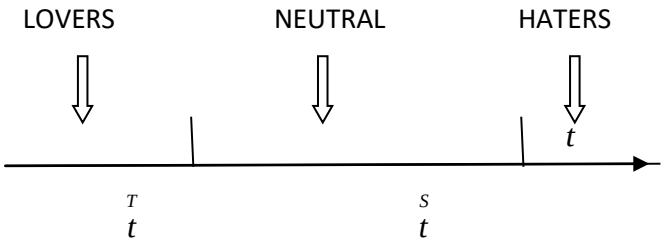
$$(1+z)B_\pi(t_i,\pi) = C_\pi(t_i,\pi)if t_i > t^T \qquad (12)$$

$$\pi = \pi^s if\ t^T < t_i < t^S$$

It is worth noting that $t^T and\, t^S$ with $t^T < t^S$ represents respectively a lower bound and a higher bound in the distribution of aversion that depend on the status quo Euro support.

Therefore every population can be divided in three different groups: Euro Lovers people - $if t_i < t^T$ - Euro Haters people - $if t_i > t^S$ and Neutral people - $if\ t^T < t < t^S$ (Figure 4):

FIGURE 4 CITIZENS: EURO LOVERS, NEUTRAL AND EURO HATERS



Each citizen will express well defined Euro preferences. With respect to the basic situation we are now assuming that i) each individual will evaluate any situation in terms of changes from the status quo; ii) any negative effect of a change with respect to the status quo are thought to loom larger than a positive effect of equivalent magnitude. The two assumptions are a simple application of the loss aversion principle (Kahneman and Tversky 1979, Tversky and Kahneman 1991), highlighting the fact that if there is a loss/gain asymmetry for individuals, inertia is more likely to occur, as we will see below.

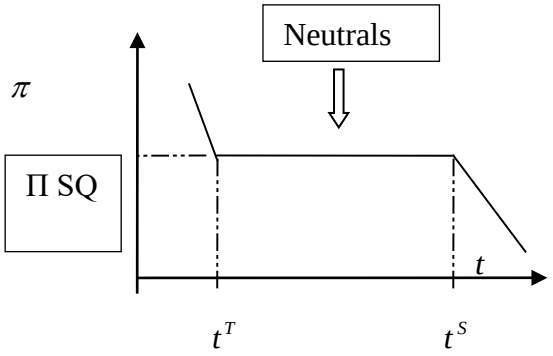
Given the preferences, for each citizen the optimal Europhilia will depend on her aversion t_i, having three possibilities: lover, neutral and hater. More precisely three different equilibria can arise (Figure 5):

$$\pi = \pi^{SQ} if\ t^T < t_i < t^S$$

$$\pi < \pi^{SQ} if\ t_i < t^T \qquad (13)$$

$$\pi > \pi^{SQ} if\ t_i > t^S$$

FIGURE 5 CITIZEN TYPES AND EUROPHILIA



The existence of loss aversion influences the decisions at least via a *Status Quo Effect*:

The ECU membership outcome will be the Euro support π^{sSQ} if the individual is neutral. Further, given that the distance between $t^T and\, t^S$ is increasing in $z > 0$, the more the loss aversion is increasing the more likely the individual is neutral: a status quo bias –Euro support inertia - will emerge. In other words more loss aversion among individuals reduces the distance between their positions. As the individuals become more loss averse, neutral people increase in number and the likelihood of a status quo equilibrium is likely to increase. In other words being π^* the equilibrium Europhilia, we have that increasing loss aversion triggers portfolio inertia, i.e. :

$$\pi^* = \pi^{SQ} \text{ if } z > 0 \qquad (14)$$

In words: the more that are individuals that disproportionally dislike the expected losses the less there will be change in the ECU membership preferences. All in all, if a series of negative shocks hits the Euro support – as in the case of Italian Europhilia – the citizen attitude drops, but remains relative stable.

3.3 Voting on Eurozone Membership

Our prospect theory equilibrium can explain why a Eurozone membership is likely to resist. we can assume that our citizens is a population of voters that have to choose if and how to leave the Eurozone; the overall procedures can be summarized through a unidimensional policy $p \in R^+$. On top we assume that for each individual her optimal policy *p* can be proxied using her optimal Europhilia. Therefore haters vote for lower ECU policies, i.e. against them; the opposite is true for lovers preferences.

The policy outcome will depend on the voting rules. First of all, which should be the optimal policy if a social planner is in charge? The standard benevolent dictator would maximize the overall sum of individuals' preferences:

$$\int [B(t,p) - C(t,p)] dFt \qquad (14)$$

Where the first best ECU policy will be define in order to equalize the average marginal benefits $\overline{B}_p(p)$ and the average marginal costs $\overline{C}_p(p)$, i.e. solving the equation:

$$\overline{B}_p(p) = \overline{C}_p(p) \qquad (15)$$

The social planner goal is to maximize the effectiveness of the Eurozone membership. But the social planner solution is not necessarily the equilibrium solution if a voting regime is in action.

If for the sake of simplicity, we assume that the voting regime is governed via a majority rule, the selected ECU policy will depend on the preferences of the median voter, i.e. it will be equal to p_m. Therefore the ECU exit will be less likely if the median voter is a Euro lover; the opposite is true if in the given individual preferences distribution the median voter is a Euro hater. The distribution of the preferences among the citizens becomes crucial to define which will be the actual choice.

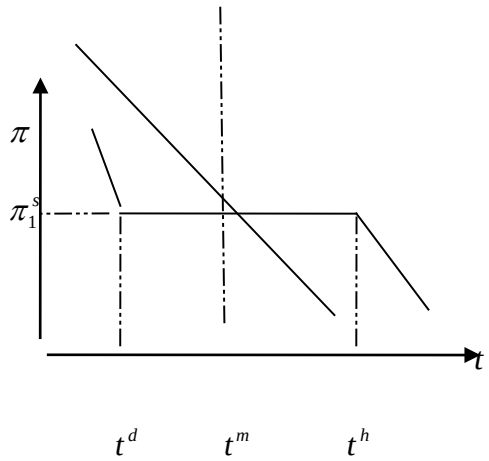
If we introduce the loss aversion, we can assume that in the status quo situation the Eurozone membership is active; i.e. in our model such an assumption implies $p_{ST} = \pi_{ST} = \varepsilon$, where ε is positive. Given the abovementioned three group of citizens – lovers, neutrals and haters in Figure 4 - if the median voter is the intermediate group, the policy outcome is the status quo, i.e. the Eurozone exit is less like to occur.

4.4 Changing the Eurozone Support: Big Shock Effect and Amnesia Effect

Under which conditions the status quo equilibrium is likely to change? Other things being equal, it possible two identify two different situations: the *Big Shock Effect* and the *Amnesia Effect*.

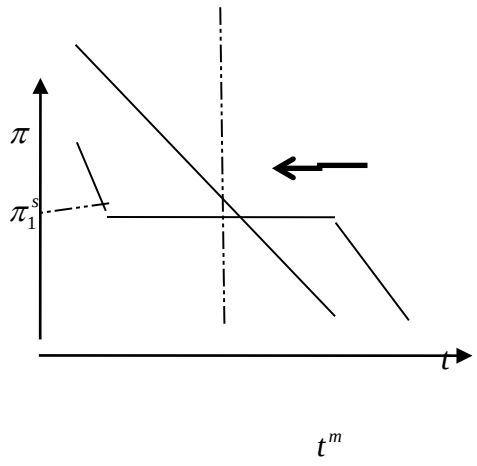
First of all, In case of a shock that hits the ECU attitude, only big shocks can trigger a change in the Euro support. Let us assume we are in a situation of status quo equilibrium π_1^s (Figure 6):

FIGURE 6 SHOCKS AND EUROPHILIA: THE STARTING POINT



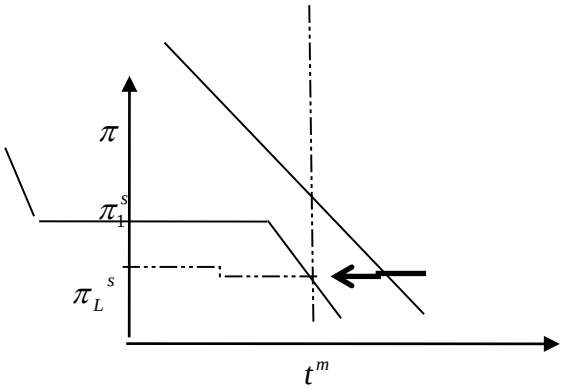
Suppose now that a shock τ hits the ECU attitude of the citizens; for example the aversion increases. Two cases can occur. If the shock is relatively low (Figure 7), the median citizen is likely to remain neutral, and the Euro support will stay the same:

FIGURE 7 LOW SHOCK AND EUROPHILIA



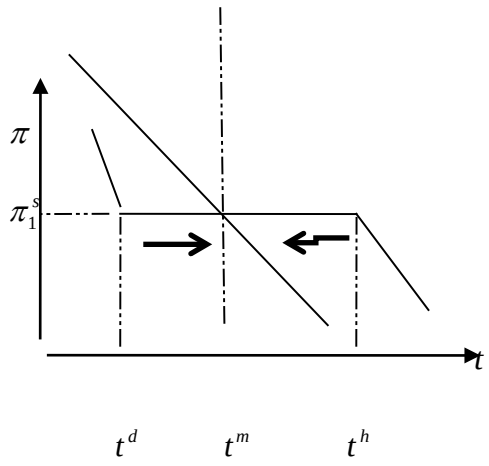
Only if the shock is relatively strong, the status quo support π_1^s becomes too high for the median citizen (Figure 8), and the optimal support will decrease.

FIGURE 8 HIGH SHOCK AND EUROPHILIA



Secondly, the loss aversion can decrease if the citizens have short memories of the costs of monetary instability, and/or the inflation target is progressively reached (the above mentioned diminishing sensitivity effect). The more there is a loss of memory in terms of expected gains and losses in having or missing the monetary stability, Again, given that the distance between $t^T and\, t^S$ is increasing in $z > 0$, the more the loss aversion is decreasing the less likely the median voter will be neutral (Figure 9): a status quo bias –Euro support inertia - is less likely to occur –i.e. the Euro support becomes less stable.

FIGURE 9 AMNESIA EFFECT AND EUROPHILIA



All in all, such a framework shows theoretically under which conditions the Euro irreversibility assumption (Draghi, 2012) can hold: notwithstanding relevant shocks can weakened the Euro support, the expected costs in terms of MT monetary stability losses – i.e. the redenomination risk – reduce the likelihood to a definitive step backward.

5.Conclusion

Triggered by the 2007-2008 financial crisis, crucial questions about the macroeconomic costs and benefits of the ECU have come into focus. It is well known that in the run-up to the single currency, there was intense debate as to whether the European currency union, which was characterized by an independent, supranational central bank, imperfect and fragmented markets for inputs and outputs, and national, non-monetary policies with incomplete and partial coordination, could progressively reap the net benefits of a ECU via a gradual convergence of policies and performance. However, following the establishment of the Euro area, the idea that the economic benefits in various countries were endogenously associated with the ECU's progress dominated, while the possibility of adverse macroeconomic dilemmas remained relatively hidden or country contingent.

The main lesson of the financial crisis is that significant financial shocks intertwined with sensible real and fiscal heterogeneities among member countries can pose a relevant threat to the sustainability of the ECU. A country that does not have exchange-rate flexibility or discretionary monetary policies at its disposal may find that the interaction between deep differential growth and financial imbalances, including fiscal imbalances, calls for viable, effective European institutions and policies that can safely and soundly maintain membership in the currency union. In the absence of supranational institutional devices, adverse shocks might magnify the existing real and financial asymmetries, thereby destabilizing the ECU, especially

given that political attitudes toward currency-union membership are dynamic and contingent on economic and political drivers.

The question is this: How can the pros and cons of membership in the single currency union be captured in a simple and systematic way? The aim of this paper has been to revisit the standard approach of optimal currency areas, using a behavioural political economy approach and applying it to the Eurozone case.

We offered a general framework for discussing the economics and political economy of the European monetary integration process. The bottom line is that the net benefits of a single currency are calculated by national policymakers, who are in turn elected politicians – career-concerned players who try to maximize consensus by pleasing voters and/or lobbies. In so doing, they influence the country's evaluation of the medium- to long-term benefits of fixing the exchange rate and establishing an independent, supranational central bank, and the costs associated with losing the monetary flexibility needed to smooth short-term macroeconomic unbalances and/or implementing potentially unpopular fiscal and structural policies.

The role of the political willingness to be a more or less active player in the ECU process can trigger centripetal or centrifugal forces that can either reinforce or weaken the robustness of the ECU's institutional setting. In other words, the direction and speed of the ECU process depends on two different yet intertwined endogeneity phenomena: endogeneity in the evolution of the pros and cons of ECU membership, and endogeneity in the political weights assigned to its costs and benefits.

We zoomed our attention on how the politics of the ECU membership is likely to be a necessary step to understand what is going on, and on the other side we discussed which are the effects if behavioural biases - prospect theory - influence the preferences of the political actors. The theoretical framework has been used to analyse the support in favour of the Euro membership in the case of the Italian citizens and in general under which conditions the Euro irreversibility assumption is likely to hold.

All in all, for each country, the attitude toward the ECU is an endogenous, dynamic variable that is characterized by booms and busts depending on the political evaluation of the economic costs and benefits of membership in the currency union. In turn, the cycles of national attitudes towards the ECU are likely to accelerate or decelerate its evolution, including the safe and sound functioning of its currency – the euro – and the credibility of its monetary actor, the ECB. The ways in which individual political decisions in each member country can affect the common path of the economic supranational institution is a particularly interesting issue that deserves further analysis.

6. Appendix: Currency Union and Central Bank Independence

In the traditional OCA approach - but more generally in the macroeconomic analysis - the role of such political incentives has progressively emerged through the focus on the relationships among citizens' preferences, political biases, monetary policy and central bank governance, zooming on the role of central bank independence.[11]

The theoretical bottom line can be summarized as follows. Policymakers tend to adopt a short-sighted perspective when using monetary tools and they often rely on money creation to smooth different kinds of macroeconomic shocks – real, fiscal, banking and external.[12] Unfortunately, money creation comes at a cost: printing money today implies a greater risk of monetary and/or financial instability tomorrow. Therefore, policymakers attempt to exploit the trade-off between present real gains and future instability risks.[13] In other words, the stabilization policies are implemented through the assumption of future instability costs. However, the more efficient markets are, the greater the risk that short-sighted monetary policies will only produce instability. In fact, rational private agents fully anticipate the political incentives to use a monetary tool and fully adjust the nominal variables, so that such tools have no real effect.[14] In this framework, the Friedman-Lucas proposition on monetary-policy neutrality holds: money creation does not produce any real gain, only nominal (monetary and/or financial) distortions. [15]

The inefficient use of monetary policy tools has been empirically confirmed using the optimal taxation theory. [16] Optimal taxation theory claims that the benevolent policymaker chooses the rate of taxation – including the rate of money-supply creation, which produces inflation – to minimize the present value of the social cost. Consequently, inflation and tax rates are positively related. However, if optimal taxation theory fails empirically, it is natural to conclude that the government is not benevolent and that it is affected by monetary-policy biases.[17]

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[11] For excellent reviews, see Cukierman (1996), Eijffinger and de Haan (1996), Cukierman (2008) and Walsh (2008). The inefficient use of the inflation tax by the government seems to be a common feature of the different theoretical explanations of central bank independence (CBI) effectiveness. Eijffinger and de Haan (1996) discuss three strands of literature – the public-choice view, the fiscal view and the time-inconsistency view. While the first two focus on why governments may like accommodative monetary policies, the third explains their ineffectiveness using the rational expectations hypothesis. Bibow (2010) illustrates the views of Friedman and Keynes on CBI, while Goodfriend (2012) reviews CBI as it emerged first under the gold standard and later with fiat money.

[12] On the relationship between fiscal deficits and CBI, see Burdekin and Laney (2016). On the economics and empirics of inflationary bias in consolidated monetary and banking powers, see Lima et al. (2016). On the interconnections between banking and fiscal shocks, see Bordo and Meissner (2016). On the relationships between monetary and fiscal policies in a currency union see Foresti (2018).

[13] See Bernanke (2013a) on the benefits of relying a long-sighted independent central banker instead of short-sighted politicians.

[14] On ageing and CBI, see Farvaque et al. (2008). On social trust and CBI, see Berggren et al. (2015).

[15] See Friedman (1968) and Lucas (1973).

[16] For a survey, see Delhy Nolivos and Vuletin (2014).

[17] Delhy Nolivos and Vuletin (2014) reach a different conclusion. They endogenize optimal taxation using the degree of CBI and conclude that higher CBI results in a lower level of optimal taxation. However, the article does not explain why the CBI level is exogenous, (i.e. why the social planner does not simultaneously define the optimal taxation and the degree of CBI).

Given these considerations, banning the use of the monetary policy for short-term political purposes became the social goal. This institutional setting gained momentum in the economic literature and in the policy debate in the 1980s, and the relationship between the policymaker who designs the overall economic policy and the central bank that is responsible for setting monetary policy came to the fore as crucial for avoiding the inflation bias.[18] Furthermore, the greater the consensus that markets were rational, the more the rules of the game between policymakers and central bankers gained momentum.[19] The economic mainstream claimed that optimal central bank governance must essentially be a two-sided medal.

On the one side, the central bank has to be independent. In other words, it must enjoy the ability to implement non-distortionary monetary policies without any external (political) short-sighted interference. As such, the central banker becomes a player who can veto distortive monetary policies. On the other hand, the central banker has to be conservative, where conservativeness refers to the importance that the central banker assigns to price stability with respect to other macroeconomic objectives.[20] Conservativeness is necessary to ensure that the central banker himself/herself does not become a source of money-creation bias.

Independence and conservativeness are therefore conditions for the implementation of credible monetary policies.[21] Independence can be viewed as a device for implementing conservative monetary policies and, more generally, monetary policy rules.[22] However, private agents will trust the central banker only if effective rules on accountability and transparency hold. In other words, a conservative central bank is credible if it works in an institutional setting that guarantees independence and accountability, acts in a transparent way, and implements an effective communication policy.[23]

The relationship between central bank independence (CBI) and accountability lies at the core of the central bank governance literature.[24] Central bank governance has become the institutional setting for implementing day-to-day monetary policies: given the long-run goal of avoiding the risk of monetary

[18] See Strausz (2011) and de Figueredo and Stiglitz (2015), who treat CBI as a special case of the general relationship between agency delegation and democracy .

[19] Barro and Gordon (1983), Backus and Driffill (1985), Rogoff (1985) and Lohmann (1997) explore the rules of the game in determining the outcomes of the overall macroeconomic policy, while Sargent and Wallace (1981), Niemann (2011), Niemann et al. (2013) and Martin (2013) focus on fiscal policy.

[20] On CBI and conservativeness, see Berlemann and Hielscher (2016).

[21] On the relationship between CBI and central-bank conservativeness, see also Eijffinger and Hoeberichts (1998), McCallum (1995) and Fischer (1995). On monetary conservativeness and fiscal policy, see Niemann (2011).

[22] Eijffinger and Hoeberichts (1998, 2008) shed light on the trade-off between conservativeness and independence: reducing central-bank independence can increase central bankers' conservativeness. The first article used the neoclassic framework while the second applied a new Keynesian model to obtain the same result. On the relationship between CBI and the Taylor rule, see Maslowska (2011b).

[23] On transparency, see Eijffinger and Geraats (2006), and Hughes Hallett and Libich (2006). On communication, see Cukierman and Meltzer (1986), Goodfriend (1986), Issing (2005a) and Blinder et al. (2008).

[24] Briault et al. (1996), Morris and Lybek (2004), Frisell et al. (2008), Crowe and Meade (2008), Hasan and Mester (2010).

instability, modern central bankers can smooth real business cycles using monetary policy rules.[25] Monetary policy then becomes the final outcome of the complex interactions among three main components: monetary institutions, central banker preferences and policy rules.

As insights into the economic pros and cons of being a member of a currency union emerged, the role of central-bank governance in shaping the monetary regime's success took centre stage. In this regard, the academic literature can be described as evolving in a two-step process.[26]

Initially, the scholars involved in the field worked on verifying the theoretical conjectures through comparative, institutional and empirical analyses. After constructing indices of CBI and proposing historical alternative models of independent and dependent monetary authorities, researchers attempted to determine whether the degree of independence was a driver of the most important macroeconomic phenomena, such as inflation, public debt, interest rates, income and growth.[27] The aim was to verify whether the existence of a monetary veto player reduced the intended and unintended effects of the misuse of the monetary policy tools and produced positive spillovers onto other macro variables. In the first wave of studies, CBI was essentially treated as an exogenous (independent) variable that might be useful for explaining macro trends.

In the second step, researchers considered the degree of CBI as an endogenous (dependent) variable that could be explained by other elements.[28] Their focus in this regard was on the factors that

[25] See Bernanke and Gertler (1995), Gertler et al. (1999), Woodford (2003), Gali and Monacelli (2005), Taylor (1993), Henderson and McKibbin (1993), Persson and Tabellini (1993), Walsh (1995) and Svensson (1997). Recently, Taylor (2013) cast doubt on the role of CBI in generating rule-based monetary policies.

[26] Vuletin and Zhu (2011) claimed that around 9,000 articles had been devoted to the role of CBI in inflation by 2011.

[27] The seminal CBI indices proposed by Bade and Parkin (1982) and Grilli et al. (1991) were revised by Masciandaro and Spinelli (1994) and followed by the Cukierman (1992) indices. Since then, many different indicators have been proposed (see Berger et al., 2001, for a discussion). Cukierman (1992) was the first to distinguish legal and de facto indicators of independence. Updates of this index were proposed by Cukierman et al. (1992, 2002) and Jacome and Vazquez (2008). Updates for the Grilli, Masciandaro and Tabellini index (1991) were proposed by Arnone et al. (2009) and Arnone and Romelli (2013), while Romelli (2018) updated these two classical indices and proposed an extended index of CBI. Crowe and Meade (2008) developed measures of CBI and transparency. Vuletin and Zhu (2011) proposed a new de facto index of independence and identified two mechanisms embedded in the measure of the turnover rate of central bank governors. Lupusor (2012) showed empirically that legal independence cannot be considered a sufficient condition for avoiding political pressures on the monetary policy stance. On the historical alternative models of independent and dependent monetary authorities, see Vicarelli et al. (1988) and Wood (2008). On the Federal Reserve, see Waller (2011), Bernanke (2013b), Gorton and Metrick (2013). On the Federal Reserve and the Bank of England, see Goodfriend (2012). On the Bundesbank, see Issing (2005b) and Beyer et al. (2008). On the Bank of Italy, see Gaiotti and Secchi (2012). Grilli et al. (1991), Cukierman (1994), Cukierman et al. (1992), Cukierman and Webb (1995) and Berger et al. (2001) investigate the relationship between the inflation rate and CBI. See also Alesina and Summers (1993), Alesina and Gatti (1995), Gutierrez (2003) and Jacome and Vazquez (2008). Klomp and de Haan (2010b) performed a meta-regression analysis of 59 studies to examine the relationship between inflation and CBI. They confirmed the existence of a negative and significant relation between inflation and CBI in OECD countries, although the results were sensitive to the indicator and the estimation period. Legal CBI has been considered a major determinant of macroeconomic performance – see Cukierman (2008), de Haan et al. (2008), Carlstrom and Fuerst (2009), Alpanda and Honig (2009), Alesina and Stella (2010) and Klomp and de Haan (2010a). More recently, the literature has re-examined the relationships between CBI and the conduct of monetary policy – see Down (2009), Maslowska (2011a), Alpanda and Honig (2009); between CBI and financial stability – see Cihak (2007) and Klompt and de Haan (2009); and between CBI and inflation – see Klompt and de Haan (2010b) and Arnone and Romelli (2013). On public debt and interest rates, see Grilli et al. (1991), Alesina and Summers (1993) and Cukierman (1994). On income and growth, see Grilli et al. (1991), Alesina and Summers (1993), Cukierman et al. (1993), Cukierman (1994) and Berger et al. (2001).

[28] See Masciandaro (1995) and Berger et al. (2001). Note the difference between institutional-setting endogeneity and inflationary-bias endogeneity. CBI endogeneity is systematically reviewed in Hayo and Hefeker (2001). Romelli (2018) considers the

might motivate a country's decision to maintain or reform its monetary regime, including the degree of CBI. They examined why and how policymakers may be forced to implement monetary reforms that reduce their powers in terms of money creation. Various interpretative hypotheses have been advanced to explain the genesis of the political process that leads a monetary regime to assume given characteristics. The endogenizing of CBI and its effectiveness have been the subject of analyses in both economics and political science.[29]

Some scholars consider the possibility that the level of CBI depends on the degree to which constituencies are highly averse to the risks of monetary instability, which drives policymakers to bolster the status of the central bank (the *constituency view*).[30] Others stress that an aversion to monetary instability risks is structurally embedded in features of the overall legislative and/or political system, which then influence the policymakers' decisions regarding an independent central bank *(*the *institutional view*).[31] A third group emphasises the role of culture and a country's tradition of monetary stability in influencing the policymaker's choices (the *culture view*).[32] These three views shape the preferences of the citizens related to the degree of CBI. In the constituency view, present preferences of avoiding monetary instability are relevant, while past preferences influence the policymaker's decisions in the institutional and culture

endogeneity of CBI in a large sample of countries, and shows that both the probability of reforming central-bank legislation and the level of CBI can be related to an array of macro- and politico-economic indicators.

[29] Excellent reference books on how central banks' policies and their institutional settings have changed as well as the causes of these changes are Siklos (2002) and Siklos et al. (2010).

[30] See Maxfield (1997). Posen (1995), noting that the choices of monetary regimes have distributive consequences, stated that there is no reason to assume that the adoption of CBI is self-enforcing, that choice requires political support and that the financial sector is positioned to provide that support. de Haan and van't Hag (1995) raised doubts about Posen's theory. On the relationships among financial-sector preferences, low inflation and CBI, see Miller (1998), who provides an interest-group theory of CBI. Empirical analyses that address the CBI endogeneity question are supplied by Brumm (2006, 2011).

[31] See Moser (1999). See also Cukierman (1994), although his predictions are tested and rejected by Cukierman and Webb (1995) and de Haan and van't Hag (1995). Vaubel (1997) suggests that central banks, even those that are formally independent, can be captured. Sieg (1997) proposes a formal model of a captured independent central bank. Bernhard (1998) claims that information asymmetries in the monetary policy process can create conflicts among government ministers, their backbench legislators and, in multiparty governments, their coalition partners. An independent central bank can help overcome these conflicts. Goodman (1991) argues that a conservative government that is expected to only be in power for a short period of time will adopt an independent central bank to limit the ability of the future government (see also Milesi-Ferretti, 1995). Lohmann (1997) argues that the federalist nature of a government and the use of coalitions in forming a government could increase the likelihood of CBI. On the relationship between government partisanship and central-bank structure, see Alesina (1989) and Alesina and Sachs (1988). See also Bagheri and Habibi (1998). de Haan and van't Hag (1995) test the hypothesis that governments planning to incur higher deficits may wish to increase credibility by granting more CBI. However, they find no supporting evidence for this hypothesis. Moser (1999) analyses the relationship between CBI and the features – checks and balances – of the legislative systems. Banaian and Luksetich (2001) demonstrate the connections between economic and political freedom and CBI attributes. Keefer and Stasavage (2003) introduce a theoretical model and empirical evidence on this issue. Wood (2008) uses a historical perspective to discuss how CBI ultimately depends on the government's needs. Acemoglu et al. (2008) show the relationships among inflation, CBI and political institutions, where the effectiveness of CBI depends on political distortions. Bodea and Hicks (2015) discuss the relationships among inflation, CBI and democratic institutions. Bodea (2010) analyses the simultaneous choice of the level of CBI and the exchange-rate regime.

[32] Berger (1997), Berger et al. (2001). Hayo (1998) claims that people's preferences with respect to price stability matter in explaining low inflation rate and that CBI is just one aspect of a stability regime with two competing interpretations of the role of institutional design: the preference-instrument interpretation and the historical-feedback interpretation. Franzese (1999) claims that the effectiveness of CBI depends on every variable in the broader political-economic environment. In Eggertsson and Le Borgne (2010), society – with all agents having homogeneous preferences – determines the CBI, thereby solving a delegation problem with a trade-off between costs and benefits. Recently, Crowe (2008) demonstrated that CBI is more likely to occur in societies where preferences regarding different policy dimensions, including the monetary policy dimension, are heterogeneous. See also Eijffinger and Stadhouders (2003), Acemoglu et al. (2008), Quintyn and Gollwitzer (2010), Hielscher and Markwardt (2012) and Berggren et al. (2014).

views. These three views can be intertwined by studying the economic, institutional and cultural conditions under which CBI reforms do or do not take place. Importantly, these studies acquire greater importance in periods – such as the present one – characterized by a tendency to question the design of central-bank governance.[33]

The endogeneity of ECU membership is even more evident if the analysis of the pros and cons of having a supranational central bank as the monetary authority is framed in the discussion of the desirability of maintaining an independent central bank.

In this context, today the possible consequences for CBI of the increasing phenomenon of populism are of particular interest. The rise of populism can dent the consensus that surrounded the support for CBI from the late 1980s until the start of the 2007-2008 financial crisis.[34] Notably, "with their PhDs, exclusive jargon, and secretive meetings in far-flung places like Basel and Jackson Hole, central bankers are the quintessential rootless global elite that populist nationalist love to hate".[35] In other words, if the narratives of central bankers seem to sketch them as an natural target for populist policies, then the question that naturally arises is under which condition can a populist reform dispute the degree of CBI, which is the pillar of central banks' power.

As we stressed above, until the start of the 2007-2008 financial crisis, the independence of central banks was the benchmark for evaluating the effectiveness of monetary policy institutions around the world. A broad consensus supported that institutional design.[36] CBI has again become a relevant subject in academia, as well as in politics and the media. However, critical voices now seem to dominate.[37] This is mainly due to the fact that the economic and political importance of central banks in the advanced economies has grown since the beginning of the crisis.[38] Supervisory and regulatory functions have been piled on the central banks, thereby increasing the relationships among banking, fiscal and monetary policies.[39] The lines between the central bank's role as liquidity manager and the government's solvency support for banking and financial institutions have been blurred, inevitably triggering a debate over the shape of central bank settings and, in particular, the features of CBI[40].

[33] See Nier (2009), BIS (2011) and Khan (2016) for an overview of the evolution of central-bank governance after the crisis.

[34] Buiter (2016), de Haan and Eijffinger (2017), Goodhart and Lastra (2017), Rajan (2017), Rodrik (2018), Masciandaro and Passarelli (2018).

[35] Rajan (2017).

[36] Aklin and Kern (2016), Cecchetti (2013), Bayoumi et al. (2014), Fischer (2015), Goodhart and Lastra (2017), Issing (2018), Williams (2015).

[37] See Alesina and Stella (2010), Cecchetti (2013), Bayoumi et al. (2014) and Issing (2018). See also Stiglitz (2013), Ball et al. (2016) and Rodrik (2018).

[38] Buiter (2014).

[39] Bayoumi et al. (2014), de Haan and Eijffinger (2017), Masciandaro and Romelli (2018a, 2018b).

[40] Nier (2009), Bean (2011), Cecchetti et al. (2011), Ingves (2011), Reis (2013), Cukierman (2008, 2013), Cecchetti (2013), Taylor (2013), Buiter (2014), Sims (2016), Blinder et al. (2017), Bordo and Siklos (2017).

In this context, an important question is whether the policy-blurring effect has made the pendulum swing towards concrete reforms that reduce CBI. Thus far, comparative analyses have not provided homogenous results.[41] Overall, the general debate on the optimal degree of CBI and the need for an independent, supranational central bank in the EU — the institutional pillar of European monetary integration – is once again vivid and intense. Consequently, citizens' and politicians' perceptions of the pros and cons of being a member of the ECU are likely to be subjected to closer scrutiny, thereby confirming the endogenous and dynamic nature of such an inquiry.

[41] Bodea and Hicks (2015), Masciandaro and Romelli (2015), de Haan et al. (2018).

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