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**Three essays on Social Trust and Government Policies**

**Doctoral Dissertation**

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*A mis padres por inculcar en mí el amor a mi país y el interés por la economía, a todos y cada uno de mis compañeros de clase por ayudarme a descubrir lo divertido y apasionante que es la búsqueda de la verdad, a mis directores por el tiempo dedicado y por último, a todas aquellas personas, que sin ellas saberlo, sus conversaciones han sido fuente de inspiración de estos capítulos.*

*Esta tesis está dedicada a mi país y familia.*

## **Introduction**

Throughout the three essays of this doctoral thesis, I explore the existing intrinsic relation between the result that economic policies implemented by a government provoke on individuals' trust and government itself.

Social sciences, as an academic discipline that examines society and how people interact and develop as a culture, mainly analyzes and treats different aspects of social groups of human beings in society. Although by definition the theoretical borders and research interests between social sciences are established, there are some topics in which such borders disappear. Trust is one of those topics that have interested psychologists, sociologists, economists, and politicians because of its implications on the way people behave, interact, consume, and vote. Much of the literature focuses on defining trust, how to measure it, and the role it plays at the micro and macro level. In this doctoral thesis I propose a new approach and, rather than studying how trust at the micro level generates stability at the macro level, I analyze whether the decisions taken at the macro level disturb individuals' trust and how such changes, in turn, reverberate in the government.

Just as there cannot be a society without individuals, stability cannot be reached without trust. Societies need governments as governments need societies. Aware of the codependence relationship existing between a government and its society, first I concentrate on studying whether government policies have a direct impact on individuals' aspects, to later analyze why a government when facing growth issues opts for a policy instead of another, and finally determine whether how long a government stays in power relies upon the toughness of its policies or on specific social characteristics.

The first chapter analyzes the impact of the processes that a country passes through when integrating global markets have on individuals' trust. The social trust literature highlights the importance that trust at the micro level has for a convenient government of society at the macro level. Here, I reverse the question by considering whether trust at the micro level is affected by globalization, which is a macro decision with several economic, social, and political implications.

Based on the main conclusions of social trust literature, I propose a theoretical trust model where individual's level of trust, either in closed or opened societies, are the result of life experience, level of education, and the social stability proper to the society where they live. The theoretical predictions are contrasted by an empirical model allowing me to test the theoretical conclusions, as well as to determine the effects of globalization on individuals' trust. The main result of this chapter is that the globalization process has a substantial impact on individuals' trust, but the effect of each dimension (economic, social, and political) varies depending on the region and the historical background of each society. Both, the theoretical and empirical models, show that people living in closed societies have a higher level of trust.

The second chapter compares the impact that an internal depreciation policy, as the deregulation of the labor market, and external depreciation policy, as the depreciation of the currency, has on economic growth. Before the introduction of the euro as the common currency, many of the countries actually members of the European Union used to face severe recessions through currency depreciation policy. After the 2008 financial crisis, several of those same countries started a wave of labor market reforms seeking to create an internal comparative advantage attracting foreign direct investment.

The motivation behind the paper is to determine the criterion prevailing when governments have to decide which policy to implement. Both policies have a significant impact on economic growth. Whereas there is no consensus on the effects of foreign exchange intervention on economic growth, labor market deregulation is highly associated with unemployment. The main difference of both policies is that while governments always can deregulate the labor market, monetary policies can only be applied by countries with monetary sovereignty. The results prove a more beneficial impact of labor market deregulation on long term growth, respect to the short term positive effect of the currency approach. Considering that, when able to implement either of the policies, governments prefer the external one. This confirms the idea that, when there is a possibility to choose, governments will adopt the policy giving visible results in the shortest time.

The third and last chapter, motivated by the conclusions of previous chapters, investigates whether the restrictive policies implemented by a government hurt the government. After the 2008 financial crisis, governments that implemented restrictive policies, such as the previous labor market reforms, lost the following elections. Such a reaction from society proves that when there is a loss of trust from society towards the government, a discomfort is generated making it very difficult for leaders to govern meeting public expectations. Such is the case of Brexit.

Once again, when the time comes to judge the actions taken by a government, we have to talk about trust. What I am interested to do here is to unravel the role trust plays in how a person interprets the decisions of a government. To do so, I evaluate the repercussions that the implementation of restrictive policies has on individuals' confidence in government and how long a government stays in power. The main conclusion of this study is that in high trust countries which are those where, over the years, a relationship of mutual trust between government and society has been established, governments dispose of an intangible credit allowing them to implement restrictive policies, especially during periods of crisis, without being biased by the elections.

This thesis contributes to shedding some light on the existing interactions between society and its government on one side, and the policies that the government implements as a response to society demand or external shocks on the other side. First, it proves empirically the influence that political decisions have on individuals' trust demonstrating that trust is a vicious cycle. Whereas trust, at the micro level, generates the necessary stability for an easier governing of societies, the political decisions that are taken by governments, at the macro level, affect individuals' trust and, therefore, stability. Second, it shows that when there is a possibility to choose, governments tend to opt for those policies that have an immediate visible effect, even if they are not the most beneficial for the economy. Third, it concludes that governments, regardless of their political tendency, should try to encourage the establishment of a relationship of trust between government and society, because that trust allows them, especially during a crisis, to implement the policies they consider appropriate without affecting them at the polls.

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# **Chapter 1:**

## **1. Why should we care about political decisions?**

### **Abstract**

This paper determines the impact that the political decision to integrate global markets has on individuals' trust. I present a theoretical trust function explaining the drivers of individuals' trust in both closed and globalized societies then tested empirically. I conclude that globalization, which is what the political decision leads to, has a substantial positive impact on individuals' trust. Both, the theoretical model as well as the empirical models, highlight the fact that people living in closed societies experience higher levels of trust.

**Keywords:** Social Capital, Individual Trust, Globalization

## **1.1. Introduction**

Considering all economic, political and social changes that countries pass through once they integrate into a global market, the main goal of this paper is to determine the impact, if any, of that globalization process on individuals' trust.

It is well known that individuals' trust at the microeconomic level has a direct and relevant impact on macroeconomic stability (Guiso, Sapienza, and Zingales, 2008b; Zak and Knack, 2001). As far as I know, there is no clear evidence proving that political decisions, taken by a country at a macro level, influence the trust level of its citizens, which is the base of social capital.

Since Robert Putnam (1993) defined social capital as features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions, many authors have studied the effect of social capital measured as trust on economic growth, political sciences, and social behaviors (Coleman, 1990; Knack and Keefer, 1997; Guiso, Sapienza, and Zingales, 2004; Algan and Cahuc, 2010; Rothstein and Stolle, 2001; Marschall and Stolle, 2004; Ferrara, 1997). Just to mention some examples; from economics, Horváth (2013) proved that trust is one of the top determinants of long-term economic growth; from economic psychology, Kugler et al. (2007) observed that groups are less trusting than individuals but just as trustworthy; from political sciences, Porta et al. (1999) showed that trust promotes cooperation (very important for large organizations), while it is lower in countries with dominant hierarchical religions. Nowadays, it is accepted by many people that trust is one of the main engines for the wellbeing of any society (Fukuyama, 1995). In fact, countries with a higher level of trust tend to be those with better institutions and also the ones with lower macroeconomic volatility (Sangnier, 2013; Acemoglu et al., 2003; Knack and Keefer, 1997).

Instead of defining what trust is or how to improve it in societies, as it has been customary in the social trust literature, this paper analyses the effects that the outcome of a macroeconomic decision generates on individuals' trust. That shift in focus allows determining whether global decisions influence trust and therefore, highlights the drivers of social trust, by measuring individual trust in society.

Considering the most relevant results of social trust literature, this paper proposes a theoretical trust function explaining the drivers of individuals' trust living in closed and globalized societies. The variables used to model individuals' trust are the life experience, level of education, and social stability. Depending on the society in which a person lives, each variable will have higher or lower relevance. Even though the individual characteristics determine the level of trust, the variable social stability, which captures the social "feeling", has not the same relevance in both societies.

The empirical model, which in addition to solving the main question of this paper, must help to test the conclusions of the theoretical function. As the dependent variable, we use individuals' perception of trust measured by answers given to a survey while as main explanatory variables I will be using the economic, social and political dimensions of globalization. The results highlight a substantial impact of globalization on individuals' trust. The effect of that impact varies depending on the region, the period, and the historical background of the society. The empirical analysis and the theoretical function highlight the fact that people living in closed societies tend to have a higher level of trust.

The outcome of government policies affect individuals' trust. In fact, more important than the policy are the results it generates and how society perceives these results. In order to ensure the social stability, which fosters the economy and facilitates politics, governments and institutions have to make decisions that not only resolve problems from a short-run perspective but also, help to maintain long-run order.

The structure of the paper will be as follows; the literature section provides a brief summary of what has been written in the social trust and social capital literature; the theoretical frameworks will present the trust functions; in the data analysis, I explain which data have been used and the main variables of our model; we then spend some time explaining the regression model, explore the results, and finish with the general conclusions.

## **1.2. Literature**

Since trust has been defined as a public good that could have an influence on individuals, communities, and nations; there has been a real interest to understand how it works and its implications on society. Stolle (2002) presents a brief summary of how trust has been understood in the interdisciplinary literature.

Trust has been perceived as a “strategic or rational accounts of trust”, which is to say that the decision to trust others is based on the probability that those others will reciprocate. Hardin (2002) proposed a trust's theory, which seeks to prove that someone will trust another when there is adequate reason to believe that the latter has enough interest to be trustworthy. This perception of trust is really useful to study specific scenarios. Trust games have generally been used to measure this approach (Berg et al. 1995; Coleman, 1990; Rousseau et al. 1998).

The “identity-based account of trust”, argues that someone generally will trust those to whom they feel close due to family, social status, gender or ethnicity. Under this perspective, it is easier to trust a group partner than an unknown person, even if previously they have not honored their words. There is a generalized trust between members because what really matters here, are the ties that the group generates.

Finally, “moral trust”, the most anthropological one, is based on the fact that people share fundamental values. In this case, the most important are the good values, common to all people. Compared with the two other points of view, this one is more susceptible to generalize trust at least in the first step. Personal experiences will influence our propensity to trust others, but never destroy our view of the world (Uslaner, 2000).

Let us summarize now what has been written about trust in the social capital literature from a social, political, and economic dimension.

### **1.2.1. Social**

When Putnam (1993) spoke for the first time of social capital, he found that in the twenty Italian regional governments studied, the performance of the institutions that

were present there was different because of social capital, the economic situation, and the cultural context. He concluded that, for the proper functioning of democracy, it was necessary to have a high level of trust amongst people and a horizontal system of governance.

From a sociological perspective, trust should be conceived as a property of a collective unit instead of isolated individuals (Lewis and Weigert, 1985). Trust and particularly social trust, reduce the complexity people may have to face (Earle and Cvetkovich, 1995; Simmel and Wolff, 1964). Indeed, in the absence of sufficient knowledge, people will guide their decisions and judgments based on social trust (Luhmann, 1979; Siegrist and Cvetkovich, 2000).

*"Trust succeeds where rational prediction alone would fail because to trust is to live as if certain rationally possible future will not occur. Thus, trust reduces complexity far more quickly, economically, and thoroughly than does prediction."* (Lewis and Weigert, 1985)

Many authors have studied how to improve the level of social trust in societies. Some scholars argue that improving trust among people, and thereby social capital, must be done through social participation. A regular social interaction, in any informal institution or association, is perceived as the most important mechanism to generate social capital. The higher the historical experience of society to collaborate in social associations, the greater the capacity of citizens to generate social capital (Putnam, 1993; Fukuyama, 1999).

Criticism usually associated with this approach is the lack of evidence of a spillover effect from the participation in voluntary associations on the cooperation outside of group-life. It has been observed that the people who generally join altruistic associations are those with a higher propensity to cooperate. Even though the participation in social associations increases trust, there is no differentiation between active and passive members (Stolle 1998, 2001; Uslaner 2000; Hooghe and Stolle 2003).

Furthermore, accepting that associations are useful in learning cooperation and trust, not all associations are good. It is necessary to control for the real objectives of each association as well as whom their members are. Good or bad associations will generally depend on how homogeneous or heterogeneous its members are because; contact with people who are dissimilar tends to create more desirable outcomes (Putnam, 2000).

So far, there is no consensus on how to measure trust. Generally, two approaches have been taken: one is to use a census of groups and group memberships of societies; the other is to use survey data, which asks for the level of trust and civic engagement (Fukuyama, 2001). In this paper, we use survey data as our variables in the empirical equation. This type of database is very useful because the questions asked in the survey are very diverse and that allows us to study a subject from a different perspective.

### **1.2.2. Politics**

*“Trust in some degree of veracity functions as a foundation of relation among human beings; when this trust shatters or wears away, institutions collapse”* (Bok, 1999)

The confidence that individuals and markets have in institutions and governments is directly linked with the trust that those institutions have been able to generate. To maintain credibility, institutions have to control aspects like knowledge and expertise, openness and honesty, objectivity, being truthful or, having a good track record. (Peters, Covello, and Mccallum, 1997; Renn and Levine, 1991; Johnson, 1999; Frewer et al. 1996; Frewer and Miles, 2003; McGinnies and Ward, 1980)

Generalized trust is essential to all social orders, but it implies that both institutions and society have to accomplish their part (Bok, 1999). It is known that when others act in a way, which implies they trust us, we tend to reciprocate by trusting in them; conversely, we will distrust those whose actions appear to violate or distrust our trust (Lewis and Weigert, 1985).

Under this assumption, some authors have focused their research on the role that institutions may play in developing generalized trust.

The institutional approach comes to say that the best way to learn how generalized trust works is by means of state institutions and the political context. Contrary to the previous approach, governments and their institutions would be the ones which, through their policies, will favor the channels and exert enough influence to make social capital flourish. The correct management of institutions creates good values that generate incentives to foster social capital (Hall, 1999; Inglehart, 1997).

Two branches have to be distinguished: The Attitudinal approach, which focuses on how the proper running of government and institutions leads to a generalized trust, and the institutional structural approach which focuses on the role played by the state as generators of social capital.

In the Attitudinal approach, there is a general perception that generalized trust is a corollary of political trust (Hall, 1999). Even if this point of view is in accordance with Putnam, to this day there is not a clear flow of causality between these concepts, only personal interpretations of data.

The institutional structural approach is based on the principle that in order to generate trust in citizens, it is necessary to be a trustworthy state (Levi, 1998). An efficient way to do it is through providing the necessary public goods (property rights and public safety) and impartiality from those who have to regulate. Democracy scores high on measures of generalized trust with welfare being its significant variable (Uslaner, 2000). In addition to welfare states, non-corrupt political institutions seem to be indispensable for the development of generalized trust (Rothstein and Stolle, 2002).

### **1.2.3. Economics**

The outcome generally associated with social capital and economics is the reduction of transaction costs (Ahlerup, Olsson, and Yanagizawa, 2008). Countries' openness has generated major changes in trade rules because what was initially regulated by informal chains of trust in closed economies has now changed to a more formal controlled system with formal laws and institutions (Knack and Keefer, 1997).

The main role played by trust in economics is greater than any transaction cost issue. Frankel (1978) argued that some monetary theories did not explain clearly the reality

of money as a core social institution, which depends on adequate trust for its proper functioning. Money functions best when people strongly trust it and without trust, it cannot function (Simmel, 2004). History has shown, in commercial and industrial societies how economic collapse occurs when society fails to support trust (Lewis and Weigert, 1985).

The reason why there are many papers that show links between social capital, trust, and growth, is due to the fact that economics is based on trust (Algan and Cahuc, 2010; Aghion et al. 2010, Tabellini, 2010; Carlin et al. 2009; Guiso, Sapienza, and Zingales, 2008). Zak and Knack (2001) found that low trust environments reduce the rate of investment. Knack and Keeper (1997) show that there is a greater correlation between trust and growth in poor or developing countries due to lack of development of within their financial institutions, little protection of private property, and early compliance with contracts.

From a theoretical point of view, many macroeconomics models use expectations (a corollary of trust) as a key element in order to predict inflation levels and fluctuations in the currency market, among others.

It is important to remember that the market is a social institution; just like any other institution is sensitive to people's perceptions and behaviors.

*"The international market is the only market that is not regulated by an overarching political authority. Consequently, transactions undertaken in the international marketplace carry the least inherent legitimacy. This is itself an ongoing source of tension between globalization and society. The problem becomes much worse when segments of society are perceived as having broken their links with their local communities and become footloose. Institutions that lose their legitimacy can no longer function, and markets are no different."* Rodrik (1997)

In short, social trust, measured as the trust that people have in others and in institutions, is a relevant topic in economics.

### **1.3. Theoretical Framework: Trust Function**

Based on the literature review presented and the intention of this paper, I propose a theoretical trust function whose trust drivers differ depending on whether the society is closed or globalized.

The literature of trust's sociology conceives trust as the sum of two factors: personal trust, which involves an emotional bond among individuals, and system trust, which makes people believe that everything is in order (Luhmann, 1979; Lewis and Weigert, 1985). Our theoretical trust function relies on three aspects: life experience, education, and social stability where the personal trust is represented by the variable, life experience and education, and the system of trust by social stability.

Life experience understood as a cognitive process enabling discriminates among individuals and institutions, whether they are trustworthy or not, is a personal instrument allowing for the generalization of trust (Lewis and Weigert, 1985). What has been experienced (friendship, difficulties, work experiences, trips, doubts of faith, social environment), influences world perception and determines the behavior towards others. Middle and late adolescents have lower levels of trust than early adolescents because, their beliefs become more stable and are less related to interpersonal trust between early and late adolescence (Flanagan and Stout, 2010).<sup>1</sup> Sutter and Kocher (2007) found that trust increases almost linearly from early childhood to early adulthood, but stays rather constant throughout different adult age groups.

The role played by education on trust has been widely studied (Borgonovi, 2012; Boyadjieva and Ilieva-Trichkova, 2015; Helliwell and Putnam, 2007). Education, apart from knowledge, also increases the possibilities to obtain a job and good wages. Alesina and Ferrara (2002) obtained a positive correlation between income, education, and trust suggesting that a successful professional experience was likely to make individuals more prone to trust others. Assuming that high skilled jobs are the ones well-remunerated, it is coherent to think that a high level of education in addition to the good criterion will also promote economic stability leading to higher levels of trust.

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<sup>1</sup> Age is an interesting variable to capture all these aspects (Fehr et al. 2003; Bellemare and Kroer, 2007).

Lindström (2000, 2009) observed that unemployed individuals had lower levels of trust. Therefore, knowing that education and employment foster trust, possessing an updated education will help individuals to be always useful in any job market, especially for those interested in achieving those high-skilled positions.

The social component is the most difficult to define. Social stability is commonly associated with politics because, political agents have fewer problems with undertaking reforms and are subject to lower transaction costs in trustworthy environments (Knack, 2000; Zak and Knack, 2001; Ahlerup et al., 2008; Berkman and Kawachi, 2000).

In this case, social stability is considered from an economic and social point of view. The social point of view refers to the paradox, which reveals that high levels of racial and ethnic diversity generate lower levels of trust (Putnam, 2007; Uslaner, 2002; Alesina and Ferrara, 2000b; Soroka, Banting, and Johnston, 2007; Stolle et al. 2008; Hero, 2003); Whereas, the economic perspective refers to the positive correlation between trust and long-term economic growth. In fact, countries with greater generalized trust tend to be those with the greatest growth rates (Horváth, 2013; Whiteley, 2000; Dincer and Uslaner, 2007).

Considering these three aspects, a plausible function would be:

$$\text{Trust Function (TF)}: f(X, Y, Z)$$

Where X denotes life experiences measured by age, Y denotes the level of education, and Z denotes social stability.

In order to establish the impact of globalization on individuals' trust, a distinction must be made between trust in closed versus globalized societies.

### **1.3.1. Individual Trust Function for Closed Societies**

Let us assume an island. The inhabitants of that island do not perceive what is not proper to their reality. Despite the population density, people know each other well. There is only one ethnic group, everybody speaks the same language and shares the same culture. The community is in a sense, characterized as a democratic welfare state

in which there are schools, public institutions, banks, hospitals, firms, different political parties, etc.

Until the revolution generated by the printing press in the transmission of knowledge, people used to learn through personal experience and advice received. Fruit of that learning procedure, wisdom is positively associated with age. In a closed society as a village, for example, the population does not change and although it increases, people know each other. People with more extensive personal experiences tend to better assess different situations and therefore, exhibit higher levels of trustworthiness. Good judgment is what allows someone to be trusted (Peters, Covello, and Mccallum, 1997). Sutter and Kocher (2007) show that trust is significantly higher in adult age groups and even if trustworthiness prevails in all age groups, its level increase with age. The process to trust in others is positive over time, but there is a threshold near to a steady state in which you cannot learn more. The trust you have in other increases with age although at a declining rate (Alesina and Ferrara, 2002). That means there is a steady state in which any change or event will not substantially improve the wisdom, and thus the level of trust, acquired over time.

Something quite similar will happen with education. Although the society described is modern, being a closed society limits opportunities in many areas. Jobs that may require higher academic training will be scarce both in the private and in the public sectors. At an aggregate level, educated people are more trusting than those with lower attainments (Boyadjieva and Ilieva-Trichkova, 2015). Education, at the individual level, makes people better-informed and improves skills for handling information which should increase their social trust (Keefer and Knack 2003). This would suggest that societies in which it is easier to stand out due to a lower degree of competition, educated people should have higher trust levels.

By assuming that there is only one ethnic group, social stability is more or less ensured. The fact that there is only one ethnic group, in which people share the same culture and values are requirements that facilitate understanding, cooperation and, therefore, social stability. Individuals of the same race or other similarities create a membership base through cooperation, in which trust is more easily developed (Stolle, Soroka, and

Johnston, 2008). Social interactions, as well as trust, are best promoted in stable social environments, with stable social structures and low immigration rates (Martin Lindström, 2009; Berkman and Kawachi, 2000; Lindström, Moghaddassi, and Merlo, 2003). In addition to the stability at the social level, it has been proved that governments are of higher quality in less fragmented societies and that growth tends to be lower in more ethnically fragmented countries (Porta et al., 1999; Levine and Easterly, 1997).

Closed economies are not affected by foreign economies. Long or intense periods of recession can generate big damages in the different socioeconomic strata. To differentiate growth from periods of recession or normal levels, the social stability variable has three values which are high, average, and low. During a recession period there will be fewer jobs, thus, associating a lower value we would be capturing that malaise affecting the whole society.

Summarizing, the individual trust function for a closed society will be:<sup>2</sup>

$$f(X, Y, Z) = X^{1/2}Y^{1/2}Z$$

*X = age Y = level of education Z = social stability*

$$\text{with } Z = (\text{high, average, low}) \begin{pmatrix} 2 \\ 1 \\ 0.5 \end{pmatrix}$$

The social stability variable has the highest coefficient to highlight the fact that, the context in which individuals grow up does matter. Charron and Rothstein (2016) show that the positive effects of education on generalized trust are only present when institutional quality is sufficiently high. The relevance of good institutions was also remarked by Dinesen and Hooghe (2010). They observe that the most important factor behind the increasing level of social trust among the immigrants they worked with was the fact that they perceived a fair treatment by Danish authorities. As a constant, variable Z matches positively with those facts.

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<sup>2</sup> See Figure 1 in the appendix

While Z is a social thermometer common to everyone, X and Y are the variables which will differentiate individuals and their level of trust. They have the same coefficient because it is assumed that everyone has the same opportunities. Each decision, as for example to establish a family or start to work instead of studying is what will make the difference. This idea is better understood when analyzing the derivatives.

Both X and Y first and second derivatives are positive and negative respectively, reinforcing the previous idea that, over time, the improvement has on trust decreases. In fact, their partial derivatives show that depending on each person, these individual characteristics will have different magnitudes. (**Derivatives in the appendix**)

This function comes to say that trust in closed societies will be highly influenced by the social feeling, but individuals' trust will be driven by individual characteristics. Although trust in others is a cumulative process, the first and second derivatives show that it is the early age when individuals learn more.

### **1.3.2. Individual Trust Function for Globalized Societies**

Globalization, which is one of those terms popularly used without a clear definition, changes our scenario significantly. Simon Reich (1998) proposes four different approaches regarding its implications. Globalization could be perceived as a historical epoch, as a confluence of economic phenomena, as the hegemony of American values, and as a technological or social revolution. All those alternative definitions highlight the interplay among economics, politics, and culture or social relations. Rodrik (1997) had already warned that the most serious challenge for the world economy would be to make globalization compatible with domestic, social, and political stability. He advanced that globalization fundamentally transforms the employment relationship, engenders conflicts within and between nations over domestic or social norms, and generally makes things harder for governments.

In globalized countries, the trust function is represented as follows:

$$\text{Trust function (TF): } f(g(X), g(Y), g(Z))$$

Globalization is a very broad term that refers to the different processes by which the world becomes increasingly interconnected (Koster, 2007; Guillen, 2001). While people

in closed societies share a common culture and language in the past, currently it may not always be the case. Globalization leads to cultural and traditional changes and many times resulting in less-clear national boundaries which in turn leads to diminished national identity among citizens. (Rodrik, 1997; Inda and Rosaldo, 2002; Kellner, 2002; Koster, 2007)

Life experience remains an important variable but now, life “per se” will not be the only source of knowledge. The social openness brings a cross-border interaction allowing people to travel, discover and be in contact with people of other nationalities abroad.

Travel allows for an open our mind discovering new cultures and ways of life, and therefore, living the experience of being a foreigner. In fact, tourism generates exchanges with foreigners and over time contributes to a cultural homogenization (Holton, 2000; Stott, 1978). Not only traveling favors homogenization but also technology does. The internet,, in addition to being a communication technology, provides possibilities for people to contact each other and creating online ties (Smith and Kollock, 1999). Globalization as a technological and social revolution has generated an inextricable linkage of technology across conventional borders (Reich, 1998). In order to reduce their costs and maximize their rewards, individuals are most likely to use new products, such as the telephone or more recently the internet (Blank and Dutton, 2012).<sup>3</sup>

Consequently, age still matters but, with the youngest being those who are most affected by technological shocks. All these new opportunities will potentiate the learning procedure in early age. Trust is influenced by the general attitudes toward technology (Blank and Dutton, 2012). Just clarify that the general attitude toward technology is not an age issue because people with negative attitudes toward technology are generally less trusting independently of their age.

Globalization as a confluence of economic phenomena is another very interesting topic. Reich (1998) said that under that perspective:

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<sup>3</sup> The assumption where are doing here is that, even if closed societies might have access to all these technologies, and especially internet, the lack of mobility or contact with foreigners counteracts the opening effect.

*"The term (globalization) refers to the worldwide spread of sales, production facilities, and manufacturing processes, all of which reconstitute the international division of labor."*

Globalization does not only reconstitute the international division of labor, it fundamentally transforms the employment relationship.

*"... (The global market) reduced barriers to trade and investment accentuate the asymmetry between groups that can cross international borders (either directly or indirectly, say through outsourcing) and those that cannot. In the first category are owners of capital, highly skilled workers, and many professionals, who are free to take their resources where they most in demand. Unskilled and semiskilled workers and most middle managers belong in the second category."* (Rodrik, 1997)

Considering this, there is a clear division among individuals predominantly based on their level of skill and mobility. More than ever, education matters.

We highlighted the positive correlation between education (as an instrument that fosters information accrual among individuals) and trust. All the structural changes that globalization generates need to be well understood (Lewis and Weigert, 1985; Luhmann 1979). Sullivan et al. (1993) argue that a higher diversified and cosmopolitan contact with people leads to more tolerance and less suspicion of others. Economic openness generates a huge competition in which the services of a large segment of the working population can be easily substituted by the services of other people across national boundaries. A basic education level is required not only to understand the national and international framework but eventually, to be competitive in the job market. Education besides raising the social and economic quality of individuals will help to build and improve trust. When people know that a higher level of education makes others generate more incentives to be trusting, they will, in turn, be more likely to trust others (Putnam and Helliwell, 2007).

Globalization's effects on social stability are varied because of the structural changes that societies and governments go through. Social openness as a synonym of a spread of ideas, information, and people is positively correlated with tourism, immigration

and population diversity (Alesina and Ferrara, 2000b; Stolle et al. 2008; Franzen, 2000; Hampton et al., 1999; Stott, 1978; Taylor, 1998). Economic openness as a synonym of the long-distance flows of goods, capital, and services entails gains of international trade but also influenced national policies and particularly welfare spending (Rodrik, 1997, 1998; Samuelson, 1939; Bowles and Wagman, 1997; Laporta et al., 1997; Porta et al., 1999).

Summarizing, the individual's trust function for globalized societies can be represented as follows:<sup>4</sup>

$$f(g(X), g(Y), g(Z)) = X^{1/4}Y^{3/4}Z^{1/2}$$

*X = age Y = level of education Z = social stability*

$$\text{with } Z = (\text{high, average, low}) \begin{pmatrix} 2 \\ 1 \\ 0.5 \end{pmatrix}$$

The life experience variable has the lowest coefficient because it is not as significant as it used to be. Globalization significantly increases opportunities to experience different things, especially during early age. The fact that the second derivative is greater than in the previous equation reinforces the idea that the learning process is faster.

Given its high coefficient, education is the key variable of this function. It is fundamental to be able to comprehend and assimilate the pros and cons of globalization. High levels of specialization are required in order to compete in any labor market (national or international).

The weight of social feeling on individuals' trust is not as relevant. Socially speaking, diversity creates social tensions when there is no integration of foreigners. Those tensions disappear or soften with increased interaction with foreigners either through working with them or through traveling (Putnam, 1995, 2000, 2007; McClelland and Linnander, 2006; Pettigrew and Tropp, 2000, 2008). Economically speaking, globalization brings more financing opportunities which foster growth as well as reduce the damages that long periods of recession can generate. In addition, the fact

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<sup>4</sup> See Figure 2 in the appendix

that some can change not only the region but also the country in which they live reduces the magnitude of the effect that social stability may have on individuals' trust.

In this function like in the previous one, we assume that individual characteristics are the main driver of trust. The weight of society on trust remains significant, but due to the possibility to change the location or to compare, almost instantly the social situation among countries, that weight is mitigated. First and second derivate show that in open societies, the individual trust will not be as high, but a steady state will be reached quicker than in closed societies.

### **1.3.3. Summary and Theoretical Implications**

Based on some statements of social trust and social capital literature, I propose an individuals' trust function. Differentiating between closed and globalized societies, the function is explained with three positively interconnected variables, which are the main drivers of individuals' trust.

In a closed society, social stability will have a highly significant effect on individuals' trust. Those living under such circumstances should be highly influenced by the social perception of different issues. What will differentiate each individual's level of trust will be the personal characteristics. Elders and the highly educated will exhibit higher levels of trust than young people and those with lower educational achievements. Therefore, the personal characteristics will lead to a trust steady state in which the level of trust will only increase or decrease depending on social stability.

In globalized societies, the trust driver should be education. Due to structural changes that social openness (and more specifically the spread of people and images) generates mostly among young people, the life experience variable will be less deterministic. The most informative part of social openness (dissemination of information and ideas) along with the movement of people, may explain the lower impact that the social stability variable will have on individuals' trust. In such an environment in which the world is increasingly interconnected, a higher level of knowledge will be required to understand how things work and especially, to be competitive in a job market.

The assumptions used to create the theoretical model, certainly simplify the framework of the study, but they force us to put aside some variables or concepts. As explained before, the positive correlation between high levels of education, employment, and wages, and therefore wealth, are likely to be deterministic drivers that are not considered or captured here. Something quite similar may occur with the life experience variable. One of the main advantages of the empirical analysis is that it will allow to control and consider many characteristics in the same regression.

## **1.4. Empirical Analysis**

### **1.4.1. Data**

This analysis combines both macroeconomic and microeconomic databases. The primary source of our data is the World Value Survey (WVS) from which are obtained the dependent variable as well as individual controls used in the empirical model. The database is widely used in the literature, due to its extensive scope covered through nationally representative surveys conducted a common questionnaire in almost 100 countries, consisting of, and covering information on almost 90 percent of the world's population.

To measure globalization, I use the KOF Global Index, which studies globalization from an economic, social, and political dimension.

The economic globalization captures the long-distance flows of goods, capital, and services as well as information and the perception that companies market exchange. The Economic globalization variable is comprised of two dimensions; actual economic flows, and restrictions to trade and capital.

The Actual flows dimension takes into account trade (sum of countries exports and imports), Foreign Direct Investment (stocks as a percentage of GDP), portfolio Investment, and Income Payments to Foreign Nationals (all normalized by GDP). While the restrictions dimensions, considers hidden import barriers, mean tariff rate, taxes on international trade as a percentage of current revenues, and capital account restrictions. The idea here is that given a level of trade, countries with higher revenues from tariffs are less globalized.

The social globalization variable expresses the spread of ideas, information, images, and people. This variable is composed of three concepts: personal contact, information flows, and cultural proximity.

The personal contact variable captures direct interaction among people living in different countries. In this category, we considered telephone traffic, transfers (percent of GDP), international tourism, the foreign population as a percentage of the total population, and a number of international letters sent and received per capita. The information flow measures the potential flow of ideas and images based on the number of internet users (per 100 people), television (per 100 people), and trade in newspapers (percentage of GDP). The cultural proximity variable captures the melting pot based on a number of McDonald's restaurants (per capita), number of Ikea (per capita), and trade in books (percent of GDP).

The political globalization variable is characterized by a diffusion of government policies. To proxy for the degree of political globalization, this variable considers the number of embassies and high commissions in a country, the number of international organizations in which the country is a member, the number of UN (United Nations) peace missions, in which a given country participated in, and the number of treaties signed between two or more states since 1945.

From the World Bank database and the Penn World (Table 8.1), we respectively obtain the annual Gini social indicator and the GDP per capita of each country.

Our database consists of individual survey answers and macroeconomic variables of citizens from 175 countries for a period of time ranging from 1980 to 2013. (**Table A0 in the appendix**)

#### **1.4.2. Econometric Set Up**

The empirical model besides the ability in answering the main question of this paper must also be useful to test the assumptions and conclusions of theoretical functions. That is why, like the theoretical function, it must allow for an interaction between, individual data (individual characteristics) and macroeconomic data (those measuring globalization) in order to determine the predominant driving forces behind trust.

The equation used in our analysis is as follows:

$$Y_{ict} = \alpha + \alpha_c + \alpha_t + \beta' X_{ict} + \gamma' Z_{ct} + \varepsilon_{ict}$$

Where  $i$  denotes persons,  $c$  the country, and  $t$  the year;  $\alpha_c$  and  $\alpha_t$  are fixed effects.

$X_{ict}$ , represents all the individual controls. Controls used are gender “female”, age, number of children “children12”, acquisitive level “income decile”, years of education “education age”, labor status “unemployed”, level of religiosity, and life satisfaction<sup>5</sup>.

$Z_{ct}$ , provides a country-level summary of those variables. In which, we consider the three KOF variables (economic globalization, social globalization, and political globalization), the Gini social indicator, and GDP per capita.

The dependent variable  $Y_{ict}$ , will be the answers given to the question originally formulated by Elizabeth Noelle-Neumann: “*Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?*”. Those answers are treated as dummies; where 0 is for distrustful and 1 for those who trust.

As previously explained, one of the most interesting aspects of this paper is that in order to study the impact of globalization on individuals, it combines microeconomic and macroeconomic data. This sort of approach generally has two main problems, which are the causality effect, and the endogeneity or multicollinearity that may exist between some variables.

The way in which this model disposes of the interaction between individual and macroeconomic data plays down the causality question. In fact, it is more probable that the macroeconomic behavior of a society influenced individuals’ perception instead that an individual perception can have a substantial impact on a variable which represents an entire country. Regarding the endogeneity issue, we establish a maximum degree of correlation of 0.25 for all the individual controls including the

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<sup>5</sup> See (Helliwell and Barrington-Leigh, 2010; Helliwell and Huang, 2011; Helliwell, Huang, and Wang, 2014).

dependent variable<sup>6</sup> and obtained the residuals of KOF variables. (**Tables A1 and A2 in the appendix**)

As a consequence of the high degree of heterogeneity present in our dataset, in terms of countries and more importantly, since different survey participants are part of each survey wave, we do not have a panel data but a quasi-panel data. Considering the Moulton bias, we have used cluster analysis<sup>7</sup>. Since our dependent variable is a dummy, we perform a logistic cluster regression with the country as a reference parameter.

#### **1.4.3. Policy Implications**

To focus, remember that social capital literature has deeply studied the positive role that trust plays for the proper functioning of countries at aggregate macroeconomic levels. In fact, the outcomes generated by individuals' engagement in civic association plus good institutions are instruments that help to improve trust in societies and facilitate economics and politics.

This paper directs attention on the other side of the social trust coin, examining whether a political macroeconomic decision such as the integration into a global market (economically, socially, and politically), can affect individuals' trust. The hypothesis I will be testing is that political macroeconomic decisions generate a quantifiable repercussion on individuals' trust.

If this hypothesis is true and effectively governments macroeconomic policies have a direct effect on individuals' trust and therefore, social trust, we would be empirically proving that social trust is affected by governments or any other political body decisions due to all the political responsibility that it would carry. Whereas if it is not verified, we would be showing that our policy does not have an impact at the

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<sup>6</sup> That is the reason why, we used "age of education" or "children12" instead of "level of education" or "children".

<sup>7</sup> Moulton (1990) highlight the fact that when merging aggregate data with micro observations, an incorrect use of the ordinary least squares can generate a misspecification of standard errors. Kaufman and Rousseau (1990) defined cluster analysis as the art of finding groups in data based on a specific parameter.

individual level meaning that macroeconomic policies have not a relevance at the individual level.

On the other hand, independently whether the hypothesis is true or not, any bug that the empirical approach could highlight will help to upgrade the theoretical trust function with which we concluded that individual characteristics are the real drivers of trust. While in closed societies, social stability highly influences trust without being crucial, in globalized societies its impact is diminished. The level of education and corollaries determine the level of trust, particularly in globalized environments.

## 1.5. Results

### 1.5.1. Empirical results

Table 1 is very important because it establishes the framework in which we are going to work, and from it we obtain the benchmark equation. The coefficients and signs of the different globalization's dimensions and their residuals are very similar and do not change when considered individually or in the same regression. That is why I opted to use KOF's original data.<sup>8</sup>

The table makes obvious that, for this general analysis, the political dimension of globalization, has a positive effect on individuals' trust. By using all the information available in the data the positively significant coefficient obtained for the political globalization variable is to say that, greater diffusion of government policies fosters individuals' trust.<sup>9</sup>

In order to see if these results remained constant, I replicated the exercise, but now differentiating by continent. As Table 2 shows, depending on the continent analyzed, globalization and particularly each of its dimensions have different outcomes on trust.

While in America and Asia, only the political and economic dimensions are respectively significant, in Europe, Africa, and Oceania, all three are. When significant, the economic dimension is the only one that always fosters individuals' trust.

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<sup>8</sup> That decision was taken based on the fact that with a cluster analysis the Moulton Bias was controlled and objectively, the residuals do not improve or affect substantially our results.

<sup>9</sup> Lewis and Weigert (1985) and Frewer et al (2001), also explained the positive role that communication plays on trust.

The African continent is really interesting because, by far, is the one in which the three globalization's dimensions obtain the highest coefficient. What is even more surprising is the huge distrust that governments and their policies generate on individuals' trust. Nunn and Wantchekon (2011) propose a plausible explanation when they argue that Africans trust less in others due to slavery. The idea behind the approach is that the slave trade shocks have had a very persistent effect on trust, literally lasting for centuries.

To test the wideness of the regional issue observed, I ran the same regression at a country level. For that, only the European countries have been considered. The advantage of European countries is that apart of having been the most analyzed in the different WVS's waves, they are culturally diverse, but they share a recent common history (the two World War, beginning, and end of Cold War, European Union, etc.). Based on that, countries are organized into six groups: Oriental, Occidental, Central, Meridional, Nordic countries, and Ex-Soviet countries. (Table A3 appendix)

The results obtained in Table 3 suggest that in addition to the regional issue observed in the previous analysis, there is another historical or cultural which influences individuals' trust.

In comparison with the continental analysis only it can be said that the coefficients obtained are higher. Surprisingly, it cannot be done any general observation. Clear examples of that are the Nordic and the Ex-Soviet groups.

Nordic countries are very similar in terms of way of life, social structure or political cooperation. These countries stand out by their economic Nordic model in which the market economy is combined with strong labor union forces and a Universalist welfare sector financed by heavy taxes with a high degree of distribution and little social unrest. These values may be the reasons that in Nordic countries the economic dimension is the only one with a positive effect on trust whereas the social and political do not.

The Ex-Soviet countries, on the other hand, are not so similar, but all of them have been under a severe dictatorship regime with all that implies. In fact, while the social

and political dimensions foster individuals' trust, the economic one does not. The high coefficient obtained by social openness matches with people's desires for freedom. Let's not forget that the lack of freedom during the dictatorship carried a loss of confidence to all levels.

Summing up, the three tables prove that to integrate, as a country, the global market, has direct impacts on citizens' trust. The strength (represented by the coefficient) and effect (in terms of the sign) of those impacts depend on the region in which individual lives as well as the culture or recent history proper to a society<sup>10</sup>. It can be seen that individual's controls behave in a very similar way. Their results are stable and although coefficients change in all the tables, their signs fairly do not. It is clear that being a religious person does not affect trust in others, however higher levels of education and wealth foster trust.<sup>11</sup>

### **1.5.2. Test of the theoretical trust function**

Now, in order to test our theoretical equation, and also analyze globalization's effect on individuals over time, we will differentiate the sample between 80's-90 (1980-1999) and 2000s (2000-2013). Considering that all the ITs and other technological progress which have driven the different globalization's process, really took place in the 2000s, it can be assumed that countries during the 80's-90 were much less globalized than in the 2000s. In fact, the internet as it is known nowadays, as well as computers and mobiles, started to be available to all social status at the end of the '90s. In the same way, all the opportunities there are now to travel cheaply and quickly around the world is a 2000s phenomenon.

As Table 4 shows, in addition to the previous issues highlighted, there is a time issue which also explains globalization's impact on individuals' trust. The fact that the coefficients of the different globalization's dimensions are higher for the 2000s regression fits with the assumption that globalization is more relevant now than some years ago. The political dimension of globalization is the clearest example; in an

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<sup>10</sup> Putnam (1993) also mentioned the cultural/historical issue when he concluded that the historical background of the regions he analyzed explained their social capital.

<sup>11</sup> See Alesina and Ferrara (2000a, 2002); Lindström (2009); Helliwell and Barrington-Leigh (2010); Boyadjieva and Ilieva-Trichkova (2015)

increasingly interconnected world, communication exponentially influences individuals trust.

Let's test now our theoretical model. We said that in closed societies, the social stability variable here captured by the three globalization's dimensions should have a huge weigh on individuals' trust, whereas the level of trust would depend on individual characteristics. Considering that benchmark regressions, as well as both theoretical functions, are general approaches, the previous assumption holds. The sum of three dimensions' coefficients is higher than those obtained for "age" and "education age" variables. Doing the same and comparing coefficients of both benchmark regressions, the main theoretical conclusion, which was that individuals from closed societies have a higher level of trust, is confirmed.

For globalized societies, we assumed that an updated education should be the driver of trust, because, besides the reasoning, it increases the possibility to obtain well-remunerated jobs. Being the "education age" coefficient higher than the sum of three dimensions' coefficient, the main role of education is proved as well as the lower importance of age.

The overall conclusion is that, as general approaches that they are, both theoretical functions are consistent with our empirical model. Individuals' trust depends on individual characteristics and a social component which influences the way we see and affront issues. The values obtained for individual controls, point out the fact that more controls should be considered in both trust function. In fact, the variables "life satisfaction", "children12", and "female" have turned out to be relevant in different regressions. The empirical results support the idea that education, wealth, and employment foster trust. However, due to the fact that "income decile" and "employed" have higher coefficients than "education age", they also should be represented in the equation.

In order to improve the theoretical equations, exponents assigned to some variables should be reconsidered. In closed societies, the variable "life experience" measured in age and "level of education" should not have the same exponent, because, in the first benchmark regression, education is more relevant. A similar comment can be made in

globalized societies. The “life satisfaction” variable is more important for individuals’ trust than education or wealth. Therefore, it might be that other individual characteristics are the main drivers of individuals’ trust.

## **1.6. Conclusions**

Three ideas have to be emphasized: first, globalization, which is what the political decision to fully integrate the global market leads to, has a substantial impact on individuals' trust. Second, there cannot be a generalized explanation about that impact, because depending on where you live, the period in which you live, and the historical or cultural background of the society in which you live, the effects of globalization on individuals' trust differ. Third, individual characteristics which drive individuals' trust change over time.

While in the benchmark regression only the political dimension of globalization was significantly positive, in those differentiated by continent and country, the other dimensions, in addition to being significant, generated different effects on individuals' trust. Something very similar happened with the individual controls used. Although mostly they are significant, and their effects on trust remain constant, their coefficients change. Impacts of globalization on individuals' trust, as well as the individual characteristics which drive it, differ depending on some aspects such as location, time, and cultural and historical heritage.

Through the life experience variable measures in age, the level of education variable measures in years of study, and a social stability variable, a theoretical trust function has been defined explaining how individuals' trust work in closed and globalized societies. The empirical model confirms our main theoretical conclusion, which defends the fact that people living in closed societies have a higher level of trust. Comparing the theoretical trust functions and the empirical model, it becomes apparent that, in both closed and globalized societies, individuals' trust is the sum of individuals' characteristics like education, gender, wealth, life satisfaction among others, and the social stability.

The main contribution that this paper adds to the social trust literature is the empirical proof that there is a clear relation between globalization and individual trust; between the fruit of a political macroeconomic decision and individual trust. This direct impact of globalization on individuals' trust, and particularly its political dimension attest to the weight that political decisions have on individuals' life and particularly individual's trust. Social trust literature has emphasized how important generalized trust is for macro stability. These results show that the decisions taken by governments or institutions at a macro level affect individuals' trust, and therefore, in the long run, may influence that macro stability so necessary to govern. One of the biggest problems in politics is that the main goal of many governments is to win the next election so all these considerations in spite of their importance, are not taken into account.

Our results do not allow to say whether individuals' trust, is more important than political decisions or vice versa. The changes observed for both individual characteristics and globalization variables in the time analysis make wonder if they are a direct consequence of globalization or there is another aspect to consider.

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**Table 1.** Identification and results of the Benchmark regression

VARIABLES	economic	social	political	2	2'	Benchmark	3'
economic globalization	0.02 (1,20)			0.02 (1,25)	0.01 (0,43)	0.02 (1,22)	0.01 (0,65)
social globalization		-0.01 (-0.91)		-0.01 (-1.01)		-0.01 (-1.09)	
political globalization			<b>0.01**</b> (2,08)			<b>0.01**</b> (2,02)	
social residual					-0.01 (-1.01)		-0.01 (-0.51)
political residual						<b>0.01**</b> (2,02)	
female	-0.05*** (-2.71)	-0.05*** (-2.76)	-0.05*** (-2.77)	-0.05*** (-2.73)	-0.05*** (-2.73)	-0.05*** (-2.74)	-0.05*** (-2.74)
age	0.00** (2.38)	0.00** (2.30)	0.00** (2.25)	0.00** (2.37)	0.00** (2.37)	0.00** (2.31)	0.00** (2.31)
children 12	-0.06*** (-4.73)	-0.06*** (-4.98)	-0.06*** (-4.97)	-0.06*** (-4.76)	-0.06*** (-4.76)	-0.06*** (-4.80)	-0.06*** (-4.80)
incomedecile	0.06*** (7.33)	0.06*** (6.84)	0.06*** (6.94)	0.06*** (7.00)	0.06*** (7.00)	0.06*** (6.82)	0.06*** (6.82)
educationage	0.02*** (6.77)	0.02*** (6.27)	0.02*** (6.41)	0.02*** (6.73)	0.02*** (6.73)	0.02*** (6.83)	0.02*** (6.83)
unemployed	-0.13*** (-3.36)	-0.14*** (-3.65)	-0.14*** (-3.57)	-0.13*** (-3.50)	-0.13*** (-3.50)	-0.14*** (-3.55)	-0.14*** (-3.55)
religiousperson	-0.03 (-1.21)	-0.03 (-1.14)	-0.03 (-1.23)	-0.03 (-1.16)	-0.03 (-1.16)	-0.03 (-1.20)	-0.03 (-1.20)
lifesatisfaction	0.07*** (5.56)	0.07*** (5.91)	0.07*** (5.84)	0.07*** (5.65)	0.07*** (5.65)	0.07*** (5.69)	0.07*** (5.69)
gni_prcap_ppp	0.00* (1,94)	0.00* (1,69)	0.00*** (2,74)	0.00* (1,73)	0.00* (1,73)	0.00** (2,10)	0.00** (2,10)
GDPPC	-0.00 (-1.37)	-0.00 (-0.54)	-0.00 (-1.48)	-0.00 (-1.11)	-0.00 (-1.11)	-0.00 (-1.45)	-0.00 (-1.45)
Constant	-2.02** (-5.79)	-1.40*** (-3.36)	-2.46*** (-5.25)	-1.75*** (-3.74)	-1.75*** (-3.72)	-2.53*** (-4.08)	-1.82*** (-4.18)
Country and Time FE	yes	yes	yes	yes	yes	yes	yes
Observations	203,733	203,734	203,735	203,736	203,737	203,738	203,739
R-squared	0.122	0.121	0.121	0.122	0.122	0.122	0.122

Source: Author's regressions

Robust z-statistics in parentheses

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

2 represents the number of KOF's variables considered

2' and 3' represent the regressions with residuals variables

**Table 2.** Analysis of Globalization's Impact on Individuals' Trust at the Continental Level

VARIABLES	Benchmark	America	Europe	Africa	Asia	Oceania
economic globalization	0.02 (1.22)	0.02 (0.63)	<b>0.02*</b> (1.75)	<b>1.11***</b> (25.22)	<b>0.03*</b> (1.67)	<b>0.07***</b> (25.10)
social globalization	-0.01 (-1.09)	-0.01 (-0.11)	<b>-0.05***</b> (-4.08)	<b>12.90***</b> (25.87)	0.01 (0.32)	<b>-0.02***</b> (-20.22)
political globalization	<b>0.01**</b> (2.02)	<b>0.05***</b> (3.53)	<b>0.02***</b> (4.12)	<b>-8.07***</b> (-26.06)	0.04 (1.60)	<b>0.05***</b> (20.41)
female	-0.05*** (-2.74)	-0.01 (-0.13)	-0.02 (-0.86)	-0.01 (-0.56)	-0.11*** (-3.36)	-0.04 (-0.26)
age	0.00** (2.31)	0.01*** (3.30)	0.00 (1.21)	0.00 (0.33)	0.00*** (2.95)	0.01*** (11.75)
children 12	-0.06*** (-4.80)	-0.08*** (-2.79)	-0.09*** (-5.59)	-0.01 (-0.13)	-0.02 (-0.99)	-0.07*** (-3.64)
incomedecile	0.06*** (6.82)	0.09*** (4.93)	0.07*** (7.51)	-0.01 (-0.47)	0.02* (1.76)	0.10*** (20.94)
educationage	0.02*** (6.83)	0.01*** (3.70)	0.03*** (7.14)	0.00 (0.55)	0.01* (1.70)	0.02*** (14.17)
unemployed	-0.14*** (-3.55)	-0.17*** (-2.85)	-0.16*** (-3.08)	-0.02 (-0.54)	-0.21*** (-2.90)	0.07 (0.65)
religiousperson	-0.03 (-120)	-0.07*** (-3.21)	-0.01 (-0.16)	-0.04 (-0.44)	-0.03 (-0.63)	-0.13** (-2.24)
lifesatisfaction	0.07*** (5.69)	0.04* (1.78)	0.11*** (7.87)	-0.01 (-0.33)	0.08*** (6.91)	0.12*** (10.58)
gni_prcap_ppp	0.00** (2.10)	0.00*** (2.81)	0.00*** (3.17)	0.20*** (26.10)	0.00 (1.47)	
GDPPC	-0.00 (-1.45)	-0.00*** (-5.07)	-0.00*** (-2.84)	-0.30*** (-26.06)	-0.00 (-0.41)	
Constant	-2.53*** (-4.08)	-6.46*** (-2.58)	-2.22*** (-6.96)	11.09*** (17.68)	-5.87*** (-3.41)	-11.43*** (-75.37)
Country and Time FE	yes	yes	yes	yes	yes	yes
Observations	203,739	37,996	77,510	24,072	64,019	4,511
Pseudo R-squared	0.122	0.124	0.116	0.0474	0.113	0.0508

Source: Author's regressions

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 3.** Analysis of Globalization's Impact on Individuals' Trust from European Regions

VARIABLES	Benchmark	Europe	Occidental	Central	Oriental	Meridional	Nordic	Exsoviet
economic globalization	0.02 (1.22)	<b>0.02*</b> (1.75)	<b>0.11***</b> (4.82)	<b>-0.30***</b> (-23.54)	<b>-.004***</b> (-14.09)	<b>0.02***</b> (4.63)	<b>0.05***</b> (8.06)	<b>-0.11***</b> (-14.45)
social globalization	-0.01 (-1.09)	<b>-0.05***</b> (-4.08)	<b>0.07***</b> (2.63)	<b>-0.22***</b> (-28.30)	<b>0.02***</b> (5.01)	<b>0.01***</b> (6.18)	<b>-0.02***</b> (-3.37)	<b>0.11***</b> (17.21)
political globalization	<b>0.01**</b> (2.02)	<b>0.02***</b> (4.12)	<b>0.01***</b> (10.62)	<b>0.44***</b> (23.24)	<b>0.00***</b> (2.76)	<b>0.01***</b> (28.67)	<b>-0.02***</b> (-5.01)	<b>0.01***</b> (11.58)
female	-0.05*** (-2.74)	-0.02 (-0.86)	-0.11*** (-2.78)	-0.02 (-0.39)	0.02 (0.36)	-0.01 (-0.20)	0.10** (2.38)	-0.01 (-0.29)
age	0.00** (2.31)	0.00 (1.21)	0.00 (0.27)	0.01*** (4.93)	0.01*** (3.55)	0.00*** (3.02)	-0.01* (-1.90)	0.01*** (2.72)
children 12	-0.06*** (-4.80)	-0.09*** (-5.59)	-0.12*** (-4.09)	-0.02 (-0.32)	-0.13*** (-2.69)	-0.09** (-2.37)	-0.09** (-2.87)	-0.02 (-1.07)
incomedecile	0.06*** (6.82)	<b>0.07***</b> (7.51)	0.08*** (4.72)	0.04** (1.97)	0.01 (0.34)	0.07*** (6.86)	0.09*** (4.95)	0.04*** (2.61)
educationage	0.02*** (6.83)	0.03*** (7.14)	0.05*** (5.56)	0.03 (1.45)	0.02*** (3.38)	0.03** (2.03)	0.03*** (5.49)	0.01* (1.91)
unemployed	-0.14*** (-3.55)	-0.16*** (-3.08)	-0.20*** (-3.02)	.020 (-1.42)	-0.11 (-1.03)	0.05 (1.04)	-0.29** (-2.08)	-0.32** (-2.48)
religiousperson	-0.03 (-120)	-0.01 (-0.16)	0.10* (1.80)	-0.09 (-0.79)	-0.12* (-1.85)	-0.11 (-1.35)	-0.03 (-0.43)	-0.05 (-0.76)
lifesatisfaction	0.07*** (5.69)	0.11*** (7.87)	0.15*** (5.05)	0.11*** (5.26)	0.11*** (11.21)	0.7*** (3.69)	0.12*** (4.81)	0.11*** (10.88)
gni_prcap_ppp	0.00** (2.10)	0.00*** (3.17)	0.00*** (3.89)	-0.00*** (-37.11)	-0.00** (-2.56)	-0.00*** (-9.45)	-0.00*** (-3.31)	0.00*** (23.94)
GDPPC	-0.00 (-1.45)	-0.00*** (-2.84)	-0.00*** (-4.82)	0.00*** (53.81)	0.00*** (6.61)	0.00*** (10.05)	0.00*** (7.71)	-0.00*** (-19.80)
Constant	-2.53*** (-4.08)	-2.22*** (-6.96)	-18.53*** (-4.45)	3.26*** (5.33)	-1.07*** (-7.59)	-4.93*** (-7.51)	-6.73*** (-12.15)	-1.85*** (-9.16)
Country and Time FE	yes	yes	yes	yes	yes	yes	yes	yes
Observations	203,739	77,510	23,635	14,104	11,452	14,866	13,453	22,329
Pseudo R-squared	0.122	0.116	0.083	0.0395	0.0395	0.0452	0.057	0.0513

Source: Author's regressions

Robust z-statistics in parentheses

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

Table A3, in the appendix, shows the countries that make up each region.

**Table 4. Temporal Analysis of Globalization's Impact**

VARIABLES	80's-90's Benchmark	2000's Benchmark	80's-90's Europe	2000's Europe	80's-90's America	2000's america
economic globalization	<b>0.03*</b> (1.68)	0.01 (0.72)	<b>0.03*</b> (1.89)	<b>0.04***</b> (13.59)	<b>0.30**</b> (2.03)	0.00 (0.14)
social globalization	-0.01 (-0.19)	<b>-0.04***</b> (-4.54)	<b>-0.06***</b> (-3.38)	<b>-0.10***</b> (-51.83)	<b>0.08*</b> (1.68)	0.03 (1.48)
political globalization	<b>0.01**</b> (2.49)	<b>0.03**</b> (2.00)	<b>0.01*</b> (2.35)	<b>0.07***</b> (42.04)	-0.03 (-0.60)	<b>0.19***</b> (15.65)
female	-0.01 (-0.39)	-0.07*** (-3.49)	-0.02 (-0.83)	-0.01 (-0.42)	0.07 (0.76)	-0.07 (-1.40)
age	0.00* (1.93)	0.00** (2.51)	0.00 (1.03)	0.00 (1.10)	0.01*** (4.47)	0.01** (2.50)
children 12	-0.07*** (-3.65)	-0.05*** (-3.11)	-0.06*** (-3.08)	-0.12*** (-3.57)	-0.08* (-1.67)	-0.08** (-2.36)
incomedecile	0.07*** (7.60)	0.05*** (4.78)	0.07*** (7.96)	0.06*** (3.91)	0.08*** (3.17)	0.10*** (4.94)
educationage	0.03*** (5.77)	0.01*** (4.79)	0.04*** (6.55)	0.02*** (5.54)	0.01*** (2.69)	0.02*** (3.40)
unemployed	-0.15*** (-3.44)	-0.14*** (-2.82)	-0.11** (-2.03)	-0.21** (-2.38)	-0.27*** (-4.03)	-0.10 (-1.37)
religiousperson	-0.06 (-1.25)	-0.01 (-0.43)	0.00 (0.02)	-0.03 (-0.53)	-0.12** (-1.96)	-0.03 (-0.73)
lifesatisfaction	0.08*** (6.19)	0.07*** (4.86)	0.011*** (8.12)	0.012*** (6.47)	0.04 (1.27)	0.05** (2.27)
gni_prcap_ppp	0.00 (0.14)	0.00*** (2.61)	0.00*** (2.11)	0.00*** (19.54)	-0.00*** (-2.97)	0.00*** (33.25)
GDPPC	0.00 (0.20)	-0.00*** (-2.86)	-0.00** (-2.36)	-0.00*** (-57.02)	-0.00 (-1.10)	-0.00*** (-16.39)
Constant	-5.14*** (-4.36)	-2.30 (-1.44)	-2.06 (-0.92)	-4.47*** (-21.45)	-18.72*** (-2.94)	-21.55 (-10.75)
Country and Time FE	yes	yes	yes	yes	yes	yes
Observations	73,026	130,713	45,676	31,834	15,235	22,761
Pseudo R-squared	0.107	0.135	0.102	0.142	0.124	0.116

Source: Author's regressions

Robust z-statistics in parentheses

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

80's-90's represents (1980-1999)

2000's represents (2000-2013)

## Appendices, Figures, and Tables Chapter 1

### Derivatives of the Trust Functions

1. Trust function for closed societies:

$$f(X, Y, Z) = X^{1/2}Y^{1/2}Z$$

$X = \text{age}$   $Y = \text{level of education}$   $Z = \text{social stability}$

a) Derivatives of X

$$\frac{\partial f}{\partial x} = \frac{y^{\frac{1}{2}}z}{2x^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x} = -\frac{y^{\frac{1}{2}}z}{4x^{\frac{3}{4}}}$$

$$\frac{\partial f}{\partial x \partial y} = \frac{z}{4x^{\frac{1}{2}}y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial y} = -\frac{z}{8x^{\frac{3}{4}}y^{\frac{1}{2}}}$$

$$\frac{\partial f}{\partial x \partial z} = \frac{y^{\frac{1}{2}}}{2x^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial z} = -\frac{y^{\frac{1}{2}}}{4x^{\frac{3}{4}}}$$

$$\frac{\partial f}{\partial x \partial y \partial z} = \frac{1}{4x^{\frac{1}{2}}y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial y \partial z} = -\frac{1}{8x^{\frac{3}{4}}y^{\frac{1}{2}}}$$

b) Derivatives of Y

$$\frac{\partial f}{\partial y} = \frac{x^{\frac{1}{2}}z}{2y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 y} = -\frac{x^{\frac{1}{2}}z}{4y^{\frac{3}{4}}}$$

$$\frac{\partial f}{\partial y \partial x} = \frac{\partial f}{\partial x \partial y} = \frac{z}{4x^{\frac{1}{2}}y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 y \partial x} = -\frac{z}{8x^{\frac{1}{2}}y^{\frac{3}{4}}}$$

$$\frac{\partial f}{\partial y \partial z} = \frac{x^{\frac{1}{2}}}{2y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 y \partial z} = -\frac{x^{\frac{1}{2}}}{4y^{\frac{3}{4}}}$$

$$\frac{\partial f}{\partial y \partial x \partial z} = \frac{1}{4x^{\frac{1}{2}}y^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 y \partial x \partial z} = -\frac{1}{8x^{\frac{1}{2}}y^{\frac{3}{4}}}$$

c) Derivatives of Z

$$\frac{\partial f}{\partial z} = x^{\frac{1}{2}}y^{\frac{1}{2}}$$

$$\frac{\partial f}{\partial z \partial x} = \frac{y^{\frac{1}{2}}}{2x^{\frac{1}{2}}}$$

$$\frac{\partial f}{\partial z \partial y} = \frac{x^{\frac{1}{2}}}{2y^{\frac{1}{2}}}$$

$$\frac{\partial f}{\partial z \partial x \partial y} = \frac{1}{4x^{\frac{1}{2}}y^{\frac{1}{2}}}$$

2. Trust function for globalized societies:

$$f(g(X), g(Y), g(Z)) = X^{1/4}Y^{3/4}Z^{1/2}$$

*X = age Y = level of education Z = social stability*

a) Derivatives of X

$$\frac{\partial f}{\partial x} = \frac{y^{\frac{3}{4}}z^{\frac{1}{2}}}{4x^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x} = - \frac{3y^{\frac{3}{4}}z^{\frac{1}{2}}}{4^2 x^{\frac{7}{4}}}$$

$$\frac{\partial f}{\partial x \partial y} = \frac{3z^{\frac{1}{2}}}{4^2 x^{\frac{3}{4}} y^{\frac{1}{4}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial y} = - \frac{3^2 z^{\frac{1}{2}}}{4^3 x^{\frac{7}{4}} y^{\frac{1}{4}}}$$

$$\frac{\partial f}{\partial x \partial z} = \frac{y^{\frac{3}{4}}}{2^3 x^{\frac{3}{4}} z^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial z} = - \frac{3y^{\frac{3}{4}}}{2^5 x^{\frac{7}{4}} z^{\frac{1}{2}}}$$

$$\frac{\partial f}{\partial x \partial y \partial z} = \frac{3}{2^5 x^{\frac{3}{4}} y^{\frac{1}{4}} z^{\frac{1}{2}}} ; \quad \frac{\partial^2 f}{\partial^2 x \partial y \partial z} = - \frac{3}{2^7 x^{\frac{7}{4}} y^{\frac{1}{4}} z^{\frac{1}{2}}}$$

b) Derivatives of Y

$$\frac{\partial f}{\partial y} = \frac{3x^{\frac{1}{4}}z^{\frac{1}{2}}}{4y^{\frac{1}{4}}} ; \quad \frac{\partial^2 f}{\partial^2 y} = - \frac{3x^{\frac{1}{4}}z^{\frac{1}{2}}}{4^2 y^{\frac{5}{4}}}$$

$$\frac{\partial f}{\partial y \partial x} = \frac{3z^{\frac{1}{2}}}{4^2 x^{\frac{3}{4}} y^{\frac{1}{4}}}; \quad \frac{\partial^2 f}{\partial^2 y \partial x} = - \frac{3z^{\frac{1}{2}}}{4^3 x^{\frac{3}{4}} y^{\frac{5}{4}}}$$

$$\frac{\partial f}{\partial y \partial z} = \frac{3x^{\frac{1}{4}}}{2^3 y^{\frac{1}{4}} z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 y \partial z} = - \frac{3x^{\frac{1}{4}}}{2^5 y^{\frac{5}{4}} z^{\frac{1}{2}}}$$

$$\frac{\partial f}{\partial y \partial x \partial z} = \frac{3}{2^5 x^{\frac{3}{4}} y^{\frac{1}{4}} z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 y \partial x \partial z} = - \frac{3}{2^7 x^{\frac{3}{4}} y^{\frac{5}{4}} z^{\frac{1}{2}}}$$

c) Derivatives of Z

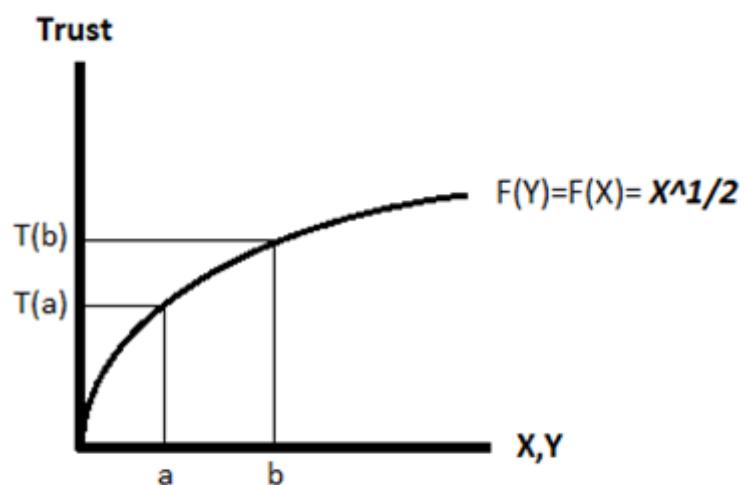
$$\frac{\partial f}{\partial z} = \frac{x^{\frac{1}{4}} y^{\frac{3}{4}}}{4z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 z} = - \frac{x^{\frac{1}{4}} y^{\frac{3}{4}}}{4z^{\frac{3}{2}}}$$

$$\frac{\partial f}{\partial z \partial x} = \frac{y^{\frac{3}{4}}}{2^3 x^{\frac{3}{4}} z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 z \partial x} = - \frac{y^{\frac{3}{4}}}{4^2 x^{\frac{3}{4}} z^{\frac{3}{2}}}$$

$$\frac{\partial f}{\partial z \partial y} = \frac{3x^{\frac{1}{4}}}{2^3 y^{\frac{1}{4}} z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 z \partial y} = - \frac{3x^{\frac{1}{4}}}{4^2 y^{\frac{1}{4}} z^{\frac{3}{2}}}$$

$$\frac{\partial f}{\partial y \partial x \partial z} = \frac{3}{2^5 x^{\frac{3}{4}} y^{\frac{1}{4}} z^{\frac{1}{2}}}; \quad \frac{\partial^2 f}{\partial^2 z \partial x \partial y} = - \frac{3}{2^6 x^{\frac{3}{4}} y^{\frac{1}{4}} z^{\frac{3}{2}}}$$

**Figure 1.** Trust Function for Closed Societies



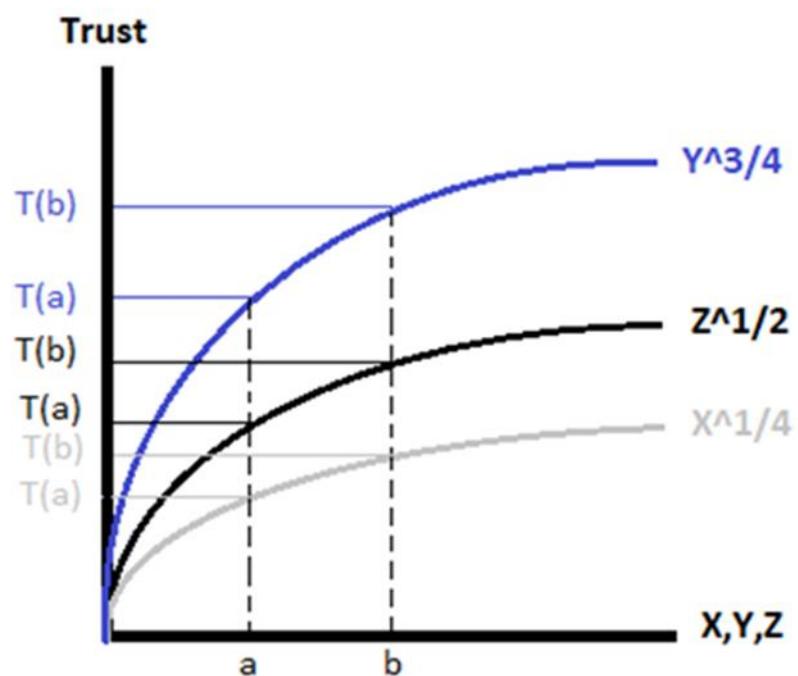
Source: Author

Individual Trust Function for a closed society:

$$F(X, Y, Z) = X^{1/2} Y^{1/2} Z$$

X= age; Y= level of education; Z= social stability

**Figure 2.** Trust Function for Open/Globalized Societies



Source: Author

Individual Trust Function for an open society:

$$F(X,Y,Z) = X^{1/4} Y^{3/4} Z^{1/2}$$

X= age; Y= level of education; Z= social stability

**Table A0.** Variables definition and statistics

<b>Source</b>	<b>Variable</b>	<b>Definition</b>	<b>Observations</b>	<b>Mean</b>	<b>Std. Dev.</b>
World Value Survey 2014	social trust	most people should be trustes? (yes=1; no=0)	466195	0.2886	0.4531
	female	female (yes=1; no=0)	484564	0.5249	0.4993
	age	age (years)	484687	42.112	16.726
	children 12	one/two chidrens (yes=1; no=0)	476165	0.365	0.4814
	incomedecile	income decile on a scale from 0 to 10	376304	47.248	2.385
	education age	age of completed education	381381	19.079	7.0007
	unemployed	unemployed (yes=1; no=0)	476034	0.0860	0.2804
	religious person	religious person(yes=1; no=0)	461345	0.6816	0.4658
	life satisfaction	life satisfaction on a scale from 0 to 10	482663	6.733	2.407
KOF Globalization Index 2016	economic globalization	Explained in Data section 1.4.1	463934	60.708	16.937
	social globalization	Explained in Data section 1.4.1	473133	56.969	20.774
	political globalization	Explained in Data section 1.4.1	473133	18.321	18.321
World Bank	gni-prcap-ppp	GNI per capita, ppp (current international \$)	436990	16192.74	13843.43
Penn World Tables 8.1	GDPPC	used real GDP per capita growth rates for that year from the World development Indicator to calculate the GDP per capita level in 2012	479344	15420.81	12717.67

Source: Author's dataset

**Table A1: table of correlation of individuals' controls**

(obs=249581)	socia~st	female	age	child~12	income~e	educat~e	unempl~d	religi~n	lifesaf~n
socialtrust	1.0000								
female	-0.0187	1.0000							
age	0.0482	0.0031	1.0000						
children12	0.0121	0.0594	0.1320	1.0000					
incomedecile	0.1109	-0.0498	-0.1235	0.0173	1.0000				
educationage	0.0352	-0.0338	-0.0761	0.0031	0.1392	1.0000			
unemployed	-0.0611	-0.0296	-0.1335	-0.0506	-0.1193	-0.0186	1.0000		
religiousp~n	-0.0857	0.0983	0.0444	-0.0519	-0.0408	-0.0185	0.0167	1.0000	
lifesatisf~n	0.1143	0.0095	-0.0066	-0.0121	0.2235	0.0508	-0.1155	0.0072	1.0000

**Table A2: Table of correlation of macroeconomic' variables**

(obs=392659)	socia~st	econ~zation	socia~zation	p~zation	social~l	pol~uall	gni_pr~p	GDPPC
socialtrust	1.0000							
econo~zation	0.0973	1.0000						
socia~zation	0.1314	0.7939	1.0000					
polit~zation	0.0672	0.3242	0.4461	1.0000				
socialresi~l	0.0921	0.0303	0.6318	0.3201	1.0000			
politicalr~l	0.0070	-0.0279	-0.0169	0.8869	0.0078	1.0000		
gni_pcap~p	0.1572	0.6280	0.7667	0.4178	0.4598	0.0728	1.0000	
GDPPC	0.1613	0.6273	0.7721	0.3854	0.4694	0.0335	0.9626	1.0000

**Table A3: Classification of european countries**

occidental	Central	Oriental	Meridional	Nordic	Ex Soviets
France	Croatia	Hungary	Albania	Denmark	Russia
Belgium	Slovakia	Bulgaria	Andorra	Finland	Lithuania
Netherlands	Slovenia	Moldavia	Bosnia herz.	Iceland	Kazakhstan
Switzerland	Luxembourg	Belarus	Greece	Norway	Kyrgyzstan
Austria	Poland		Italy	Sweden	Georgia
Germany	Czech Republic		Macedonia		Armenia
	Romania		Malta		Azerbaijan
			Montenegro		Uzbekistan
			Portugal		Tajikistan
			Spain		Bielorus
					Ukraine
					Moldavia
					Turkenistan

Source: Author

## **Chapter 2:**

### **2. Growth: External Depreciation Vs Internal Depreciation**

#### **Abstract**

This paper compares the impacts of an external devaluation policy, such as currency depreciation, and an internal devaluation policy, such as deregulation of the labor market on economic growth. Using panel data analysis applied to a wide group of countries over the period 1960-2014, I find that in developed economies, both policies have a positive impact, but deregulation has the highest impact.

**Keywords:** Economic Growth, Currency Depreciation, Labor Market Deregulation

## 2.1. Introduction

The main objective of this paper is to study and compare the impacts of foreign exchange intervention and labor market deregulation on economic growth.

Before they became part of the European Union (EU), Germany (1958), France (1958), Italy (1958), Portugal (1986) and Spain (1986) faced severe external shocks with currency depreciation. Once the Euro was established as the common currency, foreign exchange intervention ceased to be an option at the country level. After the 2008 financial crisis, many EU member countries started a new wave of labor market reforms (Eichhorst et al., 2017) aiming at creating comparative advantages and generating foreign direct investment (FDI) inflows<sup>12</sup>. In many European countries, this led to social upheavals and “Euro-skepticism”, or the sentiment that the pre-Euro era was better socially, economically and politically. To shed some light on this issue, I compare the impacts of foreign exchange intervention and labor market deregulation while controlling for non-policy driven variations.

The links between foreign exchange intervention and labor markets deregulation, on the one hand, the economic growth, on the other hand, have been broadly studied in the literature. While there is no consensus on the effects of foreign exchange intervention on economic growth (Branson, 1986; Chou and Chao, 2001; Gylfason and Schmin, 1983), the impacts of labor market deregulation on economic growth have been looked upon solely through the unemployment channel and never through the labor productivity channel (Storm and Naastepad, 2009).

Instead of analyzing both policies as separate topics, in this paper I relate them focusing on their economic impact on growth. Often, the theoretical impact on a given policy differs from its real impact. That is precisely why in this analysis, I do control for the specific characteristics of all countries in the dataset which might distort the interpretation of impacts, and therefore, the results.

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<sup>12</sup> That wave of reforms englobe employment protection, i.e. dismissal protection and restrictions on fixed-terms contracts, unemployment generosity and coverage, and intensity of active labor market.

The empirical analysis is run using panel data in which both external and internal depreciation policies are measured respectively by the real exchange rate and the real unit labor cost. Loss of value of both, real exchange rate and real unit labor cost, will be considered depreciation due to the complexity to determine whether a fall in value is caused by a direct or indirect policy. The results highlight a more beneficial impact of labor market deregulation on growth. The results are confirmed by the impulse response analysis presenting a higher sensibility of growth to labor cost shocks.

The structure of the paper will be as follows. The literature section provides a brief overview of research addressing the impacts of currency depreciation and labor market regulation. The data analysis section describes the data and econometric models. Main results and concluding remarks are given next.

## **2.2. Literature**

I begin with the literature focusing on the implications of currency depreciation on economic growth.

### **2.2.1. Currency Depreciation and Growth**

The depreciation of a currency is the fall in the value of a currency in a floating exchange rate regime. Currency depreciation can occur due to differentials in interest rate, current account deficit, public debt, the term of trade, and political instability as well as the economic performance. Others important, although more infrequent, causes of currency depreciation are the speculative attacks and the depletion of the reserve.

Many papers have studied the relationship between currency depreciation and growth. There is a great discussion, from theory and empirics, about its consequence on growth because so far results have been mixed. While some authors find a negative relationship between currency devaluation and economic output expansion (Bahmani-Oskooee et al., 2002; Edwards, 1985) others observe positive impacts (Rosenzweig and Taylor, 1990; Upadhyaya et al., 2004).<sup>13</sup> This relationship between currency depreciation and growth is even more relevant due to the time dimension. Upadhyaya

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<sup>13</sup> See Gylfason and Risager (1983), Krugman and Taylor (1976), Sheehey (1986)

(1999) highlights that the contractionary effect of devaluation is exhausted in the short run, while in the long run, the impact is neutral.<sup>14</sup> (Gylfason and Risager, 1983; Krugman and Taylor, 1976; Sheehey, 1986)

There have been authors who have studied the relationship between the volatility of the Real Exchange Rate and the output growth. Here results are also mixed. Evidence of the link between exchange rate volatility to growth is less than definitive (Dollar, 1992; Galindo et al., 2006; Hausmann and Gavin, 1995; Ghosh et al., 1997). Other authors document evidence an inverse link between the volatility of the exchange rate and employment or investment (Arratibel et al., 2010; Ghura and Grennes, 1993).<sup>15</sup>

Finally, the correlation between competitive exchange rates, exchange rate regime, and economic growth has also been studied. Based on these factors, Ferdinand Owoundi (2016) concludes that the gain related to undervaluation is almost zero regardless of the exchange rate regime.<sup>16</sup>

### **2.2.2. Labor Market Deregulation and Growth**

Internal devaluation is a concept involving many policies such as a downward adjustment of wages and incomes, the reduction of deficits and an improvement in production conditions and productivity, all in an attempt to gain competitiveness.

Concerning the labor market deregulation, several papers have studied its relationship with growth or one of its components. Di Tella and MacCulloch (1999) find evidence that increasing the flexibility of the labor market increases both the employment rate and the rate of participation in the labor market. Indicating that, more flexibility leads to lower unemployment rates and to lower rates of long-term unemployment.<sup>17</sup>

As with currency depreciation, there are authors who have studied the links between labor market regulation and both current account imbalance and volatility.

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<sup>14</sup> Some other authors have analyzed its impact on the trade balance equilibrium although the empirical evidence remains mixed. (Agbola and Damoense 2005; Bahmani-Oskooee and Hegerty, 2007; Love and Chandra, 2005; Seyoum, 2007)

<sup>15</sup> Serven (2002) finds that real Exchange rate volatility has a strong negative impact on investment.

<sup>16</sup> See Kouri (1976)

<sup>17</sup> See Bertola (1990), Gregg and Manning (1997), Lazear (1990)

Stockhammer and Sotiropoulos (2014) study the economic costs of rebalancing current account positions (a measurement of countries trade) in the Euro area by means of internal devaluation where the internal devaluation relies on wage suppression in the deficit countries. Taking into account that trade imbalances can be resolved by a deflationary adjustment in the deficit countries or inflationary adjustment in the surplus countries, it concludes that the economic costs of deflationary adjustment to the GIIPS (Greece, Ireland, Italy, Portugal, and Spain) are equivalent to the output loss of the Great Depression. Saint-Paul (1997), among others, highlights the potential links between the labor market and comparative advantage.<sup>18</sup> In fact, countries with flexible labor markets exhibit a comparative advantage in new industries subject to higher aggregate demand volatility.<sup>19</sup>

Finally, studies demonstrate the impact of labor market deregulation on labor productivity growth. Contrary to the common opinion, unregulated labor markets, weak employment protection, low taxes, high earnings inequalities, and weak unions are not at all necessary for sustaining high rates of labor productivity growth (Storm and Naastepad, 2009).<sup>20</sup>

In summary, research demonstrates that currency depreciation and labor market deregulation are policies correlated with economic growth given that both improve the trade balance by generating a comparative advantage. The improvement of the trade balance generates a stimulus to the economy. Although the mechanism through which both policies foster growth differs, what really makes them different is that only a country with monetary sovereignty may implement either direct or indirect currency depreciation.

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<sup>18</sup> See Davidson et al. (1999), Galdón-Sánchez (2002), Haaland and Wooton (2007)

<sup>19</sup> See Beck (2002), Costinot (2009), Cuñat and Melitz (2012), Kletzer and Bardhan (1987), Levchenko (2007), Manova (2008), Matsuyama (2005), Nunn (2007)

<sup>20</sup> See Baccaro and Rei (2005), Baker et al. (2002), Bassanini and Ernst (2002), Howell and Schmitt (2007), Malcomson (1997), Scarpetta and Tressel (2004)

## 2.3. Empirical Analysis

### 2.3.1 Data

The two main variables used to measure currency depreciation and labor market deregulation in this analysis came respectively from the Penn World Table (PWT) 9.0 and AMECO.<sup>21</sup> Both databases are the most used to compare across countries and over time respectively the real GDP and the real unit labor cost.

The currency depreciation is measured by the fluctuation of Real Exchange Rates (RER). PWT 9.0 version is really useful in that sense because it includes an RER comparable across countries and time. In fact, its “price level” variables are similar to the Real Exchange Rate (UNDERVAL) used by Rodrik (2008)<sup>22</sup>. The variable that I use as RER represents a ratio of price levels which is typically known as the real exchange rate between countries (Feenstra et al., 2015)<sup>23</sup>.

One of the improvements of this PWT version which affects our RER is that it distinguishes whether real GDP is intended to measure the standard of living across countries (real GDP on the expenditure side) or to measure the productive capacity (real GDP on the output-side). The second interpretation is the one which fits the best with this research question and it is the one used.

Before continuing, just clarify some important aspects. First, in regressions I use the inverse of the RER, therefore, the higher the RER, the higher the depreciation; second, the RER is in logarithm, and third, the RER is expressed in constant 2011 US dollars.

Labor market deregulation is measured by the real unit labor cost. The unit labor cost is defined as the ratio of labor costs to labor productivity and represents the ratio of compensation per employee to nominal GDP per person employed. The compensation of employees englobes all remunerations, in cash or in kind, payable by an enterprise

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<sup>21</sup> AMECO is the annual macro-economic database of the European Commission’s Directorate General for Economic and Financial Affairs. It contains data for EU28, the euro zone, EU countries and candidate countries, as well as, other OECD countries.

<sup>22</sup> UNDERVAL was a measure of the domestic Price level adjusted for the Balassa – Samuelson effect which argues that, in practice non-tradable goods are also cheaper in poorer countries. That index had the advantage that it is comparable across countries as well as time.

<sup>23</sup> For more information about how this variable is created to be comparable across countries and time refer the sections III, IV, and V of Feenstra et al. (2015)

to an employee in return for work done by the latter during the accounting period. The two main components of that compensation are wages and salaries payables in cash or in kind, and the social insurance contribution payable by employers.<sup>24</sup> Consequently, the higher the cost of an employee for the employer, the higher is the regulation. Being a ratio, this variable has not a monetary unit; as I did with the other variable, I will be using its inverse.<sup>25</sup>

The limit understanding of labor market reforms is due to the lack of data about the level of rigidity presents in the different labor markets. Many of the empirical evidence of the labor market literature is confined to OECD countries and to the period after 1990. The unit labor cost variable used in this analysis covers 40 countries for a range of 50 years.<sup>26</sup>

The rest of the variables used in the main equations such as the dependent variable, the growth rate, and the converge term used as control variable came from the PWT. The variables used for the robustness checks come from the World Bank. (**TABLE A0 variables and statistics in the appendix**)

When running the regressions for the external depreciation analysis, we will be working with a database of 183 countries, while for the internal one the regressions will only englobe 40 countries. The time period of our analysis is from 1960 to 2014.

### **2.3.2. Econometric Set Up**

The comparison of the economic impact of the policies will be done through a panel data analysis. To study the possible influence on different groups of countries, all countries will be divided between developed and developing countries.<sup>27</sup>

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<sup>24</sup>  $NULC = (D1/EEM)/(B1GM/ETO)$

Unit Labor cost (ULC); national ULC (NULC); compensation of employees, all industries, current prices (D1); employees, all industries, in person (domestic concept) (EEM); gross domestic product at market prices in million, chain-linked volumes reference year 2010 (B1GM); total employment, all industries, in person (domestic concept) (ETO) – from Eurostat.

<sup>25</sup> The original reference year was 2010, but to match the reference year with currency one, I changed it to 2011.

<sup>26</sup> The 40 countries are the EU28, Macedonia, Iceland, Turkey, Norway, Switzerland, United States, Japan, Canada, Mexico, Korea, Australia and New Zealand.

<sup>27</sup> Nielsen (2011) presents a very interesting discussion about the different countries classification used in the literature and based on that, I will be differentiating countries based on OECD membership. In

The structure of the two models I use to test both, the internal and external devaluation – economic growth relationship, is based on the baseline model used by Rodrik (2008) to estimate the relationship between undervaluation and growth. The changes incorporated into my models are the main explanatory variables and their time horizon. As argued by Bahmani-Oskooee and Cheema (2009) changes generated by a depreciation need time to be noticed. To capture these effects the main independent variables have lag. The lag selection is based on the three model selection criteria by Andrews and Lu (2001) and the overall coefficient of determination.

Equation 1: Currency depreciation – economic growth relationship

$$\ln \text{growth}_{c,t} = \alpha + \beta' \ln \text{rer}_{c,t-\theta} + \gamma' \ln \text{rgdpo}_{c,t-1} + \alpha_t + \alpha_c + \varepsilon_{c,t}$$

Equation 2: Labor market deregulation – economic growth relationship

$$\ln \text{growth}_{c,t} = \phi + \lambda' \text{REAL\_flexibilization}_{c,t-\varphi} + \psi' \ln \text{rgdpo}_{c,t-1} + \phi_t + \phi_c + u_{c,t}$$

The equations are symmetrical. Both equations have the same dependent variable *ln growth* which measures the annual growth in GDP per capita and the same control *ln rgdpo* (initial GDP per capita on the output-side) used as standard converge term; in both, country and time fixed effects are used ( $\alpha_t, \alpha_c, \phi_t, \text{and } \phi_c$ ). While the first one will be used to study the currency depreciation-economic growth relationship with the *ln rer* variable, the second will be used to study the labor market deregulation – economic growth relationship with the *REAL\_flexibilization* variable.

Using time and country fixed effects, the equations estimate within effect of devaluation, namely, the impact of changes in appreciation or depreciation on changes in growth rates within countries. Both equations will be capturing the effects of inverted variables, therefore, when positive, it means that depreciation has a positive impact on growth, whereas a negative effect will mean that an appreciation of any of our main variables generates growth deceleration.

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order to compare results, I will also run the regression taking into account a classification created from the World Bank GNI indicator with which I classified countries in four groups (low income, lower middle income, upper middle income, and high income).

It should be recalled that there are fiscal policies similar to an exchange rate devaluation, such as a uniform increase in imports tariffs and export subsidies or a value-added tax increase and a uniform payroll tax reduction, that also affect labor cost. To ensure that the labor market deregulation variable "*REAL\_flexibilization*", used in the second equation, does not capture any variation of the variable "*ln rer*" used in the first equation, I checked the coefficient of correlation between both variables, the shape of both original series and compared the *REAL\_flexibilization* series with its residuals. Both variables have a coefficient of correlation of -0.39 which might be considered high if it were not for the fact that the original series of the *REAL\_flexibilization* and its residuals series do not really differ. In other words, fluctuations of the real exchange rate do not have significant relevance on the fluctuations of the unit labor cost variable and that is why I use the original data.

**(Figures A0 and A1 in the appendix)**

### 2.3.3. Policy Implications

The comparison proposed by this paper aims to provide an empirical argument on two of the policies applied since the 2008 financial crisis. The comparison is interesting because both policies generate a comparative advantage which supports economic growth. Considering that to deregulate a labor market there is no specific "requirement", as it is the case when countries want to implement monetary policy, is then really interesting to know which one has the highest impact on growth for the following reasons.

If it is true that currency depreciation policy has a higher impact on growth than will reinforce the voices against monetary unions. Because even if as a whole it has been demonstrated that they promote growth, it has been highly criticized and used as a political argument during recession periods. As we have seen in Europe since 2010, many countries have questioned their membership to the EU and the most drastic example of that is the UK with Brexit.

On the contrary, if a labor market deregulation is a policy fostering the most the economic growth, the first question that will come to mind is why, apart from social tensions, it has been and still being so few times used. Spain, Portugal, Greece, Ireland,

France among others, deregulated their labor market in order to attract the FDI and that generated a lot of tension among their citizens and brought more power to the detractors of monetary unions. Perhaps, the fact that labor market deregulation is not used very often, is positively correlated with social preferences. It might be right to believe that people prefer to lose purchasing power instead of being unemployed.

In short, the answer to the question asked in this paper may reinforce or challenge both, monetary unions and the policies applied to face growth issues.

## 2.4. Results

Table 1 presents the results of the first equation. When estimated for the panel as a whole, the benchmark regression yields a highly significant  $\hat{\beta} -0.001$ . However, as the next columns show, the same effect operates only for developing countries, while for developed countries the coefficient, besides being higher, has a positive effect on growth.

Table 2 presents the results of the second equations. In this case, for the whole panel estimation, the benchmark regression yields a remarkable  $\hat{\lambda} 0.045$ . Here, the same effect operates for both, developed and developing countries, even though the coefficient is only significant for developed countries.

In both tables, it is constable that, countries with a lower income level grow more and that, the impact of the policies depends massively on the level of socio-economic development of each country. This last idea is even clearer in Tables 3 and 4 in which countries classification is based on the GNI indicator.<sup>28</sup> With such a wide classification, it can be seen that both policies generate a positive influence on the economic growth of the developed groups and the contrary for developing countries.

Summing up, at the aggregate level, a labor market deregulation has a higher impact on economic growth. When splitting the sample between developed and developing

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<sup>28</sup> I use the Gross National Income per capita (GNI/n) which, basically, represents countries' income. It includes all the income earned by a country's residents and businesses, including any income earned abroad. Countries are classified in four income's groups (High, upper middle, lower middle, and low). The time period of this variable is from 1987 to 2016 in the World Bank dataset.

countries we observe that both policies only have a positive effect on the economic growth of developed countries.<sup>29</sup>

#### 2.4.1. Robustness Checks

To control for the robustness of the results, at the aggregate level, I rerun the regressions controlling for some theoretical aspects. For both equations I changed the standard convergence term (the initial GDP per capita from the productivity side) and used the generic GDP per capita to see whether that might change something; I control for the unemployment level, the rule of law, the government consumption, the Term of Trade (TOT), the inflation, the gross domestic savings, and the average year of education. The only difference there is in this part is that for the second equation I also control for the government spending on education.<sup>30</sup>

Table 5 represents the results of the robustness checks for the first equation. When controlling for the variables that are among the main drivers of the real exchange rate (TOT, the government consumption, and the savings rate) results are robust. In fact, even though when controlling for the TOT either the rule of law the RER is not significant, with the others the estimated coefficient remains significant. Table 6, which represents the results of the robustness checks for the second equation, shows very strong results. As a matter of fact, when controlling for the RER main drivers (saving rates, government consumption, and TOT) the estimated remains constant.

TOT is an indicator of a country's economic health. Depending on its values it indicates whether an economy is passing through a capital inflow or a capital outflow process. To pass from one situation to another depends on some idiosyncratic characteristics of

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<sup>29</sup> Considering the sample difference, which in terms of observations, there is between the two equations, I tested the results of the first equation using the same sample size of the second. Table 1c represents the results of the first equation with the second equation sample size. With this sample, the RER depreciation, despite the negative effect, does not have a significant impact on growth. Here also, it is observed that currency depreciation has a higher significant impact on growth of developed countries. On Table A2 it can be seen that in contrast with Table 4 the low middle income group of countries also has an economic growth when currency is depreciated.

<sup>30</sup> The controls used in the robustness check do have an influence on both RER and unit labor cost. While the TOT, the government consumption, and the saving rates are among the main drivers of the RER, the quality of labor force in term of years of education, the government spending on education, and the unemployment influence the unit labor cost. Considering the purpose of this paper it is also important to control for those variables that affect economic growth such as the quality of institutions and the inflation.

a given economy, as well as, internal and external shocks.<sup>31</sup> One of those idiosyncrasies is how diversified an economy is. As it happens in finance with diversified investment portfolios, countries with a diverse economic sector are better placed to face changes in the market with all that implies in term of economic health and growth.

In addition to the previous robustness check, I rerun the first equation using as RER the Real Effective Exchange Rate (REER) which is the weighted average of country's currency in relation to an index or basket of other major currencies, adjusted for the effects of inflation and I also control for the economic diversification of countries with a concentration index.<sup>32</sup> The REER is a very interesting variable to include in the analysis because, apart from being an alternative RER, it is a multilateral measure of competitiveness available for a large number of industrial and developing countries.

Table 7 represents the results of the first equation with REER as an explanatory variable. At the aggregate level, the results are totally different. REER depreciation fosters economic growth and, as is shown in the other columns, that effect is translated to both developed and developing countries. This means that at the aggregate level when any country depreciates its REER by 50 percent, the annual growth of real income per capita the following year will increase 0.6 percent ( $0.50 * 0.012$ ). Table 8, which reports the results for a more extended classification of countries, shows that this effect is even higher for developed countries for which a REER depreciation of 50 percent represents an economic growth of 3.25 percent ( $0.50 * 0.065$ ). While the results attract attention to developed countries, they are notable for developing ones.<sup>33</sup>

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<sup>31</sup> Bleaney and Greenaway (2001) argue that both growth and investment are higher when the TOT are more favorable and the RER is less overvalued.

<sup>32</sup> I use the UNCTAD concentration index based on Herfindahl-Hirschmann index englobed data from 1995 to 2014 and which captures whether country exports are very concentrated to one product or not. It is normalized (0.1) and 1 is highly concentrated. I divided the index in four groups: high, upper middle, lower middle and lower. Instead of the original data, in order to do not lose observations, I computed the average concentration value for each country and based on that value countries have been classified in the different groups.

The Real Effective Exchange Rate, as explained in the appendix, comes from the World Bank.

<sup>33</sup> To test these results, I ran regressions only considering the countries used for the labor market analysis. With that sample, as Table A3 shows, the results are more similar to those obtained so far. The benchmark column highlights the fact that, at the aggregate level, RER depreciation has a negative impact on the economic growth. That negative effect is especially predominant in developing countries because, in developed countries, depreciation fosters growth as is shown in Table A4. The results

Table 9 studies the effects of an external depreciation on the economic growth taking into account the economic concentration level of countries. As supposed, countries with the lowest degree of concentration, in other words, countries with a highly diversified economy are the ones profiting the most from the effect that a currency depreciation policy generates on economic growth.<sup>34</sup> It can, therefore, be said that, in order to explain the impact of the external policy on growth, the degree of diversification of an economy is more important than the economic health or the competitiveness.<sup>35</sup>

Table 10 confirms the previous statement also for the internal depreciation policy. When a country deregulates or liberalizes its labor market, as shown by the benchmark regression, the growth rate of the following year increases but that effect is really significant for countries with a diversified economy. Indeed, for the countries with a middle-low level of concentration, to deregulate a labor market by 50 percent fosters the economic growth of the following year by 6.4 percent ( $0.5*0.128$ ) which is very considerable.

The results obtained with the different controls are robust and confirm the statement that a labor market deregulation has a higher impact on growth. Both policies, here compared, have a positive impact on the economic growth of countries which are cataloged as developed and based on the concentration level analysis, that may be explained by the degree of economic diversification that characterizes them.

#### **2.4.2. Impulse Response Function**

Finally, to examine how growth behaves after a shock of one of the policies, I use an Impulse Response Function (IRF) of a panel VAR analysis (Abrigo and Love, 2016). The interest of the IRF analysis is that it shows graphically how a variable reacts when another change.

obtained with the REER do not solve our previous point about how the economic health of a given economy might influence this comparison, but it makes clear that RER volatility has an impact on growth. This sample issue here observed reinforces those papers which obtained different results analyzing the relationship between RER volatility and growth. (Cottani et al., 1990; Gala, 2008)

<sup>34</sup> Look at Table A5 in the appendix to know what is countries classification according to the concentration level (most of the OECD countries have diversified economies)

<sup>35</sup> See Hausmann et al. (2007), Sachs and Warner (1997), Sala-i-Martin (1997)

Figure 1 represents the IRF between growth, which is in time t, and RER used in the analysis which is in time t-1. A positive impulse from the RER, which means a depreciation of the currency in time t-1, has a two-step effect on economic growth. While at first growth decreases it remarkably fosters in the medium run to after decrease again until to reach a steady state which is slightly higher than the start point. This graph makes clear the idea that a currency depreciation policy fosters growth in the long run.<sup>36</sup>

Figure 2 represents the IRF between growth in time t and real unit labor cost in time t-1. In this case, labor costs impulse, which means lower labor costs, has a negative impact on growth in both the short and medium term. In fact, compared with the currency effect in the short run, the economic deceleration is higher. Nevertheless, in the long run, the economic growth draws a positive trend meaning that there would be slow but sustained growth. The graph shows that labor market deregulation while decelerating growth in first periods, has a higher beneficial effect on long-run economic growth.

The IRF analysis confirms the fact that both policies have a positive effect on long-run economic growth. The main difference is that even though the positive effect of currency depreciation is perceived earlier, the labor cost effect is greater in the long-run.<sup>37</sup>

## 2.5. Conclusions

The comparison proposes by this paper about the economic impact of an internal depreciation policy and an external depreciation policy shows that in term of long-term growth the internal depreciation policy, here captured by a labor market deregulation, has a more profitable effect on growth than the external devaluation policy represented by currency depreciation.

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<sup>36</sup> See Christopoulos (2004)

<sup>37</sup> I have also done the IRF for the entire variable at the same t horizon and results do not change. With the same time horizon, a positive impulse of currency depreciation fosters growth in the short run to after decreases until a steady state higher than the start point. While a positive impulse of real unit labor cost first decreases growth to after constantly foster it in the long run. (See figures B0 and B1 in the appendix)

The positive effect of both policies on growth has been clearly highlighted especially for developed countries. As shown by the robustness checks, effects of both policies are more profitable for diversified economies which is a predominant characteristic among countries considered developed in the different classifications.

The impulse response analysis revealed when the positive outcomes become effective. While a currency depreciation has significant effects visible in a shorter period of time, in the long run, growth reaches a steady state slightly higher than the initial. However, labor market deregulation while taking accounts its negative effect in the short and medium term, suggests a constant growth in the long-run. The time issue, highlighted by this analysis, might explain why the governments of the countries in which both policies can be applied as well as those anti-Euro political parties prefer to face the growth issue via external depreciation policies.

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**Table 1.** Panel Regression of Economic Growth on Real Exchange Rate depreciation measure

VARIABLES	(1960-2014) Benchmark	(1960-2014) developed	(1960-2014) developing
Inrergdpo_1	-0.001*** (-2.79)	0.004*** (3.93)	-0.001** (-2.42)
Inrgdpo_1	-0.018*** (-10.92)	-0.026*** (-4.38)	-0.018*** (-9.47)
Constant	0.199*** (12.08)	0.243*** (4.41)	0.193*** (10.05)
Country and Time FE	yes	yes	yes
Observations	8,667	1,444	7,223
R-squared	0.072	0.314	0.070
Number of code	182	35	181

Source: Author's regressions

t-statistics in parentheses

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

Differentiation between developed and developing countries is based on OECD membership

**Table 2.** Panel Regression of Economic Growth on Real Unit Labour Costs depreciation measure

VARIABLES	(1960-2014) Benchmark	(1960-2014) developed	(1960-2014) developing
REAL_flexibilization_1	0.045*** (3.56)	0.052*** (4.17)	0.039 (0.94)
Inrgdpo_1	-0.028*** (-5.99)	-0.037*** (-6.47)	-0.041 (-1.53)
Constant	0.264*** (6.57)	0.337*** (6.90)	0.340 (1.44)
Country and Time FE	yes	yes	yes
Observations	1,529	1,278	251
R-squared	0.411	0.458	0.522
Number of code	40	32	18

Source: Author's regressions

t-statistics in parentheses

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

Differentiation between developed and developing countries is based on OECD membership

**Table 3.** Panel regression of Economic Growth on Real Exchange Rate depreciation measure using the classification of countries of the World Bank

VARIABLES	(1960-2014) Benchmark	(1987-2014) high	(1987-2014) upper middle	(1987-2014) low middle	(1987-2014) low
Inrergdpo_1	-0.001*** (-2.79)	0.009** (2.35)	0.008** (2.42)	-0.010*** (-4.58)	-0.005** (-2.38)
Inrgdpo_1	-0.018*** (-10.92)	-0.011** (-2.33)	-0.051*** (-5.26)	-0.088*** (-10.20)	-0.030*** (-4.48)
Constant	0.199*** (12.08)	0.125** (2.53)	0.433*** (5.19)	0.781*** (11.40)	0.235*** (4.81)
country and Time FE	yes	yes	yes	yes	yes
Observations	8,667	1,227	902	1,268	1,333
R-squared	0.072	0.132	0.213	0.285	0.120
Number of code	182	64	74	96	67

Source: Author's regressions

t-statistics in parentheses

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

Countries are differentiated by income level (GNI per capita), those with a higher income level are the most developed one

**Table 4.** Panel regression of Economic Growth on Real Unit Labour Costs depreciation measure using the classification of countries of the World Bank

VARIABLES	(1960-2014) Benchmark	(1987-2014) high	(1987-2014) upper middle	(1987-2014) low middle
REAL_flexibilization_1	0.045*** (3.56)	0.134*** (6.24)	0.134*** (3.20)	-0.280*** (-4.29)
Inrgdpo_1	-0.028*** (-5.99)	-0.061*** (-7.47)	-0.092*** (-3.29)	-0.277*** (-2.96)
Constant	0.264*** (6.57)	0.508*** (6.70)	0.765*** (3.06)	2.723*** (3.22)
country and Time FE	yes	yes	yes	yes
Observations	1,529	744	186	67
R-squared	0.411	0.560	0.608	0.637
Number of code	40	35	18	8

Source: Author's regressions

t-statistics in parentheses

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

Countries are differentiated by income level (GNI per capita), those with a higher income level are the most developed one

**Table 5.** Control Regression of the relationship between Economic Growth and the Depreciation of Real Exchange Rate

VARIABLES	(1960-2014) Benchmark	(1960-2014) b1	(1960-2014) b2	(1960-2014) b3	(1996-2014) b4	(1960-2014) b5	(1960-2014) b6	(1960-2014) b7	(1960-2014) b8	(1970-2014) b9
Inrgdpo_1	-0.001*** (-2.79)	-0.001*** (-3.77)	-0.004*** (-4.83)	-0.003*** (-3.86)	-0.001 (-0.71)	-0.002*** (-3.56)	-0.001 (-1.04)	0.000 (0.43)	0.001** (2.15)	-0.004*** (-2.66)
Inrgdpo_1	-0.018*** (-10.92)				-0.025*** (-8.35)	-0.027*** (-8.09)	-0.020*** (-10.63)	-0.023*** (-7.46)	-0.027*** (-8.14)	-0.033*** (-15.19)
Inrgdpch_1		-0.030*** (-13.46)								-0.035*** (-5.73)
unemployment_1			0.002*** (7.25)	0.001*** (6.56)						
rule of law					0.000** (2.56)					
gov_consumption						-0.001*** (-8.09)	-0.001*** (-5.30)			
InTOT							0.001** (2.56)	0.001*** (2.77)		
Ininflation								-0.006*** (-5.69)	-0.009*** (-12.30)	
gross_dom_savings									0.001*** (12.08)	0.001*** (4.03)
average_education										0.000* (1.76)
Constant	0.199*** (12.08)	0.279*** (14.42)	0.087*** (2.85)	0.278*** (7.33)	0.244*** (8.57)	0.237*** (12.68)	0.233*** (8.37)	0.259*** (8.59)	0.332*** (15.12)	0.329*** (7.06)
Country and Time FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8,667	8,667	3,527	3,527	2,815	6,896	2,545	2,268	5,707	1,021
R-squared	0.072	0.079	0.160	0.178	0.119	0.093	0.128	0.140	0.134	0.125
Number of code	182	182	169	169	177	166	151	147	163	137

Source: Author's regressions  
t-statistics in parentheses

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

**Table 6.** Control Regression of the relationship between Economic Growth and the Depreciation of Real Unit Labour Costs

VARIABLES	(1960-2014)	(1960-2014)	(1960-2014)	(1996-2014)	(1960-2014)	(1960-2014)	(1970-2014)	(1960-2014)	(1960-2014)	(1960-2014)	(1970-2014)	(1970-2014)	
	Benchmark	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	
REAL_flexibilization_1	0.045*** (3.56)	0.035*** (2.85)	0.040*** (2.93)	0.060*** (4.24)	0.132*** (6.05)	0.072*** (5.87)	0.091*** (5.33)	0.048** (2.51)	0.077*** (3.75)	0.057*** (4.26)	0.021 (0.69)	0.030 (0.75)	
Inrgdpo_1	-0.028*** (-5.99)				-0.026*** (-4.44)	-0.069*** (-5.89)	-0.038*** (-8.46)	-0.038*** (-7.09)	-0.040*** (-6.60)	-0.027*** (-4.16)	-0.053*** (-10.53)	-0.053*** (-4.28)	-0.030** (-2.27)
Inrgdpch_1		-0.027*** (-5.33)											
unemployment_1			0.001*** (5.18)	0.001*** (3.80)									
rule of law				0.001*** (2.78)									
gov_consumption					-0.003*** (-8.46)			-0.006*** (-9.10)					
gov_education						-0.000 (-0.36)	-0.000					-0.003 (-0.98)	
InTOT							0.003** (2.44)	0.002* (1.94)					
Ininflation									-0.008*** (-3.69)	-0.010*** (-8.26)			
gross_dom_savings										0.002*** (9.89)	0.003*** (6.49)		
average_education											0.000 (0.36)	0.000 (1.31)	
Country FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Constant	0.264*** (6.57)	0.266*** (5.91)	-0.028 (-1.05)	0.193*** (3.41)	0.515*** (4.99)	0.366*** (9.41)	0.338*** (6.98)	0.384*** (7.36)	0.191*** (3.69)	0.406*** (8.89)	0.437*** (4.07)	0.290** (2.42)	
Observations	1,529	1,529	1,294	1,294	638	1,516	994	671	662	1,362	256	190	
R-squared	0.411	0.408	0.407	0.417	0.563	0.465	0.483	0.558	0.490	0.488	0.397	0.364	
Number of code	40	40	40	40	40	40	40	39	39	40	39	39	

Source: Author's regressions

t-statistics in parentheses

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

Table A0 , in the appendix, for more information about the control variables

**Table 7.** Panel Regression of Economic Growth on Real Effective Exchange Rate depreciation measure

	(1987-2014)	(1987-2014)	(1987-2014)
VARIABLES	Benchmark	developed	developing
Inreer_1	0.012*** (4.12)	0.013* (1.80)	0.012*** (3.42)
Inrgdpo_1	-0.019*** (-5.47)	-0.028*** (-3.40)	-0.020*** (-5.01)
Constant	0.251*** (8.05)	0.372*** (4.66)	0.253*** (7.10)
Country and Time FE	yes	yes	yes
Observations	2,625	791	1,834
R-squared	0.117	0.422	0.105
Number of code	103	33	78

Source: Author's regressions

t-statistics in parentheses

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

Differentiation between developed and developing countries is based on OECD membership

**Table 8.** Panel regression of Economic Growth on Real Exchange Rate depreciation measure using the classification of countries of the World Bank

	(1987-2014)	(1987-2014)	(1987-2014)	(1987-2014)	(1987-2014)
VARIABLES	Benchmark	high	upper middle	low middle	low
Inreer_1	0.012*** (4.12)	0.065*** (6.78)	0.029*** (3.16)	0.005 (1.28)	0.007 (0.63)
Inrgdpo_1	-0.019*** (-5.47)	-0.033*** (-4.54)	-0.018 (-1.53)	-0.095*** (-8.34)	0.009 (0.87)
Constant	0.251*** (8.05)	0.671*** (8.03)	0.326*** (2.88)	0.844*** (8.94)	-0.009 (-0.10)
Country and Time FE	yes	yes	yes	yes	yes
Observations	2,625	909	604	680	430
R-squared	0.117	0.403	0.215	0.249	0.123
Number of code	103	48	47	55	25

Source: Author's regressions

t-statistics in parentheses

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

Countries are differentiated by income level (GNI per capita), those with a higher income level are the most developed one

**Table 9.** Panel regression of Economic Growth on Real Exchange Rate Depreciation measure  
Controlling for the Economic Concentration Level of countries

VARIABLES	(1960-2014)	(1995-2014)	(1995-2014) upper middle	(1995-2014) lower middle	(1995-2014) lower cons
	Benchmark	high cons	cons	cons	lower cons
Inrergdpo_1	-0.001*** (-2.79)	-0.001 (-1.38)	-0.016*** (-3.71)	-0.008*** (-3.60)	0.004** (2.18)
lnrgdpo_1	-0.018*** (-10.92)	-0.011*** (-4.13)	-0.037*** (-4.93)	-0.009** (-2.15)	-0.041*** (-7.26)
Constant	0.199*** (12.08)	0.134*** (5.22)	0.390*** (6.15)	0.116*** (3.13)	0.389*** (7.54)
Country and Time FE	yes	yes	yes	yes	yes
Observations	8,667	5,322	552	1,187	1,606
R-squared	0.072	0.051	0.137	0.090	0.192
Number of code	182	182	65	114	116

Source: Author's regressions

t-statistics in parentheses

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

"cons" is abbreviation of concentration

**Table 10.** Panel regression of Economic Growth on Real Unit Labour Costs  
 depreciation measure controlling for the Economic Concentration Level of countries

VARIABLES	(1960-2014) Benchmark	(1995-2014) high cons	(1995-2014) lower middle cons	(1995-2014) lower cons
REAL_flexibilization_1	0.045*** (3.56)	0.017 (0.86)	-0.057 (-0.91)	0.128*** (6.21)
Inrgdpo_1	-0.028*** (-5.99)	-0.040*** (-4.66)	-0.029 (-1.26)	-0.054*** (-5.40)
Constant	0.264*** (6.57)	0.400*** (5.23)	0.372 (1.67)	0.445*** (4.68)
Country and Time FE	yes	yes	yes	yes
Observations	1,529	740	81	707
R-squared	0.411	0.340	0.562	0.510
Number of code	40	32	9	37

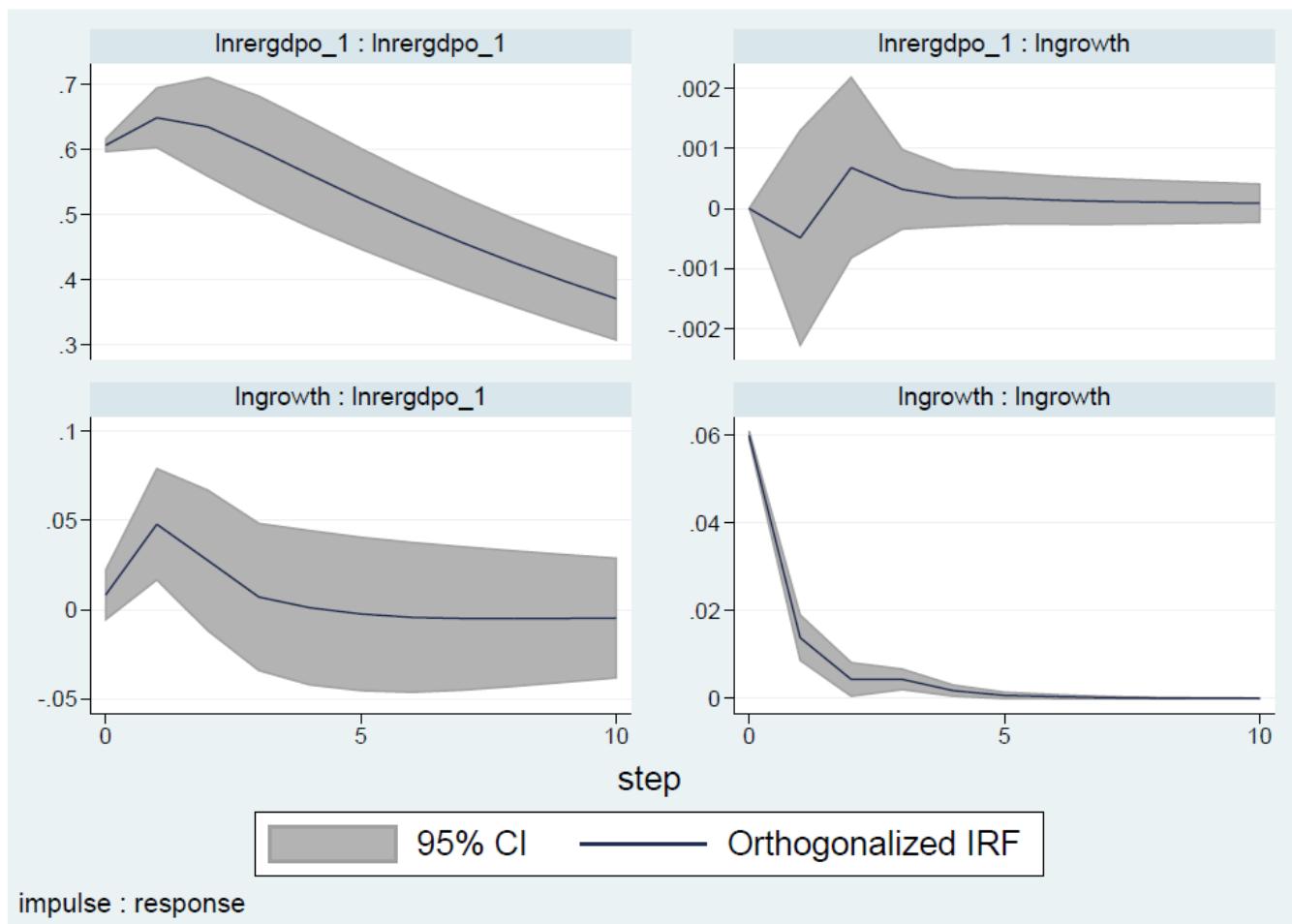
Source: Author's regressions

t-statistics in parentheses

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

"cons" is abbreviation of concentration

**Figure 1.** Impulse Response Function of Economic Growth Rate and Real Exchange Rate

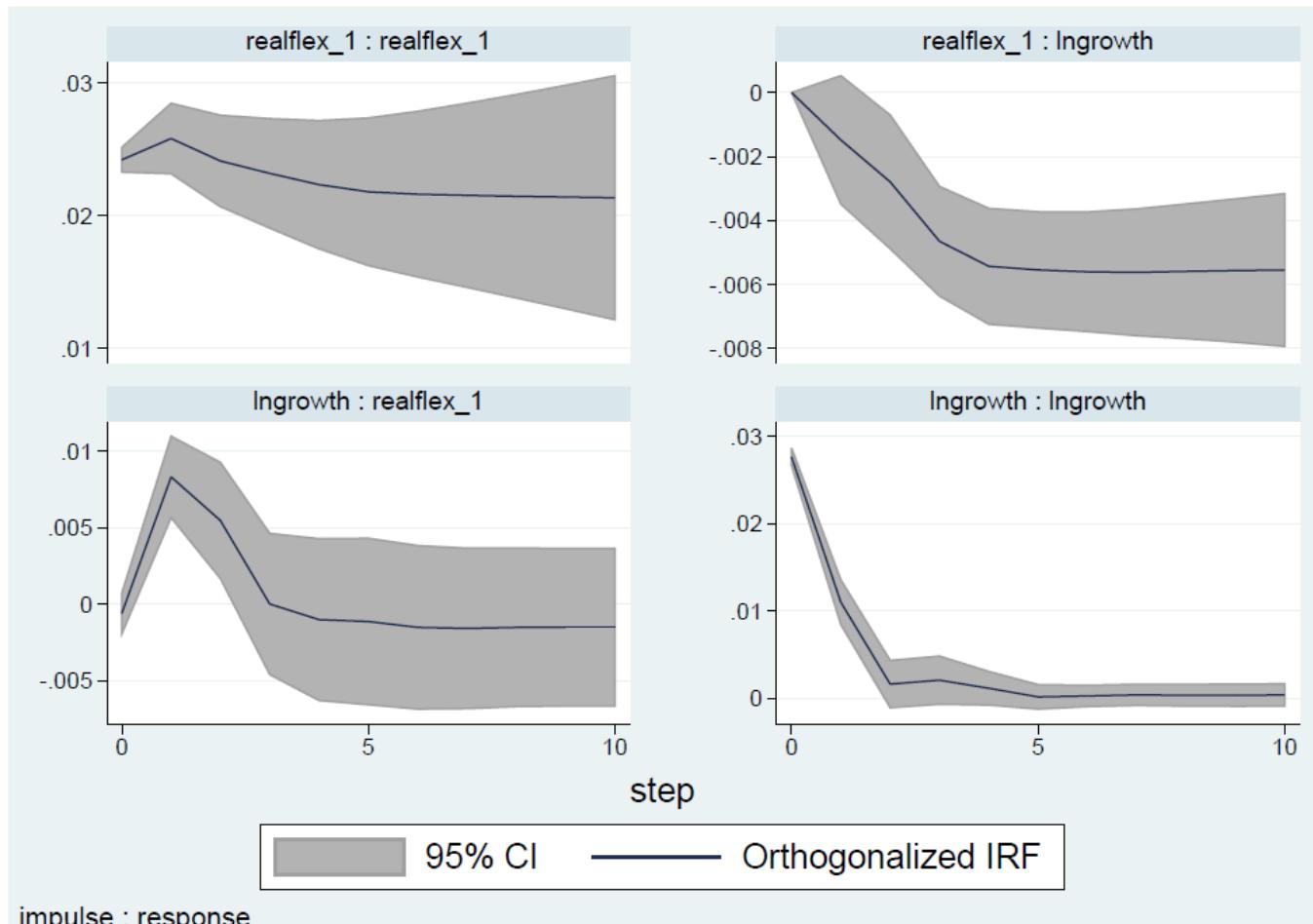


impulse : response

Source: Author

- a.  $\ln gdp$  = GDP per capita growth rate;  $\ln r\bar{e}gdp$  = GDP productivity side Real Exchange Rate
- b. The lag is maintained in order to be coherent with the empirical analysis

**Figure 2. Impulse Response Function of Economic Growth Rate and Real Unit Labour Costs**



impulse : response

Source: Author

- a. ln growth = GDP per capita growth rate; realflex = Real Unit Labour Costs
- b. The lag is maintained in order to be coherent with the empirical analysis

## Appendices, Graphs, and Tables Chapter 2

**Table A0.** Data definitions, source, and coverage (1960-2014)

Source	Variables	Definition	Obs.	Mean	Std. Dev
Penn World Table 9	Ingrowth	GDP per capita growth rate	8667	0,0192793	0,0661165
	Inrergdpo	GDP productivity side Real Exchange Rate (explained in data section)	8774	4,385867	3,832095
	Inrerda	GDP expenditure side Real Exchange Rate (Explained in data Section)	8774	4,310434	3,794892
	Inrgdpo	GDP per capita from productivity side (in mil. 2011US\$)	8774	8,641007	1,279734
	Inrgdpe	GDP per capita from expenditure side (in mil. 2011US\$)	8774	8,63993	1,242845
AMECO	REAL_flexibilization	Real Unit Labour Costs (100=2011) (Explained in data section)	1569	0,9420779	0,0867737
World Bank (1996-2014)	unemployment	Unemployment, total (% of total labor force) (national estimate)	3669	8,060616	6,02578
	rule of law	worldwide governance indicator - percentile rank	2815	49,41784	28,97869
	gov-consumption	General government final consumption expenditure	7007	15,43922	6,433323
	In TOT	Terms of trade adjustment (constant LCU)	2599	22,58949	4,696487
	In inflation	consumer price index (we use 1+infaltion)	6710	2,073416	1,608686
(1970-2014)	gross_dom_savings	Gross domestic savings (%GDP)	6772	18,55346	16,90374
	average_education	totalschooling15*100 (Barro-Lee)	1240	640,4234	305,0439
(1970-2014)	gov_education	Government expenditure on education as % of GDP (%)	3270	4,363693	1,845586
(1987-2014)	In reer	Real effective exchange rate (we use the inverse)	2728	-4,599763	0,3189246

Source: Author's dataset

**Table A1.** Panel Regression of Economic Growth on Real Exchange Rate depreciation measure, with the same sample that for the labour market analysis

VARIABLES	(1960-2014) Benchmark	(1960-2014) developed	(1960-2014) developing
Inrergdpo_1	-0.000 (-0.07)	0.003*** (3.55)	-0.003* (-1.81)
Inrgdpo_1	-0.012*** (-3.93)	-0.033*** (-6.56)	-0.007 (-0.92)
Constant	0.148*** (5.35)	0.317*** (6.74)	0.094 (1.46)
Country and Time FE	yes	yes	yes
Observations	1,918	1,380	538
R-squared	0.296	0.430	0.395
Number of code	40	32	40

Source: Author's regressions

t-statistics in parentheses

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

Differentiation between developed and developing countries is based on OECD membership

**Table A2.** Panel regression of Economic Growth on Real Exchange Rate depreciation measure using the classification of countries of the World Bank, same sample that for the labour market analysis

VARIABLES	(1960-2014) Benchmark	(1987-2014) high	(1987-2014) upper middle	(1987-2014) low middle
Inrergdpo_1	-0.000 (-0.07)	0.039*** (6.89)	0.013 (1.61)	0.013* (1.86)
Inrgdpo_1	-0.012*** (-3.93)	-0.046*** (-5.97)	-0.167*** (-6.23)	-0.248*** (-3.82)
Constant	0.148*** (5.35)	0.412*** (5.49)	1.492*** (6.17)	2.178*** (3.74)
Country and Time FE	yes	yes	yes	yes
Observations	1,918	758	219	104
R-squared	0.296	0.556	0.542	0.561
Number of code	40	35	19	12

Source: Author's regressions

t-statistics in parentheses

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

Countries are differentiated by income level (GNI per capita), those with a higher income level are the most developed one

**Table A3.** Panel Regression of Economic Growth on Real Effective Exchange Rate depreciation measure, same sample that for the labour market analysis

	(1987-2014)	(1987-2014)	(1987-2014)
VARIABLES	Benchmark	developed	developing
Inreer_1	-0.037*** (-5.61)	0.026*** (3.58)	-0.091*** (-4.42)
Inrgdpo_1	-0.046*** (-5.50)	-0.039*** (-4.93)	-0.045* (-1.70)
Constant	0.317*** (3.92)	0.538*** (6.94)	0.060 (0.25)
Country and Time FE	yes	yes	yes
Observations	954	754	200
R-squared	0.389	0.492	0.463
Number of code	37	30	13

Source: Author's regressions

t-statistics in parentheses

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

Differentiation between developed and developing countries is based on OECD membership

**Table A4.** Panel regression of Economic Growth on Real Exchange Rate depreciation measure using the classification of countries of the World Bank, same sample that for the labour market analysis

	(1987-2014)	(1987-2014)	(1987-2014)	(1987-2014)
VARIABLES	Benchmark	high	upper middle	low middle
Inreer_1	-0.037*** (-5.61)	0.045*** (4.89)	0.011 (0.43)	-0.037 (-0.90)
Inrgdpo_1	-0.046*** (-5.50)	-0.036*** (-4.59)	-0.122*** (-3.74)	-0.075 (-1.10)
Constant	0.317*** (3.92)	0.598*** (7.24)	1.210*** (3.87)	0.469 (0.73)
Country and Time FE	yes	yes	yes	yes
Observations	954	707	173	72
R-squared	0.389	0.545	0.459	0.569
Number of code	37	32	15	10

Source: Author's regressions

t-statistics in parentheses

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

Countries are differentiated by income level (GNI per capita), those with a higher income level are the most developed one

**Table A5.** OECD countries distributed by level of Economic Concentration

**High**

$1 > X > 0.75$

**Upper- Middle**

$0.75 > X > 0.5$

**Lower Middle**

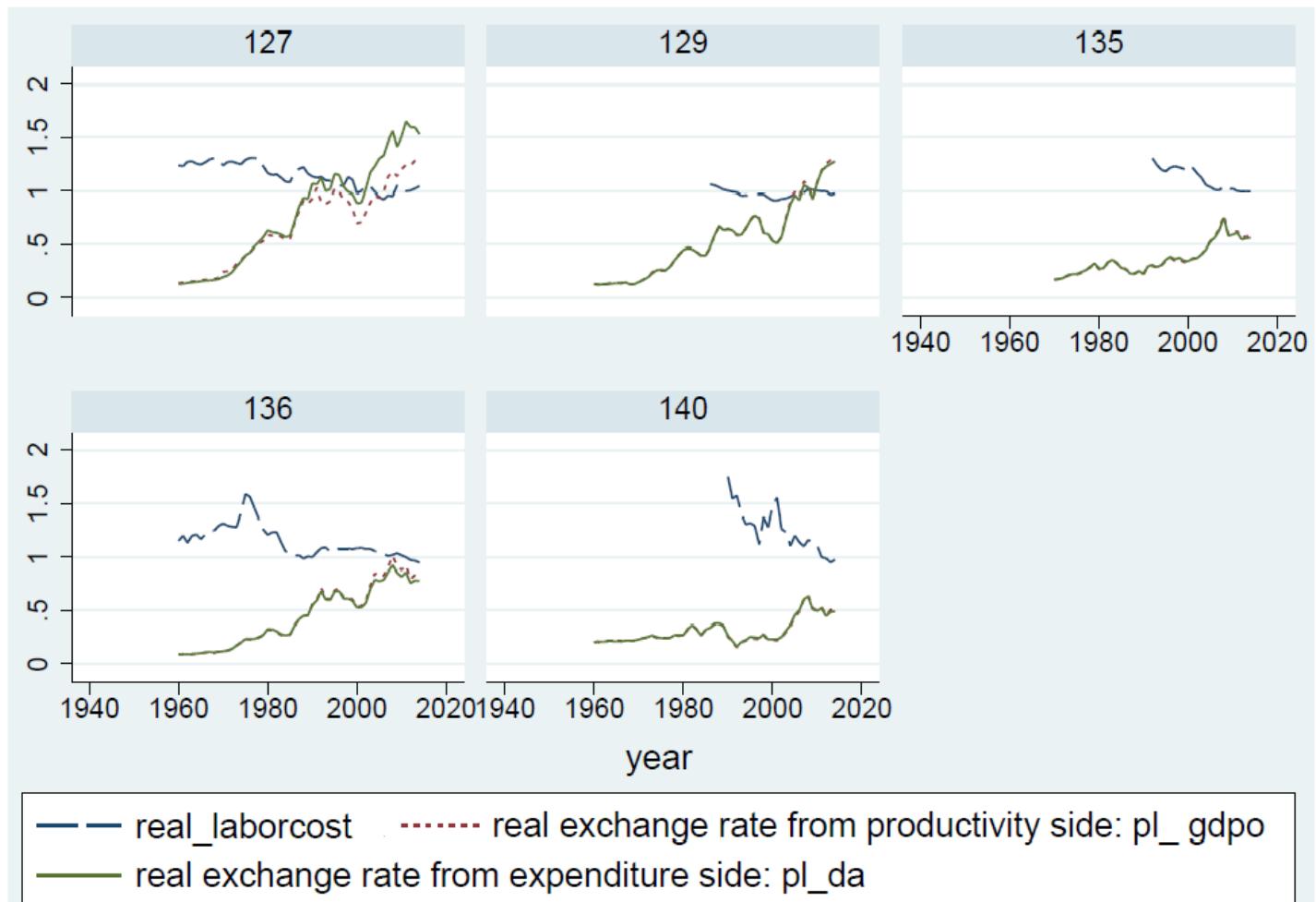
$0.5 > X > 0.25$	Chile	Iceland	Israel	Norway
<b>Lower</b>				
0.25 > X > 0	Australia	Austria	Belgium	Canada
	Switzerland	Czech Republic	Germany	Denmark
	Spain	Estonia	Finland	France
	United Kingdom	Greece	Hungary	Ireland
	Italy	Japan	South Korea	Lithuania
	Mexico	Netherlands	New Zealand	Poland
	Portugal	Slovak Republic	Slovenia	Sweden
	Turkey	United States		

Source: Author calculations

UNCTAD concentration index indicates on a scale of 1 to 0 how diversified is export of countries.

The classification here observed is based on the average value obtained by each country.

**Figure A0.** Real Unit Labour Cost and Real Exchange Rates (Productive and Expenditure Sides)

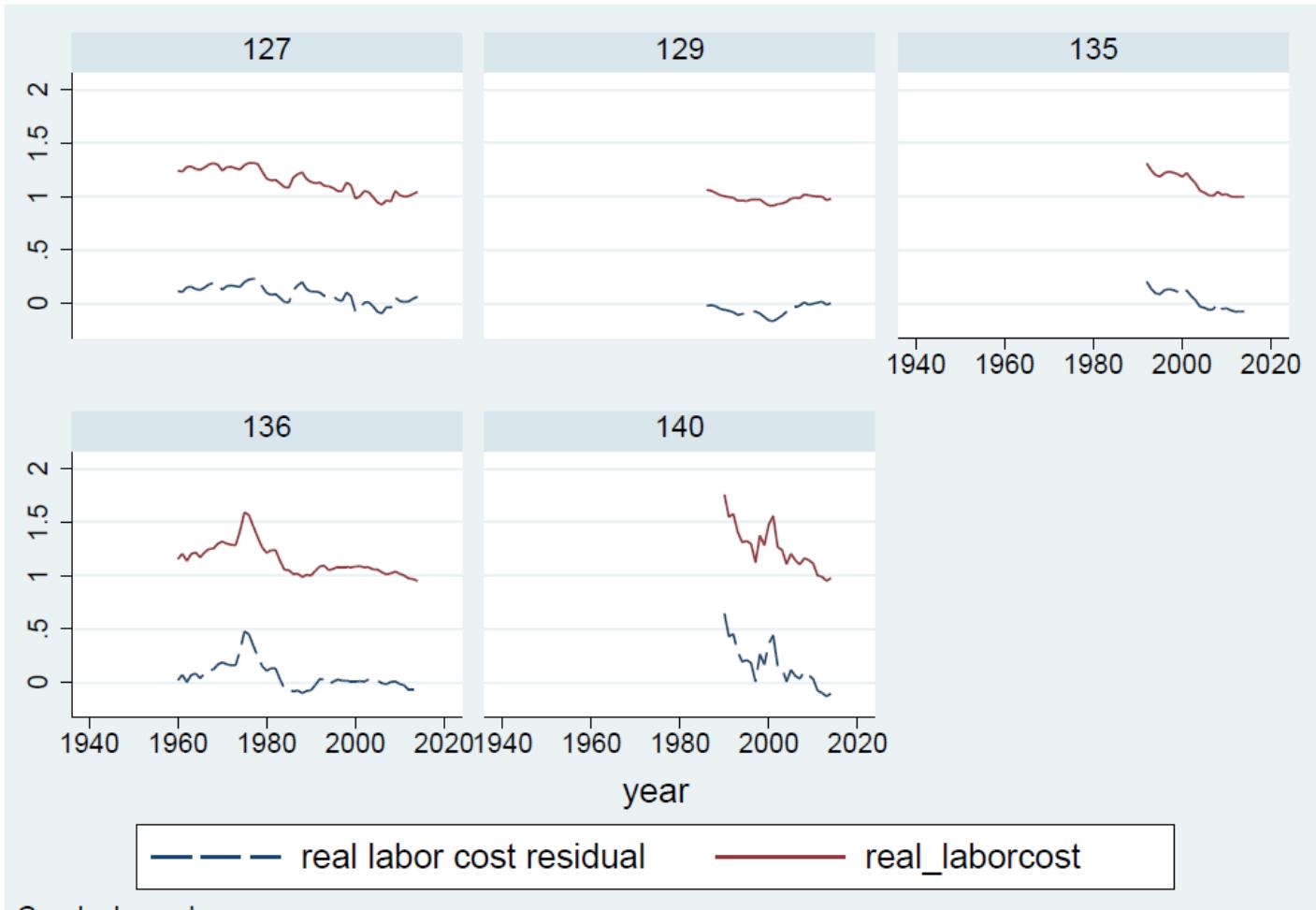


#### Graphs by code

Source: Author

- real\_labor cost = Real Unit Labor Cost/100 (it has been divided by 100 to fit the scale)
- the curves are from original data (these variables are inverted in the empirical analysis)
- "Code" represents the number associated to each country (127: Norway; 129: New Zealand; 135: Poland; 136: Portugal; 140: Romania)
- The countries here represented have been chosen randomly but, for all the other countries, the real\_labor cost and Real exchange rates have different shapes

**Figure A1.** Curves of Real Unit Labour Costs

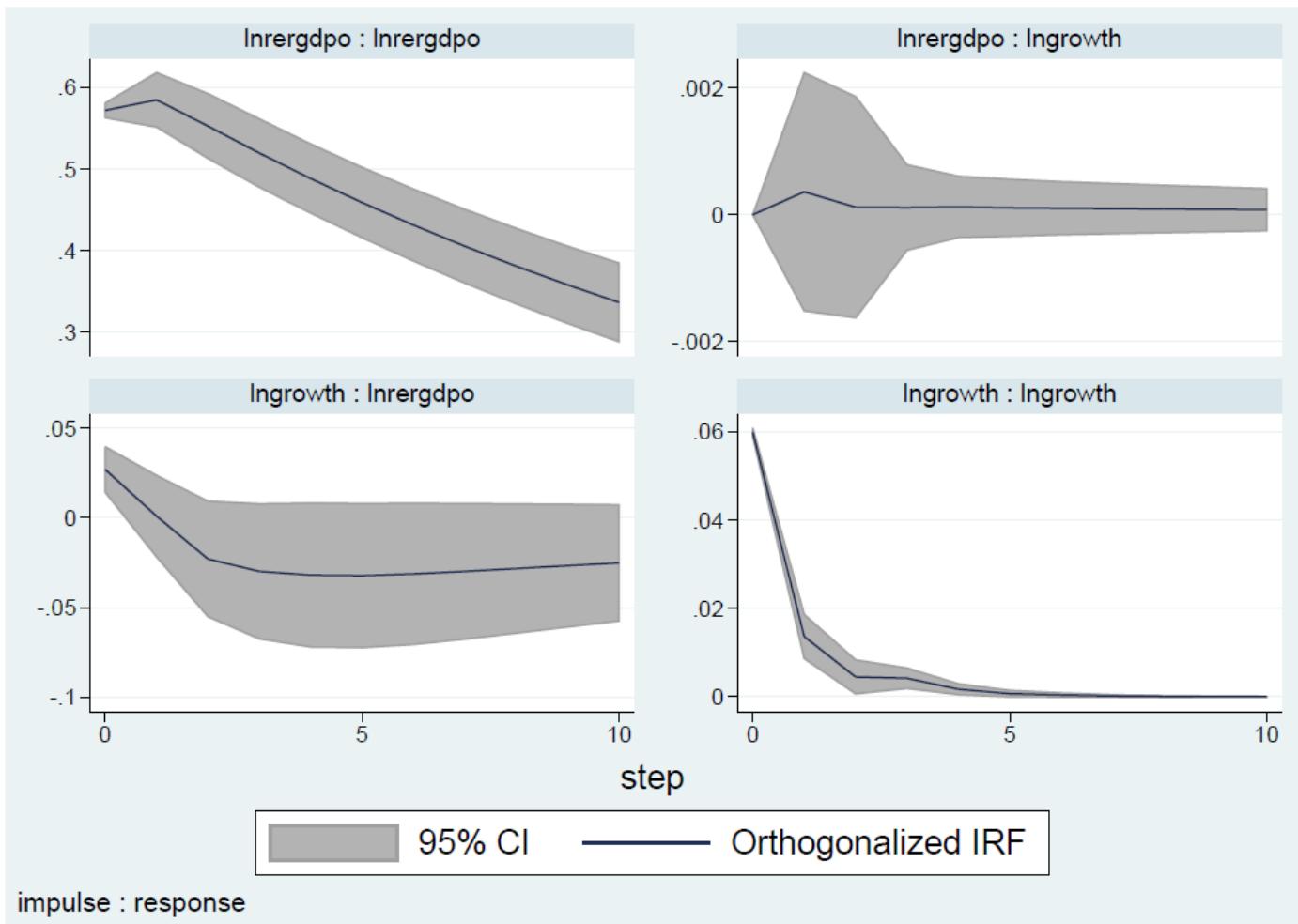


#### Graphs by code

Source: Author

- a. real\_labor cost = Real Unit Labor Cost/100 (it has been divided by 100 to fit the scale)
- b. real labor cost residual is not affected by the fluctuations of Real Exchange Rate
- c. "Code" represents the number associated to each country (127: Norway; 129: New Zealand; 135: Poland; 136: Portugal; 140: Romania)
- d. Both curves have the same shape, therefore, the original one can be used in empirical analysis

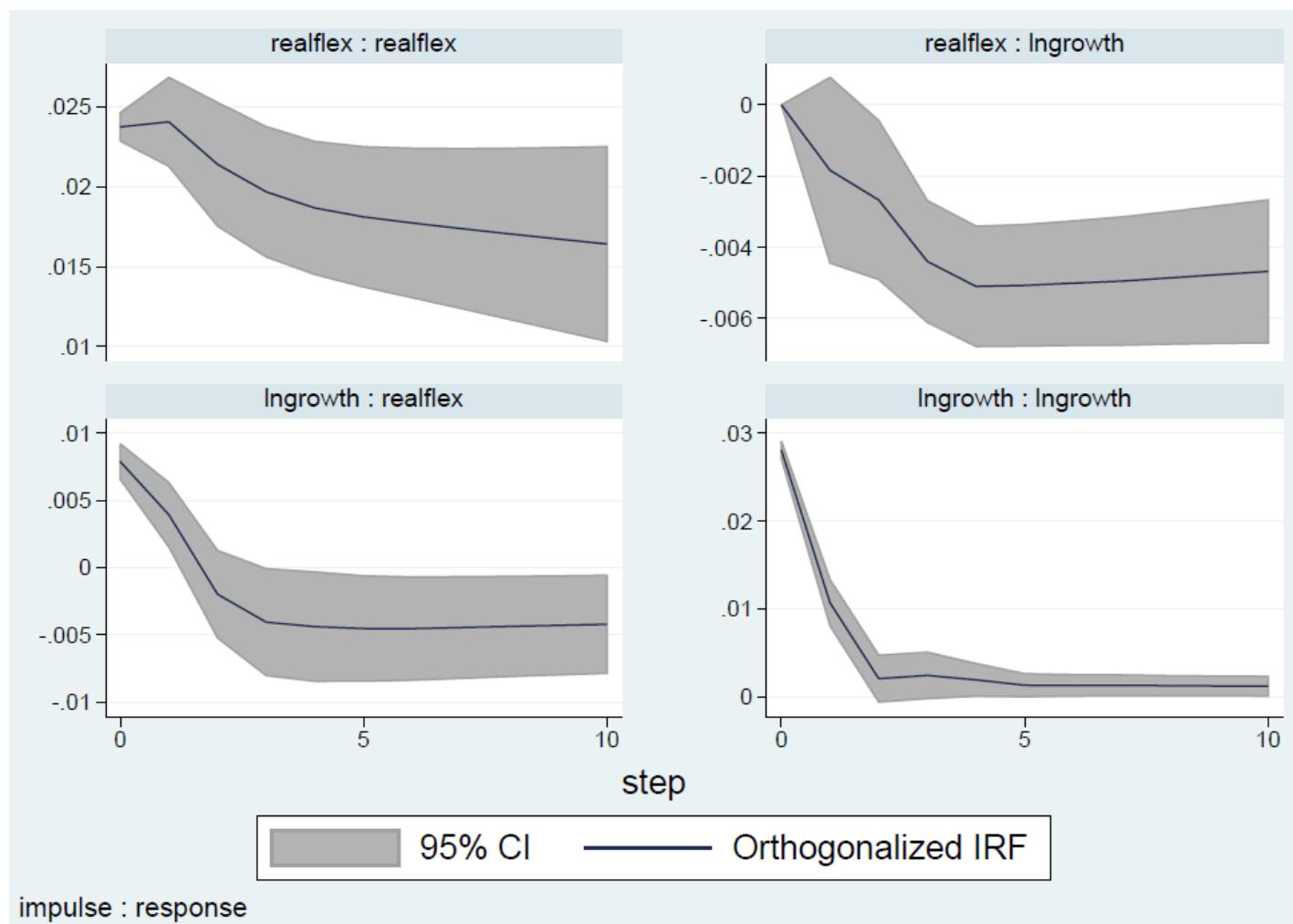
**Figure B0.** Impulse Response Function of Economic Growth Rate and Real Exchange Rate



Source: Author

In growth = GDP per capita growth rate; Inrergdpo = GDP productivity side Real Exchange Rate

**Figure B1.** Impulse Response Function of Economic Growth Rate and Real Unit Labour Costs



impulse : response

Source: Author

In growth = GDP per capita growth rate; realflex = Real Unit Labour Costs

## **Chapter 3:**

### **3. Trust and Government Policies**

#### **Abstract**

Based on the implications derived from Putnam historical trust perspective explaining how trust impacts the way societies are governed, this paper analyzes whether countries' trust level influences the effect that the implementation of restrictive policies has on individuals' confidence in government and change of government. Through cluster models analyses I study whether cuts in government spending and increases in taxes income hurt the government in power. I find that in high trusting countries, the implementation of such restrictive policies does not decrease people's confidence in government or generate changes of government during crisis periods.

**Keywords:** Social trust, Political Trust, Restrictive Policies, Duration of a Government

### **3.1. Introduction**

The main objective of this paper is to determine the repercussions of the implementation of restrictive policies have on people's confidence in government as well as how long a government stays in power.

After the 2008 financial crisis, many European countries implemented labor market reforms in order to stimulate economic growth. Even though the economic context and macroeconomic specificity of the European Union justified that approach, countries not being able to depreciate their currency, many of the governments implementing those policies lost the following elections.

When Uslaner (2004) said that trust, not honesty, seemed to produce better government performance, more redistribution, and economic growth, he was reminding the importance of trust in politics, economics, and societies.

The erosion of trust in democratic societies has contributed to a climate of political malaise in which it is increasingly difficult for leaders to govern and meet public demands and expectations (Hetherington, 1998). Distrust has been shown to reflect dissatisfaction not only with the incumbent party but also with political parties in general; the policies choices they provide to voters have revealed broader discontent with the political system (Miller and Listhaug, 1990).

Based on Putnam's historical perspective of trust arguing that the social capital (trust as results of civic norms and values) developed, over the years, in a society sets the quality of institutions governing it, this paper tests whether the implementation of restrictive policies hurts the government in power given the spread of generalized trust in a particular country.

The research question is addressed in two ways. First, I study whether increases in income taxes and cuts in government spending affect individuals' confidence in the government. Second, I compare the political cost, measured in term of change of government that such policies might generate. For both analyses, the effects that the policies have at the aggregate level are compared with their effects when splitting the

sample between high and low - trust countries as well as for the pre and post-crisis periods.

I use cluster analysis model with time and country fixed effects, being country the reference parameter. To determine restrictive policies repercussions on individuals' confidence in government I control for some macroeconomic and individuals' characteristics. Whereas, to establish policies outcomes on the change of government, I apply a function taking into account individuals' characteristics, setting plausible voters' characteristics, government specificities, and the macroeconomic situation of each country.

The benchmark regression, at the aggregate level, shows that none of the policies has a significant impact on individuals' confidence in the government. Splitting the sample, results show that the loss of confidence generated by the implementation of the policies is lower in high trusting countries. With respect to how long a government stays in power, the aggregate analysis shows that cuts in government spending lead to more changes in governments being the response higher in low trusting countries, especially during the crisis. These results with Putnam's explanation reveal that in countries with deep trust's values and norms, governments have an intangible credit allowing them to implement restrictive policies without damaging the institution they represent or influencing the duration of the mandate.

The structure of the paper is as follows. The literature section provides a brief overview of research addressing the concept of trust and its implications in politics with a special mention to Putnam's approach. The data analysis section describes the data and econometric models. Main results and concluding remarks are given next.

### **3.2. Literature**

Trust is a poorly defined concept that is often used as an asset helping to manage the uncertainty presents in social interactions, transactions, and decisions. Trusting individuals have an optimistic disposition and believe in the possibility of cooperation with others while distrusting ones tend to be misanthropic, pessimistic and suspicious of others (Mondak, Hayes, and Canache, 2017; Uslaner, 2002).

The idea of trust, especially how it is built and spread at the individual and social level, has interested researchers from different specialties. Newton et al. (2017) present a brief review of the different existing perspectives.

Psychology defines trust as a core personality characteristic of individuals. Just like any other “virtue”, trust or distrust learned in early childhood might be modified in later life only by hard experiences and traumas (Glanville and Paxton, 2007).

From sociology, trust or distrust are explained by social causes such as education, income, social class, ethnic and religious background, and belong to a majority or minority. This conception of trust comes to say that trust takes into account similarities; people trust those they feel close to (Franklin and Janoff-Bulman, 1990; Helliwell and Huang, 2011; Jen, Sund, Johnston, and Jones, 2010).

There are scholars who have adopted a broader approach based on properties of whole societies or communities. Contrary to the two previous approaches, trust is perceived as a consequence of social parameters such as the social concept, the national institutions, and the system of government (Kawachi, 2017; Kumlin, Stadelmann-Steffen, and Haugsgjerd, 2017). Therefore, in addition to the individual's social context, institutions also help to mold trust through the rules and laws that they dictate.

Finally, there is a more strategic or rational approach stating that trust varies depending on the context and the object. According to the issue, individuals adjust their level of trust. Trust is then explained by a simple formula in which A trusts B to do X in Y circumstances (Hardin, 1992). Trust implies taking a risk with others, therefore, a distinction will be made between trust and trustworthiness.<sup>38</sup>

In short, besides there exist several theories explaining trust origins, all of them suggest that individuals' level of trust and distrust varies over time. In the psychological and social approaches, trust's changes are the cause of personal experiences, whereas in the broader and strategic ones, the sense of trust or distrust changes when external circumstances change.

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<sup>38</sup> Somehow, trust involves trustworthiness because when someone expresses trust towards others he is assuming that others are trustworthy.

### **3.2.1 Social trust and Political trust**

Previous literature on trust differentiates social trust from political trust. While social trust refers to trust which is developed in social interactions with the people we live with, political trust is associated to trust in public institutions.

Social trust combines two types of individual trust. There exists a personalized trust which is acquired with family and people we know, and a generalized trust which is developed with those we meet in daily life interactions (Stolle, 2002). In a similar way, political trust distinguishes trust in the neutral and impartial institutions of the state from trust in a national and international organization (Rothstein and Stolle, 2008; Van Deth, 2000).<sup>39</sup>

Trust in people and trust in government are based on different foundations. The former reflects long-term optimism, the latter short-term outcomes and the evaluation of particular leaders (Uslaner, 2002).

Both, social and political trust, have beneficial effects on societies, economics, and politics. Social trust has proved to have a positive effect on economic growth (Knack and Keefer, 1997), by making the formulation and application of public policies easier, as well as, raising taxes to pay for them (Rothstein, 2005), and controlling corruption and the bureaucratic quality (Laporta et al., 1997).

Political trust leads to higher levels of tax compliance (Chan, Supriyadi, and Torgler, 2017), stimulates political turnout (Hooghe, 2017), and increases the likelihood that citizens will overcome social dilemmas (Rothstein, 2000).<sup>40</sup>

One of the big issues scholars have dealt with when comparing social and political trust is establishing a cause and effect relation. There is a general perception that generalized trust is a corollary of political trust (Hall, 1999). Nevertheless, contrary to such social capital theories, individuals expressing a high level of social trust (interpersonal trust) do not necessarily do the same for political trust (institutional trust).

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<sup>39</sup> At the partial institution level, where civic services and the parliament or political parties are evaluated, trust in the courts or polices is stronger than trust in the organization of government.

<sup>40</sup> See (Belanger and Nadeau, 2005)

Newton et al. (2017) remember that the mechanism linking institutions with individual trust is not well understood, but it seems that they work at two levels:

*"At the elite level, democracy is a "set of institutions designed for knaves" that constrain politician leaders to behave in a trustworthy manner that is accountable and responsive to the electorate."*

*"At the mass level, the police and courts enforce trustworthy behavior among citizens who are given the same set of rights and duties"*

Therefore, although social and political trust are different in content, social trust contributes to good government, and good government affects everyone, independently of the propensity to trust or distrust.<sup>41</sup>

### **3.2.2. Trust, Politics, and Elections**

Built on the premise that political trust is conceived as a general evaluative orientation towards the government, based upon citizens' normative expectations of government operation and effectiveness, political parties are the main representational link between citizens and governments, and therefore, elections constitute one of the democracy's central cornerstones selecting the next government (Dennis and Owen, 2001; Stokes, 1962).

As Manin et al. (1999) highlight, governments make thousands of decisions that affect individual welfare and citizens have only their vote as an instrument to control these decisions. While citizens cannot directly influence political decisions, elections serve as a key mechanism of political representation and accountability. Choosing a new president is a reasonable approach to bringing about a potentially more trustworthy government (Citrin and Green, 1986).

Voters want a government they can trust to do what is right, that does not waste too much money, that is run for all people rather a few special interests, and that is honest. To more they believe their government fails to meet these ideals, the more should be willing to change it (Hetherington, 1999). Knowing that the context always

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<sup>41</sup> Trust in the law is one of the few areas that depend equally on political trust and social trust (Uslaner, 2017).

matters, Markus (1988) suggests the importance of the economic indicators and voters' perceptions' of the economy on the elections' results.<sup>42</sup> He indicates that political trust has a significant positive effect when only two candidates pursue the elections; high trust will be associated with voting for the incumbent.

The president much more than the Congress receives praise or blame for the policies that are undertaken. The costs or benefits of presidential policies tend to be attached to their respective political party even if the incumbent president does not necessarily seek such correlation. (Meltzer and Vellrath, 1976). In line with that, Nordhaus' model (1975) concludes that politicians stimulate aggregate demand before elections in order to create fast growth and reduce unemployment.<sup>43</sup> Even partisan politicians, regardless of their ideology, may engage in opportunistic behavior if, by doing so, they can increase their chances to reelection.<sup>44</sup>

Governments use the policies as political instruments. Tufte (1978) presents evidence of manipulation of the timing of fiscal instruments, in particular transfers, and evidence of monetary cycles; contrary to Bizer and Durlauf (1990) who support a political budget cycle. Alesina and Roubini (1992) find that there are electoral cycles on monetary and fiscal policy instruments. Their paper shows that politicians try to avoid restrictive monetary and fiscal policies in election years and occasionally these are openly expansionary.

It has generally been assumed that there is a trade-off situation for governments between addressing restrictive policies, such as fiscal constraints, and losing voter

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<sup>42</sup>Recent research on government performance shows that perceptions of the economy are politically conditioned and partly endogenous (Anderson, 2007). Voters do not form performance rating on an objective information basis but rely on their partisan beliefs to tell whether the economy is going well or not.

<sup>43</sup>Nordhaus' political business cycle model has been tested in two ways: testing policies outcomes on output growth, unemployment or inflation, and testing the political instruments used (money growth, taxes, transfers, and government spending). While the first approach rejects the political business cycle, the second one has yielded mixed results.

<sup>44</sup>See (Cukierman and Meltzer, 1986; Rogoff, 1987; Rogoff and Sibert, 1988). This body of research finds different empirical results to the Nordhaus' model and has made two important ideas. The first one being that politicians may find easier and electorally rewarding to print money and postpone tax increase (among other policies), than reduce the rate of unemployment in the election year. The second one being that it is a rational strategy for the voters to judge the incumbent's performance based upon pre-electoral economic conditions.

support. Pierson (1994, 1996) states that voters will punish the incumbent parties and governments risk to be voted out of office if they insist on pursuing welfare retrenchment. This perspective is reinforced by Van de Walle and Bouckaert's (2003) idea that performance is not the only criterion citizens use to evaluate governments. Recent evidence suggests there exists no direct connection between the retrenchment activities of a government and its success at the subsequent elections (Armingeon and Giger, 2008; Giger and Nelson, 2011; Schumacher, Vis, and van Kersbergen, 2013).

Such contradictory results come to say that when rating a government, apart from the performance, people bear in mind other relevant aspects like the way important issues were dealt with (Bartle, 2005; Giger, 2012). In fact, there exists a large variety of topics people rate important (immigration, unemployment, and growth among others). Therefore, according to the political or economic situation, governments may decide to avoid cuts until the economic or political climate deteriorates sufficiently (Vis and van Kersbergen, 2007). However, when the panorama does not allow retrenchment policies, there are “blame avoidance strategies” avoiding being punished at the polls (Hering, 2008; Hood, 2002).<sup>45</sup>

In the era of permanent austerity, the partisan politics on welfare state issues prevails. Giger and Nelson (2011) summed up the vast literature of partisan politics in four approaches:

The new politics perspective recognizes that some governments want to retrench and succeed in doing so. But, the central implication of a large welfare state constituency is that no party will dare place retrenchment squarely on its agenda and that retrenchment will occur when blame strategies are on hand to limit the electoral fallout (Huber and Stephens, 2001; Kittel and Obinger, 2003).

The old politics suggest that parties of the secular center and the right rely on constituencies that support retrenchment in order to secure lower taxes (Huber, Ragin, and Stephens, 1993; Van Kersbergen, 1995).

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<sup>45</sup> The blame avoidance literature provides a rich number of concepts with which to analyze the retrenchment process, but the assumptions underlying this literature are too strong.

For others, new dynamics of political competition have given way to the rise of market liberal parties whose constituency is relatively tolerant of retrenchment (Kitschelt, 1994).

Finally, the “Nixon goes to China” perspective sees voters evaluating retrenchments in light of their historic commitment to social justice. This approach, contrary to the previous ones, does not assume self-interested voters (Ross, 2000).

Trust, politics, and elections are intrinsically related. To stay in power in a democratic system the government needs voters' support. Citizens support does not only depend on government effectiveness on the economic, political or social arena but on how they had perceived government's trustworthiness during the mandate, especially the election year.

### **3.2.3. Economic Voting Literature**

Many scholars have analyzed the relationship between government popularity and macroeconomic performance suggesting that voters are very sensitive to the economic situation (B.S. Frey and Schneider, 1979; Kramer, 1971).

The main theory inspiring this approach is the reward-punishment hypothesis stating that the electoral hold the government responsible for past actions by voting for the incumbent when they approve the past performance and throwing it out when they do not agree with their record in the last term (Key, 1966).<sup>46</sup>

Scholars have addressed the issue of partisanship showing that left parties gain from high unemployment not matter whether they are in government or not, whereas right parties gain from high inflation (Swank, 1993).

This literature has paid a lot of attention to the consequence that the structure of the party system may hold on the fate of the incumbent government. On one side, the degree of party fractionalization influences the capacity of the governing coalition to disperse responsibility for reforms. On the other side, fragmented party system,

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<sup>46</sup> The retrospective voter assumption has been justified theoretically and empirically (Fiorina, 1981; Kiewiet, 1983).

characterized by a large effective number of parties, should make it more difficult for voters to identify a clear alternative to the incumbent government (Anderson, 2000).

### **3.2.4. Trust from Putnam's historical perspective**

Putnam's work on trust has inspired several papers. I implement Putnam's conception of trust throughout this work and, therefore, an overview of the concept in addition to the outcomes it generates is provided in the paragraphs that follow.

Putnam's conception of trust can be understood as a combination of the broader perspective with certain dyes of both psychological and social perspective. In his view, trust in government does not only depend on its performance. It mainly depends on people's degree of identification with the government apart from cultural or social factors as well.

The institutional inequalities observed among Italian regions made Putnam wonder if societies have the institutions they deserve. In his book "Making democracy work" Putnam (1993) concluded that the performance of a regional government is closely related to the civic character of social and political life experienced over the years within the region.<sup>47</sup>

The differences of trust and civic norms observed over time between the northern and southern regions, made him realize that individuals are able to trust because of the social norms and networks within which their actions are embedded. This specific approach is the one explaining why trusting societies are count with good governments, the absence of corruption, and low-crime (Helliwell, Huang, and Wang, 2017; Newton et al., 2017).

As he highlighted in the last chapter, when individuals have lived in an environment of great confidence for a substantial period of time and have developed shared norms and patterns of reciprocity, they possess social capital which builds institutional arrangement resolving common-pool resources dilemmas. In fact, repeated exchange

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<sup>47</sup> Liu and Stolle (2017) suggest that the strength of the association between social trust and political trust may vary according to historical period.

over a period of time tends to encourage the development of norms of generalized reciprocity.

In line with the strategic or rational account of trust, previously explained, and considering Hardin's theory (2002) seeking to prove that someone will trust another when there is adequate reason to believe that the latter has enough interest to be trustworthy, it can be said that, in a repetitive game, such as the elections, the reputation of either the government or political party determines the trust that voters will have on them, and therefore, on their policies.<sup>48</sup> Putnam suggests that it is more likely to obtain a good government when, socially, trust is explained by a psychological propensity formed in early childhood and by social learning from more contemporary trust experiences.

When the moment comes to solve a common-pool resource dilemma, such as economic growth, affecting all strata of society, governments have to implement policies that can harm some for the benefit of all. In that sense, the spread of generalized trust and the confidence in government, based on how it dealt with other problems, are resources that somehow temper the shock of the policies implemented (Alesina, Cohen, and Roubini, 1992; Hetherington, 1998; Meltzer and Vellrath, 1976; Miller and Listhaug, 1990).

Following Putnam' historical approach, trust, or better said, the cultural experience of trust over the years, not only determines how a society is governed but also who governs it. This specific link between individual trust and government trust is one of the centerpieces explaining why some countries have healthier democracies.

### **3.3. Research Question and Hypotheses**

The relevance of trust in politics and economics is something societies and institutions increasingly assume. Social capital literature has broadly studied trust's influence on the good governing of a society and its economic growth (Bjørnskov, 2017; Uslaner,

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<sup>48</sup> You (2012; 2017) as Putnam agree on a former social explanation of trust. Trusting individuals are more inclined to act in a trustworthy manner; moreover, the average level of interpersonal trust in a community tends to influence the average level of trustworthiness of the people in the community positively. Thus trust and trustworthiness will likely reinforce each other.

2004). This paper seeks to test whether the repercussions generated by the implementation of restrictive policies on the government in power might be altered given countries levels of trust.

To frame the research questions, we have to remember that as well as the economic context matters for people's support to government policies, civic context matters for the way institutions work and more precisely how some policies are perceived by the population (Inglehart, 1997). As it has been confirmed during several economic crises over the years, especially the last one in 2008, it is easier to a government to raise taxes or cut government spending when the economic context allows it and the social values and traditions shared in the societies help to mitigate the outcomes of the initiative.

In point of fact, civic traditions are a uniformly powerful predictor of present levels of economic development due to their repercussions on social welfare and institutional performance (Knack and Keefer, 1997).

Among all the civic norms which guide societies, reciprocity is the one that links social trust with trust in government. When generalized, reciprocity as a norm serves to reconcile self-interest (such as the desire of a given government to stay in power and to win the elections) and solidarity.

People acting in a system of reciprocity are characterized by a combination of short-term altruism and long-term interest. By adhering the reciprocity norm, any government will reinforce social in the short-term and confidence in government in the long-term (Putnam, 1993). A good example of the previous reasoning is taxation. While the horizontal trust comes from the relationship between citizens, vertical trust represents the interactions between citizens and the state, which includes trust between taxpayers and the state (Fischer and Torgler, 2007; Frey and Torgler, 2007).<sup>49</sup>

When studying whether government policies penalize the government in power, we must differentiate the impact that such policies have on the institution that government represents and the price paid by the government implementing them.

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<sup>49</sup> Such vertical trust is based on reciprocity (Chan et al., 2017).

Knowing that civic communities are those where the stocks of social capital, such as trust and norms, tend to be reinforced and cumulative, induces to think that, in high trusting societies, neither the confidence in government nor the duration of governments relies upon the unpopularity and roughness of the policies implemented.

The intrinsic civic norms and trust values of high trusting societies, as a result of the reciprocal trust experienced over the years between the government and society, should firstly guarantee that individuals' confidence in government does not vary, and secondly, that changes of government do not depend on which policy is implemented.

Therefore, considering the trust literature, the political cost associated to restrictive policies, and especially, the relevance that government reputation has generating trust among players of a repetitive game, such as the political elections, I come up with two hypotheses.

Hypothesis 1: in high trusting societies, due to the reciprocity existing between institutions and society, individuals' confidence in government should not be affected by the policies implemented.<sup>50</sup>

Hypothesis 2: in high trusting societies, the length of time a government stays in power does not rely on the policies implemented.

While the first hypothesis focuses on whether the confidence in government, as an institution, is affected when governments implement restrictive policies; the second one compares the political cost, represented by the change of government that the implementation of restrictive policies generates. To investigate both hypotheses and compare the outcome that the implementation of restrictive policies causes, I have classified countries in two groups, high-trust and low-trust.

To totally understand the research question, it must be remembered that the implications deriving from Putnam's historical perspective of trust lead to expect that,

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<sup>50</sup> The term confidence may be more appropriate for a belief in the competence of the other party, but people often use the term trust and confidence interchangeably. In particular, institutional trust usually implies confidence not only in the integrity and fairness but also in the competence of institutions (J.You, 2017). Government trust is more strongly linked to diffuse support towards institutions and the political system than to partisan oriented attitudes or policy preferences (Chanley, Rudolph, and Rahn, 2001; Peterson and Wrighton, 1998).

in high trusting societies, the confidence citizens have in the government as an institution is a credit allowing any government, independently of its political orientation, to implement restrictive policies whenever necessary without affecting how long it could stay in power. If my hypotheses are confirmed, this paper will be proving that, notably in high trusting countries, based on their confidence in government and aware of the economic context, voters contextualize the policies and even without agreeing with them, do not punish the government that implements them.<sup>51</sup>

In fact, if the hypotheses defended in this analysis are true and in high trusting societies the implementation of restrictive policies, such as increases in income tax or cuts in public spending, do not have a relevant impact on individuals' confidence in government or how long a government stays in power would reinforce Putnam's historical trust perspective directing relevance to social trust for a better governing of a society. It would mean that social trust allows governments to implement the policies they consider appropriate, in particular, the unpopular ones, without being biased by the elections.

On the contrary, if the first hypothesis is wrong and we observe that at the aggregate, and principally in high trusting countries, individuals' confidence in government decreases with restrictive policies, it would mean that government's policies are more important than social norms when solving common-pool resources dilemma such as economic growth.<sup>52</sup> While if the second hypothesis is wrong and the duration of a mandate depends on the policies implemented, it would mean that government policies are more important than trust. Such a combination of results would contradict Putnam approach by proving that trust is caused by the policies per se rather than social norms and values.

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<sup>51</sup> The last assumption made about people's comprehension comes from You (2017) when arguing that the trustworthiness of a person is reflected in characteristics such as honesty, fairness, benevolence and competence.

<sup>52</sup> Oskarsson (2010) defend that there may also be an interaction between level of social trust and government performance that affects changes in political trust.

## **3.4. Empirical Analysis**

### **3.4.1. Data**

In this paper, I work with data from several databases as the World Value Survey (WVS), the World Bank, and the database of political institutions. From the WVS I obtain the dependent variable used in the first hypothesis along with individual controls. From the political institution's database, I will use government controls and create the second dependent variable determining a change of government.

From the World Bank economic indicators, I obtain macroeconomic indicators such as the GDP per capita, the unemployment rate, the Consumer Price Index, the government final consumption (% of GDP), the taxes on income, profits and capital gains, and the Gini coefficient. From the Frasier Institute (Economic Freedom of the World) I use the variable size of the government which measures the degree to which a country relies on personal choice and markets rather than government budgets and political decision making (the lower its value, the lower the government' decision making).

While for the first hypothesis I will be working with a database composed of individuals' survey answers and macroeconomic variables, for the second one, I include political institutions variables. For this research, I only consider OECD's countries for a period of time ranging from 1980 to 2014.<sup>53</sup>

The analysis is reduced to the OECD countries because all of them are democracies and economically speaking, most of them are high-income economies regarded as developed economies. Besides countries' differences, the sample of countries allows comparisons without much dissonance.<sup>54</sup>

### **3.4.2. Econometric Methodology**

To study both hypotheses accurately, I have to control for several other factors potentially influencing the links. Only with such specification of the model can it be

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<sup>53</sup> Variables definitions and statistics in appendix (Table A0)

<sup>54</sup> Choosing OECD countries, I assume high degrees of similarity between countries, but in this case such sacrifice is required not only to run a better analysis in term of sample of countries, but especially because it is the group of countries for which there is more data available. (TableA1 in the appendix)

assured that the effects I find can be attributed to the variable of interest and not some spurious correlation.<sup>55</sup>

I test both hypotheses with a cluster analysis with time and country fixed effects being the country the reference parameter.<sup>56</sup>

The first hypothesis' equation analyzing the impact of restrictive policies on individuals' confidence in government is as follows:

$$(1) Y_{ict} = \alpha + \gamma_1' \ln \text{govconsumption\_growth}_{t-1} + \gamma_2' \ln \text{taxincome\_growth}_{t-1} + \gamma' Z_{ct} + \beta' X_{ict} + a_t + a_c + \varepsilon_{ict}$$

Where  $i$  denotes persons,  $c$  the country, and  $t$  the year;  $a_t$  and  $a_c$  respectively represent time and country fixed effect.

The dependent variable  $Y_{ict}$ , measures individuals' confidence in the government. In the survey (WVS), people had to choose between several options to which I have assigned different values ranging from 1 to 4 (the lower the value, the lower the confidence in government).

As main explanatory variables, I use the growth rate of the general government final consumption expenditure represented by  $\ln \text{govconsumption\_growth}$ , and the growth rate of the taxes on income, profits and capital gains represented by  $\ln \text{taxincome\_growth}$ . To facilitate the comprehension of the different tables, I use the inverse of the government final consumption to clearly express that the higher its value, the higher the government's cuts.<sup>57</sup>

$X_{ict}$  englobes the individual control (age, level of education, unemployed (yes=1, no=0), the income level, and the social trust (*most people can be trusted?* (Yes= 1 no=0)). Classifying countries by average trust level, the equation requires a social trust

<sup>55</sup> To control for endogeneity and collinearity issues in the model, I established a maximum degree of correlation of 0.3 among the individual and institutional controls.

<sup>56</sup> I use a linear regression model. The “areg” regression, on STATA, fits a linear regression absorbing one categorical factor. This type of regression has been often used to run cluster analysis; by introducing a reference parameter, I am assuming the Moulton (1990) bias.

<sup>57</sup> This measure is maintained in all the analyses. I decided to use these policies because unlike other, changes of either of them must come from government decision. It is very complicated that an external variable changes them; therefore, historical track of the policies is not needed.

control at the individual level. To mitigate the cause and effect issue highlighted in the literature, I use trust's residual.

$Z_{ct}$  represents the economic cycle control determining how many periods, in annual terms, the economy has been in recession.<sup>58</sup>

To tackle the second hypothesis made about the change of government generated by the implementation of restrictive policies, I set the following model:

$$(2) \Phi_{cti} = \alpha + \gamma'_1 \ln \text{govconsumption\_growth}_{t-1} + \gamma'_2 \ln \text{taxincome\_growth}_{t-1} + \gamma' M_{ct} + \beta' I_{cti} + \varphi' P_{ct} + a_t + a_c + \mu_{ict}$$

Here as well,  $c$ ,  $t$ , and  $i$  respectively stand for the country, the year, and individual with  $a_t$  and  $a_c$  as time and country fixed effects.

As mentioned previously, the dependent variable  $\Phi_{ct}$  is a dummy variable determining the change of governments as a result of the elections.<sup>59</sup>

The main explanatory variables still being the restrictive policies represented by *lngovconsumption\_growth* and *lntaxincome\_growth*, both with one year lag. All the other macroeconomic variables are represented by  $M_{ct}$ , which includes the GDP per capita as converge term, Consumer Price Index, and the unemployment rate at the beginning of the period. I use the CPI, instead of the rate of inflation, to capture the changes in purchasing power because it is the indicator used by the vast majority of the population to set the inflation level.

In  $I_{cti}$  are represented some characteristics of potential voters. As highlighted in the literature section, voters' self-interest and partisan policies make necessary to control for individual's factors such as income, education level, unemployed status, and confidence in the government.

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<sup>58</sup> In the analyses I use it with one year lag to capture the economic cycle at the beginning of the period.

<sup>59</sup> During the pre and post-crisis periods, the average change of government is higher in the high trust countries (Table A2).

Here again, I use a linear regression model. Normally, when using a binary dependent variable, it is recommended to use a logit or probit model. As happens with the GDP, our main explanatory variables are fairly constant over time. Such a level of no within-group variance does not allow using clustering probit or logit models. (Graphs 1 and 2 in the appendix)

$P_{ct}$ , on the other hand, englobes the political institution variables (how many years the chief executive has been in office, political parties' orientation with respect the economic policy, and whether the party of executive control all relevant houses).<sup>60</sup>

The structure of both equations serves as a response to the causality issue proper to the trust literature, especially when studying social and political trust. Using as main explanatory variables, two continuous macroeconomics policies, and as dependent variables, first, individuals' perception, and second, a binary variable, enable to play down the causality question. In fact, while it is more probable that any of the policies influence an individual's confidence in government rather than individual confidence can have a substantial impact on government decisions, it is assumed that dichotomic variables have a lower explanatory capacity on continuous variables.<sup>61</sup>

In order to test whether trust experienced over the years in a given country influences whether the implementation of restrictive policies hurts the government in power, apart comparing the aggregate effects of both policies in the high and low-trust group of countries, I will also take into account the 2008 financial crisis to also see whether an external shock contrasts the aggregate results.

### 3.5. Results

#### 3.5.1. Confidence in Government

Table 1 presents the result of regressing the confidence in the government on government spending and income tax. The main result obtained is that increases in income taxes, in high trusting countries, foster individuals' confidence in the government. Either in the benchmark regression as when analyzed for low trusting countries, the policies have a negative effect on individuals' confidence in government, but in none of them, the effects are significant.

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<sup>60</sup> Working with OECD countries, it is assumed that governments do not stay in power more than what the constitution dictates.

<sup>61</sup> When using survey' variables in a model, it is normal to obtain many significant variables and especially, when the dependent variable is a survey' answer, models with low R squares.

In Table 2, I run the same regressions for the period previous to the 2008's financial crisis (1980-2007). Here, results remain fairly constant, except that in low trusting countries, the policies negative effects are significant.

Table 3 presents the results for the years of the crisis (2008-2014). Two results have to be highlighted, first, in high trusting countries, both policies have a significant positive effect on individuals' confidence in government, and second, although no significant, in all the regressions, increases in taxes income foment confidence in the government.

Compiling the information obtained from the last three tables, it can be said that, only in high trusting countries, independently of the crisis, the implementation of either of our policies fosters individuals' confidence in the government.

To control the robustness of these results and the model as well, I intensify the precision of the model by adding additional variables at both, individual and macro level.

At the individual level, I add controls capturing how important politics is for the individuals, how satisfied they are with their lives, and how autonomous they are when making decisions. The idea behind these specifics controls is to determine whether individuals' characteristics may influence the effect that policies have on their confidence in the government.

At the macro level, I control for the unemployment rate at the beginning of each period, the size of the government, the levels of inequality present in the country, and the government's debt.

Table 4 presents the results of all the robustness checks at the aggregate level (1980-2014). When adding controls, individuals and macroeconomic, the main explanatory variable coefficients' change, but only in two of the cases, they are significant.

Regression by regression, adding more individual characteristics do not change the results. We observe that while the age, the trust, and life satisfaction contribute to the confidence in government, being unemployed or being an autonomous decision making person discourage confidence in the government. Pretty similar results are obtained when controlling for the size of government. None of the policies generate a

significant influence on the dependent variable; independently of how much countries rely on personal choice rather than government budgets and political decision. However, when controlling for inequality or government debt respectively cuts in government spending and raises in income taxes present significant effects at the aggregate level. Considering the number of observations lost when introducing the Gini coefficient or the government debt control, it can be said that the model used in the analysis is robust.<sup>62</sup>

Coming back to the first hypothesis, as shown the different results, cuts in government spending or raises in income taxes, in low trusting countries, tend to decrease the confidence in government, whereas in the high trusting one, when not significant, foster individuals' confidence in the government.

### **3.5.2. Change of Government**

Table 5 presents the results of the second hypothesis. At the aggregate level, as the benchmark regression shows, over years, cuts in government spending have caused more change of government. When considering countries' level of trust, as the trust country regression shows, while in low trusting countries, both policies have a positive impact on the change of a government, in the high trust group, the effect is negative being only significant for the cuts in government spending. The results so far obtained, are confirmed in the pre and post-crisis analysis regressions. While in high trusting countries, in both periods, the policies have a negative effect on the dependent variable, in the low trusting, their effects are always positive.

I think it might be interesting to clarify that there is no relation between the effect that the policies used here as explanatory variables cause on the dependent variables and the number of changes of governments there have been. As table A2 in the appendix shows, in average, there are been more changes of governments in the high trusting

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<sup>62</sup> As Tables B0 show in the appendix, when controlling for inequality and differentiating by countries level of trust, the cuts in government consumption effect observed in the aggregate regression, is not reflected in either group. What we do observe is that raises in income taxes have a higher positive effect in low trusting countries when controlling for the inequality. Table B1, however, confirms our main conclusions, in the sense that when significant, the effect of the policies is worst in the low trust group.

countries, but along with our results, those changes were not caused by the implementation of either of the policies.

Furthermore, as all these regressions reveal, government specificities and macroeconomic aspects, rather than voters' characteristics, are really relevant when explaining changes of governments. The more years spent by the chief executive in the office, the more oriented a party is to the left, and the higher the GDP per capita, the fewer the change of a government. On the contrary, when a government controls all houses, when the unemployment at the beginning of the period increases, when the CPI increases, and the government spending decreases, is when more changes of governments occur.

To check the robustness of this model and its results I run three additional regressions. Firstly, I add as individual control the variable "politics importance" setting whether politics is considered as important in a person's life, and as government control, I take into account if the legislative elections had been held that year, how long the party of the chief executive has been in the office, and how fractionalized (number of government's members from different parties) is the government in power. Secondly, knowing how important is the welfare state in OECD countries, I control for the size of government. Finally, considering the relevance the economy has in politics, I introduce an economic cycle variable determining whether an economy comes from recessions or growth periods.

As shown in Table 6, only when adding individuals and government controls, the signs of our policies change. In fact, with both control variables, size of government and economic cycle, the policies' effects when not significant have similar effects than in the benchmark regression.<sup>63</sup> To determine the implications highlighted by the government controls, I replicated the pre and post-crisis analysis done previously, with the government control as benchmark regression. Table 7, partially certifies the robustness of our results, by showing that during the crisis period, cuts in government spending and raises in income taxes did not incentivize the changes of governments.

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<sup>63</sup> As shows TableB2 in the appendix results remain fairly constant when the policies have two years lags. This reinforce the fact that the impact of either policy does not depend on whether it is an election year or not.

These results agree with Anderson (2000); when voters cannot clearly identify who governs, the incumbent is the one penalized by uncertainty.

This analysis makes clear that cuts in government spending and increases in income taxes cause changes of government. When voters clearly can identify who governs, in low trusting countries, the implementation of either of the policies makes rotate the government in power. During the 2008 crisis, independently of whether governments were fractionated or not, in low trusting countries, both policies caused a higher alternation of government. Therefore, the second hypothesis is partially confirmed, during recessions, the implementation of restrictive policies causes fewer changes of government in high trusting countries.

### **3.6. Conclusions**

In this paper, I test whether the implementation of restrictive policies hurts the government in power given the spread of generalized trust. The hypotheses defended are that, in high trusting societies, the implementation of cuts in government spending or increases in income taxes, should not affect, in one hand, individuals' confidence in government, in the other, determine how long a government stay in power.

The results obtained in the analysis confirm clearly the first hypothesis and partially support the second one. While individuals' confidence in government tends to vary less, in the high trust group of countries, when implementing the policies, depending on how fractionated is a government, the aggregate effect generated by the policies varies among countries. What it is clear is that during the crisis, in high trusting countries, the implementation of either type of policies induced a lower rotation of governments.

The results obtained shore up the fact that social trust matters in the way government actions are perceived and rated by people. This idea is reinforced by Hardin (2002), when he highlighted that, whatever might be the importance of citizens' trust for the functioning government, it is surely more important that government be trustworthy than trusted. In other words, In other words, it is worthier for any government to be trustworthy over time than just being trusted at a specific moment in time.

With these results, it can be said that Putnam's trust implications are correct. Governments from trusting societies, as a consequence of the values and reciprocal trust existing between the government and the society, in crisis periods, have an intangible credit, allowing them to implement unpopular policies, without being punished in the elections.

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**Table 1.** Regression of confidence in the government on government spending and income taxes

VARIABLES	(1980-2014) Benchmark	(1980-2014) High-trust	(1980-2014) Low-trust
age	0.002*** (3.57)	0.002*** (5.26)	0.002** (2.70)
income	0.008** (2.55)	0.010* (2.18)	0.006 (1.33)
educationlevel	-0.002 (-0.22)	0.028*** (7.94)	-0.012 (-1.54)
unemployed	-0.049*** (-3.26)	-0.054 (-1.29)	-0.045** (-2.72)
trust	0.151*** (10.39)	0.172*** (6.38)	0.136*** (8.72)
gdppercap	0.000 (1.03)	0.000* (2.07)	0.000 (0.73)
eco_cycle_1	-0.034 (-1.01)	-0.381 (-1.10)	-0.029 (-0.72)
lngovconsumption_growth_1	-0.149 (-0.26)	-10.111 (-1.86)	-0.430 (-0.75)
Intaxesincome_growth_1	-0.046 (-0.55)	<b>1.295**</b> (2.85)	-0.159 (-1.46)
Constant	1.868*** (6.31)	-14.277 (-1.71)	1.951*** (5.07)
Country and Time FE	yes	yes	yes
Observations	65,815	17,807	48,008
R-squared	0.067	0.084	0.064

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference parameter

.the variable "lngovconsumption\_growth" is the inverse of government final consumption

.high trust and low trust represent regressions when differentiating countries by levels of trust

**Table 2.** Regression of confidence in the government on government spending and income taxes for the pre-crisis period (1980-2007)

VARIABLES	(1980-2007)	(1980-2007)	(1980-2007)
	Benchmark	High-trust	Low-trust
age	0.002*** (3.29)	0.002** (3.54)	0.002** (2.60)
income	0.005 (1.28)	0.008 (1.71)	0.001 (0.18)
educationlevel	-0.003 (-0.37)	0.025*** (7.05)	-0.014 (-1.46)
unemployed	-0.058** (-2.82)	-0.034 (-0.75)	-0.060** (-2.75)
trust	0.149*** (9.27)	0.184*** (8.28)	0.119*** (8.35)
gdppercap	0.000** (2.29)	0.000*** (9.37)	0.000*** (24.29)
eco_cycle_1	0.001 (0.02)	0.145 (0.58)	-0.007 (-0.85)
Ingovconsumption_growth_1	-0.344 (-1.12)	-9.685 (-1.62)	<b>-0.625***</b> (-11.16)
Intaxesincome_growth_1	-0.171 (-1.17)	<b>1.204***</b> (7.88)	<b>-0.215***</b> (-9.27)
Constant	1.450*** (4.02)	0.021 (0.11)	1.104*** (13.45)
Country and Time FE	yes	yes	yes
Observations	45,056	13,451	31,605
R-squared	0.065	0.089	0.062

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption

.high trust and low trust represent regressions when differentiating countries by levels of trust

**Table 3.** Regression of confidence in the government on government spending and income taxes for the crisis period (2008-2014)

VARIABLES	(2008-2014)	(2008-2014)	(2008-2014)
	Benchmark	High-trust	Low-trust
age	0.002*** (3.19)	0.002** (3.71)	0.002** (2.39)
income	0.018*** (3.36)	0.017 (2.24)	0.017** (2.53)
educationlevel	0.002 (0.28)	0.037*** (6.87)	-0.007 (-1.52)
unemployed	-0.037* (-1.84)	-0.143 (-2.06)	-0.026 (-1.25)
trust	0.147*** (5.52)	0.129 (1.81)	0.148*** (4.99)
gdppercap			
eco_cycle_1	-0.113 (-0.58)	-0.686*** (-17.64)	0.195 (0.71)
Ingovconsumption_growth_1	-0.366 (-0.06)	<b>12.928***</b> (18.51)	-2.661 (-0.39)
Intaxesincome_growth_1	1.384 (0.75)	<b>8.394***</b> (30.98)	1.789 (0.86)
Constant	2.106*** (10.59)	2.749*** (38.95)	1.827*** (5.75)
Country and Time FE	yes	yes	yes
Observations	20,759	4,356	16,403
R-squared	0.082	0.069	0.085

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption

.high trust and low trust represent regressions when differentiating countries by levels of trust

.the variable "gdppercap" is omitted because of collinearity

**Table 4.** Robustness check of the relationship between confidence in government and restrictive policies

VARIABLES	(1980-2014) Benchmark	(1980-2014) individuals controls	(1980-2014) size of government	(1980-2014) Gini	(1980-2014) government debt
Ingovconsumption_growth_1	-0.149 (-0.26)	-0.087 (-0.14)	0.150 (0.16)	<b>2.326*</b> (1.84)	0.201 (0.55)
Intaxesincome_growth_1	-0.046 (-0.55)	0.006 (0.07)	-0.213 (-1.56)	1.478 (1.14)	<b>-0.355***</b> (-11.91)
politics_importance		0.027 (1.13)			
selfdirection		-0.030* (-1.93)			
lifesatisfaction		0.029*** (8.07)			
sizeofgovernment			-0.061 (-1.25)		
Gini				-0.079*** (-3.79)	
governmentdebt					-0.016*** (-7.07)
Constant	1.868*** (6.31)	1.582*** (5.72)	1.731*** (3.41)	7.855* (2.00)	-0.308 (-0.98)
Country and Time FE	yes	yes	yes	yes	yes
Benchmark controls	yes	yes	yes	yes	yes
Observations	65,815	64,161	50,509	33,790	32,103
R-squared	0.067	0.072	0.069	0.090	0.064

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption

."Benchmark controls" certifies that the individual's and macroeconomic controls used in the benchmark regression are taken into account

**Table 5. Regression of change of government on government spending and income taxes**

VARIABLES	(1980-2014) Benchmark	(1980-2014) trust country	(1980-2014) HT precrisis	(1980-2014) LT precrisis	(1980-2014) HT crisis	(1980-2014) LT crisis
yrsoffce	-0.095*** (-3.65)	-0.134*** (-6.97)	-0.122*** (-5.90)	-0.086*** (-3.52)	-0.101*** (-4.50)	-0.189*** (-5.75)
allhouses	0.355*** (3.16)	0.384** (2.64)	0.378*** (2.90)	0.371*** (3.16)	0.316*** (2.89)	0.621*** (5.79)
execrlce	-0.147* (-1.98)	-0.244** (-2.59)	-0.224** (-2.45)	-0.200** (-2.32)	-0.084 (-1.19)	-0.065 (-0.87)
lngovconsumption_growth_1	<b>1.690*</b> (1.90)					
Intaxesincome_growth_1	0.571 (1.11)					
0.TC#c.lngovconsumption_growth_1		<b>3.267***</b> (3.22)				
1.TC#c.lngovconsumption_growth_1		<b>-15.213***</b> (-2.84)				
0.TC#c.lntaxesincome_growth_1		<b>0.826**</b> (2.22)				
1.TC#c.lntaxesincome_growth_1		-0.837 (-0.78)				
ht_pc#c.lngovconsumption_growth_1			<b>-10.565*</b> (-2.02)			
ht_pc#c.lntaxesincome_growth_1			-0.452 (-0.40)			
lt_pc#c.lngovconsumption_growth_1				<b>2.002**</b> (2.72)		
lt_pc#c.lntaxesincome_growth_1				0.200 (0.39)		
ht_c#c.lngovconsumption_growth_1					<b>-63.715***</b> (-3.62)	
ht_c#c.lntaxesincome_growth_1					<b>-8.581**</b> (-2.59)	
lt_c#c.lngovconsumption_growth_1						<b>13.452***</b> (3.03)
lt_c#c.lntaxesincome_growth_1						<b>10.762***</b> (4.24)
Constant	1.452** (2.48)	2.162*** (2.97)	2.036** (2.55)	1.597** (2.15)	1.229*** (2.87)	0.657 (1.21)
Country and time FE	yes	yes	yes	yes	yes	yes
Individuals' and Macroeconomic controls	yes	yes	yes	yes	yes	yes
Observations	55,653	55,653	55,653	55,653	55,653	55,653
R-squared	0.929	0.945	0.938	0.939	0.942	0.957

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference parameter

.the variable "lngovconsumption\_growth" is the inverse of government final consumption

.In the trust country regression, there is a dummy variable TC (trust country) that differentiates countries by their level of trust. When equal to 0

it represents the low trust countries and when equal to 1, the high trust countries

.HT and LT respectively stand for High and Low Trust. They indicate the regressions that only consider high trusting or low trusting countries

.ht (high trust) and lt (low trust) pc (pre-crisis) and c (crisis) are dummies variables (0 and 1) used as interaction terms. to simplify the comprehension

of the results, I only represent the outcomes when dummy equals to 1

.Individuals' controls: income level, education level, unemployed, and confidence in government

.Macroeconomic controls: GDP per capita, unemployment\_1, and CPI

**Table 6.** Robustness check of the relationship between a change of government and the implementation of restrictive policies

VARIABLES	(1980-2014) Benchmark	(1980-2014) government	(1980-2014) size government	(1980-2014) economic cycle
Ingovconsumption_growth_1	<b>1.690*</b> (1.90)	-0.164 (-0.19)	3.749 (1.62)	1.345 (1.38)
Intaxesincome_growth_1	0.571 (1.11)	<b>-0.997***</b> (-4.05)	<b>1.680***</b> (5.39)	0.417 (0.68)
politics_importance		0.018 (1.65)		
legelecs		-0.459*** (-7.59)		
govrfrac		0.997*** (4.87)		
partyin		0.006** (2.62)		
sizeofgovernment			0.072** (2.74)	
eco_cycle_1				-0.015 (-0.20)
Constant	1.452** (2.48)	2.972*** (8.46)	-2.858*** (-3.74)	1.566** (2.50)
Country and Time FE	yes	yes	yes	yes
Benchmark controls	yes	yes	yes	yes
Observations	55,653	54,492	41,759	52,774
R-squared	0.929	0.977	0.997	0.924

Source: Author's regressions

Robust t-statistics in parentheses

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

.cluster analysis with country as reference

parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption

."Benchmark controls" certifies that the individual's (income, education level, unemployed, confidence in government), government (yrsoffce, allhouses,execrc), and macroeconomic controls (gdppercap, unemployment\_1, CPI) used in the benchmark regression are taken into account

**Table 7.** Results of regressions of change of government on restrictive policies when adding government controls

VARIABLES	(1980-2014) government	(1980-2014) trust country	(1980-2014) HT precrisis	(1980-2014) LT precrisis	(1980-2014) HT crisis	(1980-2014) LT crisis
lngovconsumption_growth_1	-0.164 (-0.19)					
lntaxesincome_growth_1	<b>-0.997***</b> (-4.05)					
0.TC#c.lngovconsumption_growth_1		<b>-0.702*</b> (-2.02)				
1.TC#c.lngovconsumption_growth_1		<b>8.225***</b> (4.25)				
0.TC#c.lntaxesincome_growth_1		<b>-2.548***</b> (-14.39)				
1.TC#c.lntaxesincome_growth_1		<b>1.623***</b> (5.85)				
ht_pc#c.lngovconsumption_growth_1			<b>7.269***</b> (6.00)			
ht_pc#c.lntaxesincome_growth_1			<b>1.365***</b> (8.96)			
lt_pc#c.lngovconsumption_growth_1				<b>1.098***</b> (3.44)		
lt_pc#c.lntaxesincome_growth_1				<b>-1.785***</b> (-13.95)		
ht_c#c.lngovconsumption_growth_1					<b>-68.394**</b> (-2.72)	
ht_c#c.lntaxesincome_growth_1					<b>-6.802***</b> (-3.89)	
lt_c#c.lngovconsumption_growth_1						<b>7.303**</b> (2.57)
lt_c#c.lntaxesincome_growth_1						0.475 (0.25)
Constant	2.972*** (8.46)	1.814*** (11.16)	1.769*** (12.43)	1.555*** (6.21)	3.063*** (10.34)	2.710*** (7.58)
Country and Time FE	yes	yes	yes	yes	yes	yes
same controls	yes	yes	yes	yes	yes	yes
Observations	54,492	54,492	54,492	54,492	54,492	54,492
R-squared	0.977	0.997	0.998	0.996	0.984	0.982

Source: Author's Regressions

Robust t-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

.cluster analysis with country as reference parameter

.the variable "lngovconsumption\_growth" is the inverse of government final consumption

.In the trust country regression, there is a dummy variable TC (trust country) that differentiates countries by their level of trust. When equal to 0 it represents the low countries and when equal to 1, the high trust countries

.HT and LT respectively stand for High and Low Trust. They indicate the regressions that only consider high trusting or low trusting countries

.ht (high trust) and lt (low trust) pre-crisis and crisis are dummies variables (0 and 1) used as interaction terms. to simplify the comprehension of the results, I only represent the outcomes when dummy equals to 1

."same controls" certifies that we use the same individual's (income, education level, unemployed, confidence in government, politics importance), government (yrsoffce, allhouses,execrlc), and macroeconomic controls (gdppercap, unemployment\_1, CPI) in all the regressions.

## Appendices, Graphs, and Tables chapter 3

**Table A0.** Variables definitions and statistics for the period 1980-2014

Source	Variables	Definition	Observations	Mean	St.Dev
World Value Survey	confidence government	confidence in the government range on a scale of 1 to 4	133868	2,244666	0,8395058
	trust	most people should be trusted? (yes=1, no=0)	246087	0,3332196	0,4713652
	age	age	236630	44,45188	17,37763
	income	level of income on a scale of 1 to 10	171035	4,911521	2,511268
	education level	level of education on a scale of 1 to 8	164139	4,756712	2,14998
	unemployed	dummy variable for the employment status	234744	0,0578077	0,2333799
	politics importance	importance in life: politics (yes=1, everything else=0)	245745	0,0050296	0,0707413
	self direction	autonomous decision making	237460	0,4010107	0,4901042
	life satisfaction	life satisfaction on a scale of 1 to 10	237664	7,176135	2,14194
Database on political institutions	yrsoffce	how many years has the chief executive been in office	1093	4,135407	3,858291
	allhouses	does party of executive control all relevant houses?	1070	0,2401869	0,4273966
	execrlce	party orientation with respect to the economic policy	1086	1,78361	1,025099
	govrfrac	The probability that two deputies picked at random from among the government parties will be of different parties	1080	0,316754	0,2706332
	legelecs	"1" if there was a legislative election in this year	1093	0,2790485	0,4487367
	partyin	party of the chief executive has been how long in the office	1046	8,431166	11,21894

Source: Author's dataset

**Table A0 - Continued**

Source	Variables	Definition	Observations	Mean	St.Dev
World Bank	Ingovconsumption_growth	inverse of the growth rate of the general government final consumption expenditure (% of GDP)	1150	-0,0015528	0,0717679
	Intaxesincome_growth	growth rate of the taxes on income, profits and capital gains (% of revenue)	1080	0,0033817	0,1418373
	gdppercap	GDP per capita (constant 2010 US\$)	1141	31933,73	19321,02
	unemployment	Unemployment, total (% of total labor force) (modeled ILO estimate)	864	8,028434	4,269216
	CPI	Inflation, consumer prices index (annual %)	1197	12,7005	57,44556
	Gini	GINI index (World Bank estimate)	381	32,96772	6,364642
	government debt	Central government debt, total (% of GDP)	311	52,33602	34,83406
Economic Freedom	size of government	This variable indicates the extent to which countries rely on the political process to allocate resources and goods and services	628	5,378994	1,216171
Author's	change	dummy variable indicating change of governments (1= there is a change; 0= there is not)	1278	0,1580595	0,3649396
	eco_cycle	this variable indicates the number of consecutive recessions period preceding each year (none =0 to 3= which represent a crisis)	225898	0,5705407	0,736604
	eco_cycle	same definition - data statistics change when used in the second part of the analysis	1111	0,5688569	0,7737137

**Table A1.** OECD countries classified by level of trust

High-trust	Low- trust		
Australia	Austria	Ireland	Poland
Canada	Belgium	Israel	Portugal
Denmark	Chile	Italy	Slovak Rep.
Finland	Check Rep.	Japan	Slovenia
Iceland	Estonia	Korea	Spain
Netherland	France	Latvia	Switzerland
New Zealand	Germany	Lithuania	Turkey
Norway	Greece	Luxembourg	United Kingdom
Sweden	Hungary	Mexico	United States

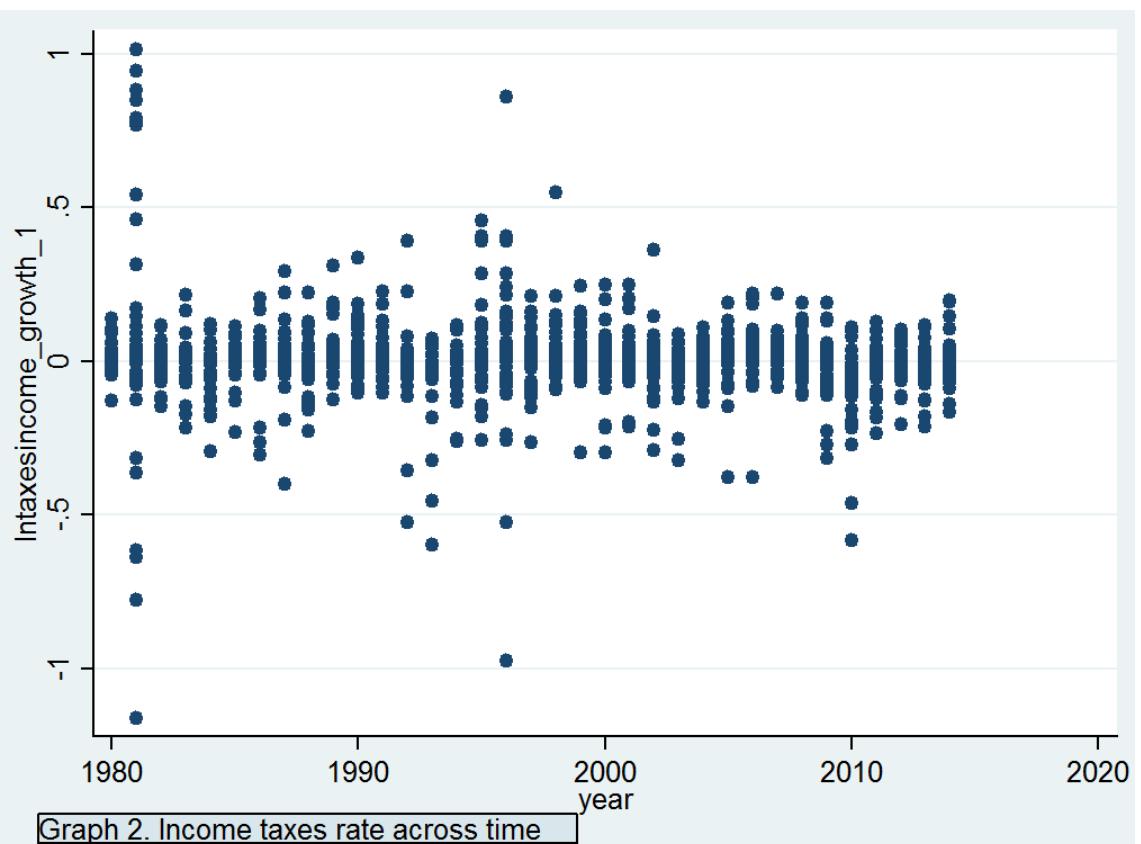
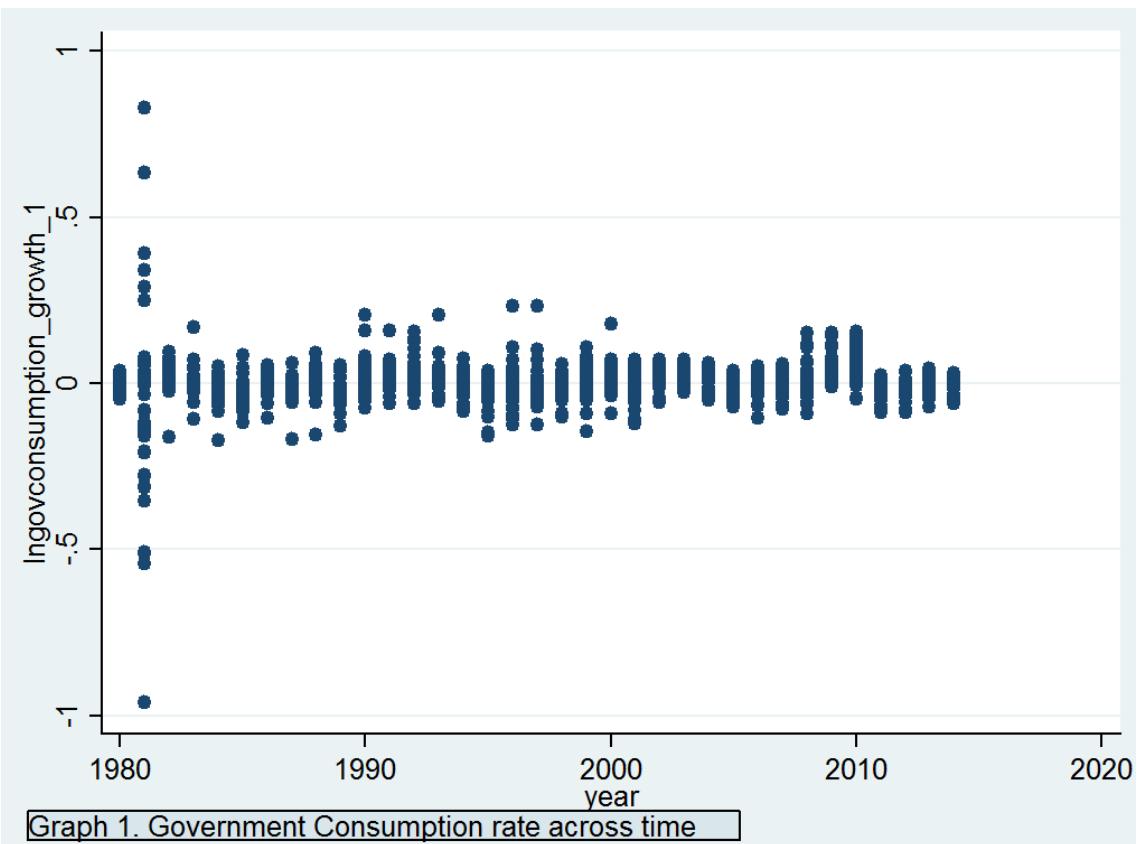
Source: Author's distribution

**Table A2.** The average change of government by periods

	1980-2014	1980-2007	2008-2014
Aggregate	2.095	2.064	2.22
Hihg trust countries	1.95	1.9	2.25
Low trust countries	2.15	2.11	2.29

Source: Author's

These results are the averages of changes of government, based on the values assigned to the variables elections where 1 determines that after the elections the same government stays in power, 2 that the new government is from the same political party than the salient, and 3 that the new government is from a different political party.



**Table B0.** Results of regressions of confidence in the government on government spending and income taxes when controlling for inequality

VARIABLES	(1980-2014) Gini	(1980-2014) High-trust	(1980-2014) Low-trust
age	0.002*** (4.58)	0.002** (3.24)	0.002*** (3.50)
income	0.012*** (3.14)	0.011** (3.01)	0.012* (2.08)
educationlevel	0.006 (1.35)	0.030*** (5.07)	-0.002 (-0.52)
unemployed	-0.051*** (-4.01)	-0.054 (-1.48)	-0.051*** (-3.72)
trust	0.159*** (7.94)	0.195*** (10.46)	0.135*** (5.30)
gdppercap	-0.000 (-0.91)	-0.000 (-0.44)	0.000 (0.97)
eco_cycle_1	0.073 (0.46)	0.172 (0.79)	0.307 (1.70)
Gini	-0.079*** (-3.79)	0.054 (1.33)	0.230 (0.88)
Ingovconsumption_growth_1	<b>2.326*</b> (1.84)	-0.782 (-0.15)	-0.028 (-0.01)
Intaxesincome_growth_1	1.478 (1.14)	0.759 (1.29)	<b>3.307*</b> (1.87)
Constant	7.855* (2.00)	6.408 (0.44)	-10.608 (-0.77)
Country and Time FE	yes	yes	yes
Observations	33,790	9,620	24,170
R-squared	0.090	0.102	0.086

Source: Author's regressions

Robust t-statistics in

parentheses

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

.cluster analysis with country as reference

parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption

**Table B1.** Results of regressions of confidence in the government on government spending and income taxes when controlling for government debt

VARIABLES	(1980-2014) government debt	(1980-2014) High-trust	(1980-2014) Low-trust
age	0.002* (1.85)	0.002* (6.85)	0.002 (1.71)
income	0.001 (0.27)	0.014*** (141.61)	-0.004 (-0.66)
educationlevel	-0.016 (-1.37)	0.030** (16.56)	-0.023* (-1.97)
unemployed	-0.073*** (-3.28)	-0.063 (-0.45)	-0.073** (-3.07)
trust	0.128*** (10.00)	0.106 (3.54)	0.129*** (8.63)
gdppercap	0.000*** (7.42)	-0.000 (-1.03)	0.000** (2.78)
eco_cycle_1	-0.354*** (-7.44)	-0.960 (-1.55)	-0.531* (-2.06)
governmentdebt	-0.016*** (-7.07)	-0.009 (-3.87)	-0.020** (-3.07)
Ingovconsumption_growth_1	0.201 (0.55)	-12.300 (-1.18)	1.483 (0.78)
Intaxesincome_growth_1	<b>-0.355***</b> (-11.91)	0.331 (2.11)	<b>-0.565*</b> (-1.97)
Constant	-0.308 (-0.98)	5.254 (1.78)	-0.708 (-0.65)
Country and Time FE	yes	yes	yes
Observations	32,103	5,389	26,714
R-squared	0.064	0.048	0.070

Source: Author's regressions

Robust t-statistics in  
parentheses

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

.cluster analysis with country as reference  
parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final  
consumption

**Table B2.** Robustness check of the relationship between a change of government and the implementation of restrictive policies with two years lags

VARIABLES	(1980-2014) Benchmark	(1980-2014) government	(1980-2014) size government	(1980-2014) economic cycle
Ingovconsumption_growth_2	<b>1.675*</b> (1.90)	-0.152 (-0.18)	<b>2.785***</b> (3.36)	1.331 (1.38)
Intaxesincome_growth_2	0.568 (1.11)	<b>-0.986***</b> (-4.04)	<b>1.717***</b> (11.74)	0.414 (0.68)
politics_importance		0.018 (1.64)		
govrfrac		0.993*** (4.90)		
partyin		0.006** (2.65)		
sizeofgovernment			0.060** (2.10)	
eco_cycle_1				-0.015 (-0.20)
Constant	1.451** (2.48)	2.968*** (8.40)	-2.984*** (-5.96)	1.564** (2.51)
Country and Time FE	yes	yes	yes	yes
Benchmark Controls	yes	yes	yes	yes
Observations	55,650	54,490	41,759	52,774
R-squared	0.929	0.977	0.997	0.924

Source: Author's regressions

Robust t-statistics in  
parentheses

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

.cluster analysis with country as reference parameter

.the variable "Ingovconsumption\_growth" is the inverse of government final consumption  
."Benchmark controls" certifies that the individual's (income, education level, unemployed,  
confidence in government), government (yrsoffce, allhouses,execrlc), and macroeconomic  
controls (gdppercap, unemployment\_1, CPI) used in the benchmark regression are taken into  
account

## **Conclusions and Discussion**

This doctoral dissertation investigates the side effects that political macroeconomic decisions have on individuals' trust, economic growth, and the institutions responsible for making and implement those policies.

The first chapter confirms the fact that macroeconomic policies to integrate global market, in addition to their economic and political outcomes, have substantial impacts on individuals' trust. With all the social trust literature arguing how important is to foster trust at the micro level for the proper functioning of countries at the macro level, the analysis proves that decisions taken by policymakers at the macro level have repercussions at the micro level. The teaching of this chapter is that policymakers must be aware of all the outcomes generated by a given policy. Affecting Individuals' trust in the short term could have an impact on stability in the long run.

To understand how governments choose policies, the second chapter compares the economic impact of a currency depreciation policy and labor market deregulation policy on economic growth. The comparison shows that both policies have a positive impact on economic growth but while the effect of currency depreciation is observed in short period, labor market liberalization, although more beneficial in the long run, presents higher social cost in short and medium term. Considering that governments have usually faced growth issues through currency policies, it is understood that governments prefer to implement policies producing short term visible results.

Finally, the last chapter examines whether the repercussions caused by the implementation of unpopular policies on the government in power are altered given countries levels of trust. The findings suggest that in high trusting countries, individuals' confidence in the government is less affected by the implementation of restrictive policies and that, at least during a period of crisis, cuts in government spending or increases in taxes income do not determine how long a government stays in power. In the existing relationship between a society and its government, trust is the intangible asset that allows governments to implement the policies it considers necessary without necessarily being punished at the pools.

The essential contribution of this thesis has been to justify trust importance in interactions between a society and its government. As gold is the safest tangible asset an individual economically may invest in, for a government fosters social trust is politically the most profitable investment.