The determinants of social spending in Spain, 1950-1980, Are dictatorships less redistributive?[1]

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Abstract

Most of the studies about the welfare state have focused so far on the affluent democracies. However, poorer and dictatorial countries have deserved less attention. This paper provides new evidence on the evolution of social spending in both Spain and Portugal between 1950 and 1980. Since both of them did not enjoy democratic governments until the mid-late 70's that new evidence allows us to study the relationship between dictatorships and redistribution. In addition to the level of social spending and its distribution among different items, the way that social spending is financed is also analyzed in this paper. More exactly, the ratio of social security contributions to social spending is used as an indicator of redistribution. The main findings of this paper show that besides economic and demographic factors (as the level of GDP and the ageing of population) political factors are key determinants of social spending and the way it is funded. According to our econometric results, during the time-period 1950-80 dictatorships had a negative effect on social spending, and were more prone to finance social protection via social contributions, which did not imply redistribution through government budgets. Therefore, in contrast to the *political legitimacy* theories and those theories neglecting the role played by political factors, we find that (at least in the western-European periphery) dictatorships were less redistributive than democracies.

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1. Introduction

The rise of the Welfare State has been one of the most important events of the XX century. Its emergence radically changed the role of the State in the economy and the traditional mechanisms of social protection. That transformation encouraged a number of studies about the determinants of the Welfare State, which developed several theories. However, there is no agreement yet about the role played by politics in the development of social policy. Some authors consider that political factors such as the advent of universal suffrage, high levels of voter turnout, or the pre-eminence of left-wing parties were determinants of social spending. Others, in contrast, maintain that the ageing of population and growing incomes are the key explanatory factors of the rise of social spending, while political factors did not have any significant influence on the evolution of the welfare state.

Even more complex is the relationship between dictatorships and social spending. Of course those who consider the ageing of population and growing incomes as the main determinants of social policy do not expect significant differences in social spending levels between democratic and non-democratic governments. However, even for those authors who stress the role of political factors, the expected sign of dictatorships' effect on social spending is not clear. According to some theories, we should expect a negative influence of dictatorships on social spending, because they suppress voting rights and ban trade unions and left-wing parties, and therefore, reduce the political influence of those social groups more willing to support social transfers. Other theories, in contrast, suggest that dictatorships' social policy do not differ considerably from democracies because they might use social policy in order to achieve political legitimacy, or simply to avoid protests and massive opposition.

However, many of the studies about the welfare state focus on the affluent democracies. The scarcity of internationally available data for non-democratic and poorer western European countries has prevented them to be analyzed. For

example, Flora (1986)'s database and the OECD (1985) database of social spending, which covers the time-period 1960-1980, does not include countries as Spain or Portugal, which were developing countries and dictatorships at that time. The objective of this paper is to fill in this gap by assessing the influence of non-democratic governments on the evolution of social spending. In order to do this, new data on the evolution of social spending in both Spain and Portugal between 1950 and 1980 is provided. Since both Spain and Portugal were dictatorships for a long time (from the interwar period to the mid-late seventies), they offer us an interesting opportunity in order to test the relationship between dictatorships and social spending from a comparative perspective.

Non-democratic governments' impact on social policy is analyzed by estimating an econometric model. Both the level of social spending and its distribution among different items (pensions, health care, welfare, unemployment, and education) are analyzed. In fact, the distribution of social spending among different items may be also considered an indicator of redistribution by itself, because more redistributive countries are expected to have higher levels of social spending but also to spend more in more redistributive programs as for example unemployment compensation or education. My sample is composed of fifteen western-European countries: Spain and Portugal, which suffered long periods of dictatorships (from the interwar period to the mid-late seventies), Greece, which experienced a short period of dictatorship between the late sixties and the early seventies, and twelve more western-European democratic countries.

Most of the studies about the welfare state focus on the evolution of social spending. However, an additional approach is used in this paper. As well as the determinants of social spending levels the way that social protection is funded is also analyzed. More exactly, we focus on the ratio of social security contributions to social spending. Social protection systems are basically funded through those social contributions (paid by employers and employees) plus public subsidies. Taking into account that social protection systems mainly funded through social

contributions imply less redistribution through government budgets, we can use the ratio of social contributions as an indicator of redistribution, which in turn, can help us to clarify the relationship between non-democratic governments and social spending, and why some countries are more (or less) redistributive than others. On the other hand, the analysis of the determinants of social contributions may be also useful to clarify the role played by globalization. As Regardless of its effect on social spending, it seems that globalization rather shaped the way that social protection is financed.

The next section introduces some leading theories and hypothesis about the evolution of social spending paying special attention to the political-oriented theories. Section 3 briefly describes the data and offers an econometric analysis of the determinants of social spending levels between 1950 and 1980. Section 4 analyzes how big the role of dictatorships was in explaining the differences in social spending levels among European countries. Section 5 focus in one case study: the Spanish case, in order to complement the econometric results of section 3 and illustrate some of its findings. The determinants of social spending funding during the time-period 1950-81 are analyzed in section 6. And section 7 provides an interpretation of the political economy of the Spanish welfare state during Franco's dictatorship on the light of this paper's findings. Finally, section 8 concludes.

2. Theories about the Welfare State.

The earliest studies about the determinants of social spending emphasized the role played by the industrialization, growing incomes or ageing populations (Kerr *et. al.* 1964, Wilensky 1975). Some variants of these theories consider that development creates the problems that make social protection more needed, while others consider that development implies higher public revenues and, therefore, makes the provision of welfare easier. More recent studies still consider that the key explanatory variables are the economic and demographic

ones, while political factors are presumed to be much less important determinants of social spending (Becker 1983, Becker and Mulligan 1998, Mulligan and Sala-i-Martin 1999). In contrast, other studies have stressed the importance of political factors. Lindert (1994, 2004), for example, has pointed out that the extension of voting rights has a positive effect on social spending. The idea behind this positive link is that low income groups will be more in favor of redistributive programs, and the extension of suffrage integrates them into the political process. Therefore, democracies with universal suffrage will spend more than elitist democracies. According to Lindert (1996, 2004), voting turnout also has a positive effect on social spending. As Piven and Cloward (1994) highlight, high voter turnout typically changes the class content of elections, shifting the political centre of gravity to the left, because increases in turnout tend to reflect increases in participation by previously excluded lower income groups (Iversen 2001).

A number of models link income distribution, democracy and redistribution. Some of them suggest that higher levels of inequality might imply higher levels of redistribution. Generally speaking when the median voter income is bellow the average income, he or she will be more willing to support redistributive policies (Meltzer and Richard 1981, Persson and Tabellini 1994, and Alesina and Rodrik 1994). Nevertheless, other models suggest that inequality can also have the opposite effect. For instance, according to Kristov *et. al.* (1992), the poor participate less in the political process. Therefore, if growing inequality makes poverty levels rise, then those more willing to support redistributive programs will be excluded from the political process. In short, growing inequality might reduce political pressure in favor of redistribution. Other political economy theories focus on the role played by certain social groups. One of the most influential in this regard is the so-called *social democratic theory* or *power resource* theory. According to that theory, social policy can be considered as a working class instrument to modify the market distribution of income. Therefore, the strength of working class institutions, as unions and socialist and left-wing

parties is considered a determinant of the welfare state (Korpi 1983, Esping-Andersen 1985, Hicks 1999).

Both the political economy models linking inequality and redistribution and the "social democratic theories", are not applicable to non-democratic contexts. Neither the median voter nor the left-wing parties will be able to influence the political process if there are no elections. Since those theories emphasize the role of democratic institutions, they seem to implicitly suggest that the welfare state is less likely to develop under dictatorships[2]. Nevertheless, other authors seemed to have found evidence not necessarily supporting this hypothesis. For example, as I said before, authors like Peter Lindert (2004) showed that the extension from restricted to universal suffrage had a positive impact on social spending. But he also pointed out that democracies not necessarily spend more than dictatorships, at least during the period before World War II. Similarly, Mulligan et al (2002) concluded that there are no differences in the level of social spending between dictatorships and democracies. They pointed out that the evolution of social spending is mainly driven by structural factors, such as the growth of GDP and the age structure of population. However they also suggest that dictatorships might have (political) incentives not to differ considerably from their (democratic) neighbors in order to avoid social unrest and potentially demands for regime shift.

Finally, Cutler and Johnson (2004) found that non-democratic governments tend to create social insurance systems in order to legitimate themselves. The classical example in this regard is the Bismarck's social policy oriented to find political support among the working class. Nevertheless, they also argued that dictatorships provide social protection in a *different* way, because they are more likely to introduce insurance systems, instead of mean-tested systems, which somehow suggest that dictatorships are less redistributive.

[2] Actually, using the "social democratic theories" framework, Hicks (1999) found the dictatorships to have a negative impact on social policy.

Thus, we have several theories and hypothesis about the relationship between politics and social spending suggesting different results. Some of them predict no effect of political variables; others predict differences among democracies depending on factors like the voting turnout or the strength of left parties; while the relationship between dictatorships and social policy is not completely clear. Some seem to suggest a positive effect of democracy *per se,* while others consider that dictatorships have incentives not to behave differently.

In addition to the political, demographic, and developmental variables, the effect of globalization on social spending has also deserved some attention in the literature. Initially, one may expect a negative impact of globalization on social spending, because the increasing international capital mobility should provoke a fall in taxes and therefore in public revenues, motivating a race to the bottom. Nevertheless, authors as Dani Rodrik (1997) have suggested that globalization would have a positive effect on social transfers because the increasing instability provoked by international trade would lead to increasing demands for social protection. Similarly, Huberman and Lewchuk (2003) found that social insurance programs were more extensive in more open economies during the period before World War I. Nevertheless, Haggard and Kaufman (2008) consider that globalization effects are more ambiguous. According to them, protectionist countries (like the Latin American ones during the 60s and 70s) tend to create contributory social protection systems, which imply higher labor costs. In these countries, employers accepted increasing labor costs because they did not have to face international competition and, as a consequence, were able to increase final prices. In contrast, more open economies were more concerned about increasing labor costs, and less prone to accept contributory systems. In the next sections we turn to some formal test aimed at shed light upon these debates.

3. The determinants of social spending, 1950-80

3.1. The data

Our analysis focus on fifteen European countries, and the time-period covered is 1950-1978. The countries included in the analysis are Spain and Portugal, which were dictatorships for a long period of time, Greece, which suffered a short period of dictatorship between the late sixties and the early seventies, and twelve more European countries, which were democracies during the time-period 1950-1978. As usual, the dependent variable is public social spending as a share of GDP. For the time-period 1960-78 the data on social spending is coming from the OECD (1985) database, while for the time-period 1950-59 it is coming from Flora (1986). However, since both Spain and Portugal were not included in those databases, their levels of social spending have been estimated here.

Our estimates fit the OECD definitions of public social spending. The Portuguese levels of social spending between 1950 and 1980 have been estimated from the statistical yearbooks of Portugal. They provide detailed information on the Portuguese social security system expenditures and the government expenditures. For the time period 1970-80, data on the Portuguese health care expenditures comes from the OECD health data, 2008 (*www.oecd.org/health/healthdata*). Functional classification of social spending before 1962 has been made from Pereirinha and Carolo (2007), and public spending on education is coming from Valerio (2001). On the other hand, the Spanish levels of social spending between 1950 and 1980 have been estimated through the careful examination of public budgets, and the reports, statistics, and yearbooks of the Spanish National Institute of Social Insurance (*Instituto Nacional de Previsión*). Public spending on education is coming from Comín and Díaz (2005). For the remaining thirteen western-European countries included in the sample (Sweden, Norway, Ireland, Netherlands, Finland, Belgium, Denmark, Austria, United Kingdom, Italy, France, Greece and Germany) the data on the level of social spending is coming from the OECD (1985) statistics on social

spending, while for the time-period 1950-60 the data was compiled from Flora (1986)[3].

The sample includes the level of total public social spending and its distribution among different items. Public social spending is classified into five different categories: 1. Pensions, which includes expenditures on old-age, and survivors and disability benefits, 2. health, which includes expenditures on health care, 3. welfare, which includes maternity and sickness leave expenditures, family allowances and other welfare expenditures, 4. unemployment, which reports unemployment compensation expenditures, and 5. education. Total social spending is the total of these five categories. The analysis of the composition of social spending is interesting, because it might shed light upon the redistribution debate. More redistributive countries are expected to have higher levels of social spending but also to spend more in more redistributive programs as for example unemployment compensation and education. Similarly, the differences in less redistributive programs, like pensions, for example, are expected to be smaller.

Table 1 shows some figures on the evolution of total social spending in eight selected western-European countries between 1950 and 1980. In general we can see a growing trend of social spending in all these countries. However, they show significant differences in the level of social spending and some of them seem to have grown faster. For example, Denmark, Germany, and Belgium show very high levels of social spending. In contrast, Spain and Portugal show very low levels of social spending, at least during the fifties and the sixties (when both of them were dictatorships). However, social spending also seem to have grown faster in those two countries, while it seems to have grown more slowly in countries like Ireland or the United Kingdom. The next section offers a more formal econometric analysis in order to determine if these differences are explained by political factors or if they are mainly driven by economic and demographic factors.

[3] For more details on the data see annexes.

[Table 1 over here]

3.2. The variables

Following the comprehensive theoretical framework developed by Lindert (2004), economic, demographic and political variables are included in the analysis, as well as the impact of globalization. The economic variables considered here are the log of GDP per capita, and the annual rate of GDP growth. The former captures the effect of growing incomes, while the latter captures the impact of economic cycle. Initially, we would expect a positive relationship between the level of income and social spending, because growing incomes imply growing public revenues, and therefore more means for government handouts. One might argue too, that development is linked to industrial society's problems and therefore it makes social protection more needed. In any event, the expected effect is positive. In the case of the GDP growth variable, however, the expected sign is less clear. On the one hand, we could expect a negative sign, because the demand for social protection tends to be higher in periods of lower GDP growth and economic crisis, that is to say that social spending has a counter cyclical effect. On the other hand, economic crisis may reduce public revenues, and therefore, higher rates of GDP growth could affect social spending positively.

Among the demographic variables the share of the total population over 65 years old is included in the analysis. The expected sign is positive. According to the "ageing-population hypothesis" social spending rises when a larger share of the adult population becomes elderly (Wilensky 1975, Pampel and Williamson 1989, Lindert 1994). In a society with a growing dependence on wage earnings, the elderly are more vulnerable than the young adults, and therefore they might be more willing to support social transfers. When the evolution of public spending on education is analyzed the share of the total population over kids

between 5 and 14 years old is included instead of the percentage of people over 65.

The existence of long periods of dictatorship before 1980 in Spain and Portugal, and a short period of non-democratic government in Greece between 1967 and 1973, allow us to test the possible effects of dictatorships upon social spending. In order to assess that impact a dummy variable, which takes value one when there is a dictatorship and cero otherwise, has also been included in the analysis. As we saw in section 2, some theories consider that the welfare state is less likely to develop under dictatorships, while others consider that we should expect no significant differences between dictatorships and democracies. Therefore the expected sign of this variable is not clear. Actually, the objective of this paper is to provide new quantitative evidence in order to help to clarify the relationship between social spending and non-democratic governments. In addition to the dictatorship dummy variable, the impact of political instability is also assessed. The expected sign is positive, as dictatorships would probably try to find political support by increasing social spending. Political instability is measured as the number of executive adjustments in non-democratic governments within the last four years.

The impact of globalization is also analyzed in this paper. Globalization is measured by the degree of openness, but again the expected sign of this variable is unclear. As seen before, initially one might expect a race to the bottom provoked by globalization, but authors as Dani Rodrik (1997) have suggested that globalization can have a positive effect on social transfers. Finally, the net migration rate is also included among the explanatory variables. The expected sign is not clear again. As suggested by Lindert (1994), immigration could make decrease society's willingness to give out government transfers regardless of age. In other words, immigration could favor age-related social transfers (and reduce non-age-related benefits), because the local people would want the immigrants not to benefit from their social protection system. In this case, the net migration rate expected sign is negative for non-age-related transfers. However, emigration

could reduce social demands for social protection in the home-countries, as people is leaving instead of asking for more social protection. In this case the net migration rate in our regressions would have a positive sign.

3.3. Discussion

Table 2 shows the econometric analysis' results. Columns 1 to 6 show the results for education, pensions, health, welfare, unemployment and total social spending as dependent variables, respectively.

[Table 2 over here]

In general, the econometric results point out that there is empirical support for the Wagner's law hypothesis, which predicts that growing incomes would rise social government spending. According to the econometric test, the log of the level of GDP per capita has a positive and statistically significant impact on almost all types of social spending. Unemployment spending is the only exception, as the log of GDP has no statistically significant effect on it. The rate of growth of GDP seems to have had a rather counter cycle behavior during the time-period 1950-78, especially in the cases of education and health spending. Similarly, unemployment spending also shows a counter cycle effect, as the unemployment rate has a highly significant positive effect. Therefore, social spending seems to respond to social demands during lower economic growth periods.

Demographic variables also played an important role in the evolution of social spending. As expected, the variable "elderly", which reflects the share of population over 65 years old, has a positive and statistically significant effect on several types of social expenditures (pensions, health, total social spending and even unemployment). The only exception is welfare spending, where the share of population over 65 has no significant effect. Therefore, as already stressed by

Lindert (2004), it seems that the elderly exerted a positive influence upon different types of social programs and not only upon pensions expenditures, which suggests that they probably empathize with other vulnerable social groups and tend to establish political alliances with them in order to push up social spending. In contrast, the share of kids between 5 and 14 years old does not have any statistically effect on education spending. Actually, as we will see next, the evolution of education expenditures seem to have been driven by the level of GDP and political factors.

Globalization, in contrast, does not seem to show any clear effect on social spending. Only two types of social spending: pensions and unemployment were influenced by globalization. However, they show opposite signs. While unemployment is positively influenced by globalization, pensions are negatively influenced. Therefore, Dani Rodrik's hypothesis only seems to find empirical support in the case of unemployment spending, which is not completely surprising, because unemployment is the social risk which is more clearly linked to market stability, and therefore, it is the social risk more sensitive to globalization. In any case, our results seem to suggest that there is weak support for Dani Rodrik's hypothesis. Nonetheless, the race-to-the-bottom hypothesis does not seem to find empirical support either. Globalization only had a negative effect on pensions spending. Therefore, at least before the 80's, it seems that globalization neither provoked a race to the bottom nor encouraged a rise of social spending.

Similarly, the net migration rate slightly influenced social spending. Only education and welfare spending were influenced by migration. However, they show opposite coefficient signs. The migration rate had a positive impact on education, but a negative effect on welfare spending. That negative impact on welfare spending suggests that immigration might have reduced society's support for non-age-related benefits (in order to avoid immigrants to benefit from social transfers). However, the evidence is not conclusive. Other non-age-related benefits as unemployment, education or even health do not show that negative

effect. In fact, as already said, the net migration rate has a positive impact on education. It is hard to explain that positive influence though. Why does immigration make rise education spending? Probably the causality is in the opposite direction, and immigration does not make education spending rise, but high-education-spending countries tend to attract immigrants because they are high-wage countries as well.

Finally, our regression results show that being a dictatorship has a negative impact on the evolution of social spending. Contrary to what authors as Mulligan et. all. (2002) suggested, political variables seem to matter for the development of the Welfare State. The suppression of voting rights and the prohibition of free political parties and trade-unions seem to exert a clear negative effect on the evolution of social spending. Probably, those measures limited the political voice of those social groups which were more willing to support growing social spending: the working class and lower income groups. And as a consequence they contributed to reduce political demands for social spending. However, one might argue that dictatorships also limited the political voice of those groups against the rise of social spending. But our results suggest that even in that case dictatorships were just maintaining the status quo, and therefore preventing the rise of social spending.

The *political legitimacy* theories do not to find empirical support either, at least in its hard version. According to those theories non-democratic governments tend to create social insurance systems in order to legitimate themselves (Cutler and Johnson, 2004). Therefore, no big differences should be expected between democratic and non-democratic governments. However, as already shown, being a dictatorship has a negative impact on social spending. It seems that dictatorships tended to legitimate themselves (if so) in a different way. However, if we consider the *political legitimacy theory* in a softer version, it seems to find empirical support. As table 2 shows dictatorships' political instability, proxied by the number of government changes in the last four years, has a positive effect on almost all kinds of social spending. This suggest that non-

democratic governments try to buy political stability by increasing social spending when they face social pressure from bellow and fell politically threatened. In short, the *political legitimacy theory* does not find empirical support in its hard version, because dictatorships' social spending levels are lower than democratic governments' levels. However, it seems that dictatorships try to find political support by increasing social spending when they are (or fell) politically threatened.

Finally, the distribution of social spending among different items can also help to clarify the relationship between dictatorship and redistribution. As table 2 shows, dictatorships' negative effect is clearer in the case of more redistributive types of spending as for example, education, unemployment and even health. Similarly, non-democratic governments do not seem to have any significant negative effect on less redistributive spending as pensions. Therefore, dictatorships not only have lower levels of social spending, but they also allocate resources in a different way, because they tend to favor less redistributive types of spending.

Thus far we have analyzed the evolution of social spending and its distribution among different items. According to the results showed before, non-democratic governments appear to have a negative influence on the evolution of social spending, at least in the western European dictatorships. In addition, that negative effect seems to be clearer in the case of more redistributive social spending, as education or unemployment spending. The next section analyzes how big the role of dictatorships is when it comes to explain the differences in social spending levels among European countries. But first, in sub-section 3.4 we want to make sure we are not overestimating dictatorship effect.

4. Explaining differences in social spending levels

We have seen so far that Dictatorships played an important role in the evolution of social spending. However, besides statistical significance, it is interesting to analyze how big the role played by Dictatorships was. As we saw in table 1, both the Spanish and Portuguese social spending levels between 1950 and 1980 were lower than other European country's levels. Those two countries were dictatorships during almost the whole period, but they were also poorer and younger countries. Which forces played the biggest role in explaining the differences in social spending levels between countries?

[table 3 over here]

Table 3 shows the observed and predicted differences in the level of social spending between Spain and selected European countries (France, Italy, Ireland and the average European level of social spending) in 1974. Fixed effects aside, most of the differences in social spending levels between Spain and those European countries are driven by political factors. Being a Dictatorship explains more than 35% of that difference, which means that being a dictatorship not only had a negative impact on social spending (as we saw in the previous section), but also that that negative impact was in fact quite large. Political instability, proxied by the number of government adjustments, also played an important role. A 5-7% reduction in social spending differences was due to political instability in non-democratic regimes. As held in the previous section, this supports the legitimacy theory, but only in its soft-version. The reduction in social spending differences due to political instability is not enough to compensate dictatorships' negative effect. Even if we accept that dictatorships try to find political support by increasing social spending, particularly when they are politically threatened, the suppression of voting rights appears to have a bigger negative effect.

The ageing of population and the level of GDP also explain a big share of that difference, especially when explaining the gap between Spain and France, Italy and the European average, which were wealthier and older countries. However, the role played by these factors when it comes to explain the

differences in the levels of social spending between Spain and Ireland is much smaller, which is not surprising because differences in GDP levels and aged population between those two countries were also smaller. Globalization played a smaller role, although its effect varied from country to country. It helps to explain only around 2% of the difference between Spain and less open economies like France or Italy, but it explains an 8% of the difference between Spain and more open economies like Ireland. Finally, migration explains very little of the variations in the level of social spending among European countries, less than 1%.

These results show up that being a Dictatorship not only is statistically significant and helps to explain the evolution of social spending (as we concluded in the previous section), but also that it explains most of the differences in the level of social spending between Spain and other Western-European countries before 1980.

5. The determinants of social spending funding

5.1 Hypotheses

Besides the level of public social spending, in this section we turn to an alternative way to test whether dictatorships are less redistributive than democracies or not. More exactly, this section analyzes the way that social spending is funded. According to the OECD, social protection programs "*financed by compulsory employer and employee contributions (receipts) to social insurance funds are by convention considered public*" (OCDE 2007). Therefore, according to OECD definitions, social spending is basically funded by compulsory social security contributions plus government subsidies (which in turn come from direct and indirect taxes)[4].

[4] In addition to social contributions and public subsidies some social protection programs have its own resources (like receipts from assets for example) but it does not affect our argument.

However, in the long run, social contributions are in fact taxes on wages (regardless of whether they are *formally* paid by employers or employees). Taxpayers' contribution in countries with high rates of social contributions is in fact small (or at least smaller than in countries with low rates of social contributions). Rather the cost of social protection is basically paid by wage-earners. In other words, redistribution through government budgets is smaller when the ratio of social contribution to social spending is high. On the other hand, in contributory systems, in contrast to mean-tested programs, social benefits are usually more tightly linked to former wages (because social benefits usually depend on social contributions and social contributions on wages). That means that we can not even hold that contributory systems are more redistributive *among* workers. Therefore, the ratio of social contributions to social spending may be plausibly considered a good indicator of redistribution (the higher social contributions are the less redistributive a social protection system is).

From that ratio we can asses the redistributive impact of dictatorships, and we can complement the analysis of the previous sections, because that ratio is an indicator of redistribution which is different to the level of social spending. Thanks to the OECD national accounts records we have detailed information on the yearly sum of social security contributions collected by the state in several OECD countries since 1950. That allows us to calculate the ratio of compulsory social security contributions to social spending. That ratio is calculated just by dividing the sum of social contributions in year "y" by the sum of social spending in the same year "y". The difference between the level of social spending and the social security contributions is assumed to be financed via public subsidies, that is to say, via direct and indirect taxes.

Graph 1 shows the evolution of social contributions in four selected European countries. Two main features stand out. First, the differences among all four countries countries in the ratio of social contributions to social spending held almost constant. Second, that ratio varies considerably from country to

country. As a consequence, given that our ratio keeps almost constant along time, those differences among countries seem to persist in the long run. This behavior suggests that the evolution of social contributions is path-dependent, which is not completely surprising. Once social programs are introduced and the financing-style is established no big changes are expected.

[Graph 1 over here]

Thus, to understand the determinants of the level of social contributions we need to look at the very first stages of the development of the Welfare State. To some extend this is actually what Esping-Andersen did in his influential book, *The three worlds of Welfare Capitalism*. He assumed that social protection systems were shaped by political forces, so he classified the welfare states into three different categories or models depending on their political roots: the conservative or continental model, the social-democratic or Scandinavian model and the liberal model. In other words, he classified the welfare states depending on whether conservative, social-democratic or liberal political forces were predominant in its origins and later evolution.

According to Esping-Andersen, the social-democratic model is the most generous and redistributive one. The conservative model is still generous but less redistributive. In that model, social benefits are still high but they tend to be wage-related, so the social protection system tends to reproduce or at least not to completely erode the market distribution of resources. Finally, social protection systems in liberal countries tend to be less generous, because they are more likely to rely on market to provide insurance. However, liberal social programs tend not to reproduce market distribution as much as conservative models do. In general, they are mean-tested instead of wage-related programs. As a consequence, liberal social protection systems are tiny and redistributive at the same time (they have redistributive programs but for only a small share of the population).

To go back to the determinants of social contributions, from Esping-Andersen's theory one would expect the ratio of social contributions to be higher in countries which are members of the conservative model. There is however another way to analyze the determinants of social contributions. Our aim is to explain why different countries use social contributions (and finance social spending) in such a different way and why these differences are persistent along time. Botero, Djankov, La Porta, Lopez-de-Silanes and Shleifer (2004) suggested in an influential paper that employment regulation, collective bargaining laws and social security systems were mainly shaped by legal tradition. According to them different legal traditions use different strategies for dealing with market failure. Countries in the French civil-law-tradition tend to regulate labor markets more extensively than English-common-law countries do, because the later tend to preserve the freedom of contract to a greater extend. Similarly, French-civil-law countries tend to provide social security more generously than English-common-law countries. Finally, it is worthy to point out that in these authors' view legal traditions are exogenous to their economies, because most countries in the world received their legal structures through colonization or invasion. And in any case, those legal traditions were older than social legislation.

Despite Botero, et. al. (2004) did not explicitly theorize on the determinants of social contributions, I think it is plausible to assume that compulsory social contributions imply more labor market regulation and less freedom of contract. Therefore, the ratio of social contributions is expected to be higher in French civil law countries. On the other hand, the persistent differences in the level of social contributions among European countries might be explained by the long-term permanent effects of different legal traditions.

The role played by religion and globalization has also deserved some attention in the literature. Examining the factors leading the creation and growth of national old-age protection systems, Cutler and Johnson (2004) found that catholic countries are more likely to create earning-related schemes. Therefore, we would expect social contributions to be higher in catholic countries. On the

other hand, some case studies on the political economy of social insurance have indirectly reserve a role for globalization. For example, according to Balwin (1990) export-oriented-farmers in Denmark opposed contributory social insurance schemes, because compulsory social contributions would have implied higher labor costs. Similarly, Ullman (1981) maintained that German export-oriented firms (together with smaller and labor-intensive firms) were against Bismarck's social insurances laws in the 1880's. Finally, as already mentioned in section 2, in a recent book analyzing the evolution of social policy in non-developed countries, Haggard and Kaufman (2008) pointed out that protectionist countries (like the Latin American ones during the 60s and 70s) tended to create contributory social protection systems. Those systems implied higher labor costs but they did not find businesses opposition. Since firms did not have to face international competition, they were able, at least to some extend, to transfer the increasing costs to final prices. In other words, more open economies are expected to favor lower levels of social contributions.

Although none of the previous studies focus explicitly on the determinants of social contributions, we can derive from them several hypotheses which can help us to explain why different countries have such a different social contributions' levels. The development strategy (export-oriented vs. protectionist), the dominant religion, the legal tradition, and the political forces which in Esping-Andersen's view shaped the welfare state, are potential determinants of the social contribution's level. On the other hand, that basic theoretical framework allows us test the role played by dictatorships. Are social contributions' levels mainly explained by those factors or did non-democratic governments played an active role too? If dictatorships are less redistributive than democracies we would expect dictatorships to make social contributions rise.

5.2. Empirical test

To analyze the determinants of social contributions I use a logistic model, which allows us to test the probability of having a certain level of social contributions. The basic logistic model is given by:

$$y(t)=\alpha_t + \beta X_{it} + \varepsilon_t$$

Where y(t) is the probability of adopting a certain level of social contributions in year *t*, α_t is the baseline hazard, β is a set of parameters and X_{it} is a vector of characteristics of country *i* in year *t*.

I perform two different types of analysis. In the first one I test the probability of social contributions of being equal or less than 30% of social spending. In other words, when the ratio of social contributions to social spending is lower or equal to 0.3 the endogenous variable takes value 1 and cero otherwise. In the second analysis I test the probability of social contributions of being equal or more than 70% of social spending (the endogenous variable takes value 1 when the ratio of social contributions is higher or equal to 0.7 and cero otherwise). In short, in the first model I test the probability of a social protection system of being redistributive (and mainly funded through public budgets), while in the second one I test the probability of being non-redistributive (and contributory).

Among the explanatory variables I have included: the share of Catholics and Protestants, a dummy variable for the legal tradition[5], and a dummy variable for the three types of Esping-Andersen's welfare capitalisms. Globalization is also taken into account and proxied by the degree of openness. The impact of non-democratic governments is tested by including a dictatorship dummy variable, as defined in section 3. Lastly, the log of the level of GDP, the rate of GDP growth and the share of population over 65 are also included as control variables. The

[5] Countries legal origins are coming from Botero, et. al. (2004), which in turn come from La Porta et. al. (1999).

sample is composed of the same fifteen European countries we used in the previous sections (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and the UK) and the time period is 1950-81.

The results of our econometric analysis are shown in tables 4 and 5. The level of GDP has a negative impact on the probability of having low levels social contributions (bellow 30% of social spending - table 4), but it does not have a clear and statistically significant effect on the probability of having high levels of social contributions (over 70% of social spending – table 5). Therefore, it seems that rich countries are more likely not to have very low levels of social contributions, although not necessarily more likely to have very high social contributions' levels. Similarly, the rate of GDP growth seems to negatively affect the probability of having high levels of social contributions, although again it does not have any significant effect on the probability of having low levels of social contributions. This might be suggesting that it is easier to allocate more taxes to fund social spending in periods of rapid economic growth in countries where social contributions were already high.

[Tables 4 and 5 over here]

In the previous section we saw that globalization did not have a clear impact on social spending level, however according to the results shown in tables 4 and 5, globalization clearly influenced the way that social spending is financed. As can be seen in our regression results, the degree of openness, our proxy to globalization, is highly statistically significant and it has the expected sign. More open economies are more likely to adopt tax-funded social protection systems (table 4) and less likely to establish social protection systems funded trough social contributions (table 5). In other words, it seems that more open economies opposed contributory systems, which would have make production cost rise, and favored more neutral tax-funded systems. Previous qualitative studies showed that firms' export-orientation was important for the political economy of social

legislation (Ullman, 1981; Baldwin, 1990). Similarly, Haggard and Kaufman (2008) suggested that Latin American countries adopted contributory systems because they were protectionist countries. We have now shown from a comparative and quantitative perspective that globalization actually shaped European social protection systems. Rather than provoking a race to the bottom or an increase in social spending levels, globalization seems to better explain why some European countries adopted tax-funded systems while others did not.

Religion seems to have played a significant role too. The bigger the share of Catholics the more likely is a country to adopt contributory social protection systems (and the less likely to adopt tax-funded systems). In the same way, Protestantism increases the probability of adopting tax-funded systems and reduces the probability of establishing contributory systems. These results fit Cutler and Johnson (2004)'s findings, according to which catholic countries tend to create wage-related systems. However, there is no clear theoretical reason to explain why Catholics prefer contributory systems. Do social-Catholics view employers' social contribution as a kind of modern alms?

Legal traditions are also significant and have the expected sign. Countries with their legal origins in the English-common-law tradition are more likely to have lower levels of social contributions. Similarly the Scandinavian countries are more likely to adopt tax-funded systems (table 4). In contrast, French-civil-law countries tend to create contributory systems with high levels of compulsory social contributions, which is consistent with Botero et. al. (2004)'s finding that French-civil-law countries tend to regulate labor markets more extensively than English-common-law countries. On the other hand, Esping-Andersen's theory seems to find empirical support too. Countries belonging to the so called conservative model are more likely to have high levels of social contributions. In contrast, countries in the Scandinavian and the liberal model are more likely to adopt tax-funded systems.

However, it is hard to choose one of these theories. Which factor is the more determinant one: religion, the legal origins or the political origins? As table 6 shows all three variables are related to each other. Countries in the French-law tradition are mainly catholic and conservatives. Similarly, the English-law countries coincide with the Esping-Andersen's liberal countries, and countries in the Scandinavian legal tradition perfectly match the social-democratic ones. In any event, the Irish case (which is a non-protestant country with low levels of social contributions) and the Greece case (which is a non-catholic country with high levels of social contributions) seem to suggest that both legal and political origins are more decisive than religion. Which of those two theories is better depends on which variable is more exogenous: political tradition or legal tradition. However, maybe we do not need to choose. In practice, both political and legal traditions are closely related. English-law tradition legislation-style was (and is) just a more liberal legislation-style, and French and German-law traditions legislation-style a more regulatory-conservative legislation-style.

[table 6 over here]

Regardless of whether political, legal o religious tradition is the more decisive factor, being a dictatorship had a clear impact on the level of social contributions. As table 5 shows, the dictatorship dummy variable has a strongly significant positive effect on the probability of having high rates of social contributions. This result holds in all five regressions in table 7. It makes no difference what *institutional* variable we include in our analysis: our dictatorship variable never loses its statistical significance. Therefore, it seems that non-democratic governments were more likely to have high levels of social contributions. As we can see in Graph 2, Spain and Portugal showed very high levels of social contributions, even higher than other catholic, conservative and French-law countries. In fact, the ratio of social contributions to social spending in both Spain and Portugal was well above one during the 50's and the 60's (especially in Spain). That means that social security revenues exceeded social

benefits' level, which is an unknown scenario in other European countries others than Spain and Portugal.

After the mid 60's the Spanish and Portuguese ratios of social contributions dropped to equal other countries' levels in the catholic, French-law and conservative tradition. As I will try to show in the next section by focusing in the Spanish case, that fall may be consistent with changes in the political context. Anyway, it seems that non-democratic countries shared the basic features of less open economies as well as those of catholic, conservative and French-law tradition countries: high levels of social contributions. However, it seems they took those features further by having extremely high rates of social contributions.

In the previous section we found that western European dictatorships had a negative influence on social spending. In this section, we have found that dictatorships financed social spending in a less redistributive way as well. Our results seem to confirm that political factors matter. It seems that dictatorships are less redistributive than democracies, both as regards the level of social spending and the way it is funded. The next section focuses on the Spanish case to complement our econometric results and briefly provides a plausible interpretation for the Spanish model of social protection on the light of this paper's findings.

6. A Francoist model of social protection?

Why were social contributions that high under non-democratic governments? And why did they drop in the mid 60's? During Franco's dictatorship, social groups which opposed redistribution held more political power than pro-social-spending groups, because the political voice of pro-redistribution groups was particularly silenced and repressed. Given that scenario, it is not surprising that social contributions (which were a non-redistributive way to finance social security) reached such a high levels in Spain before the mid 60's. In fact, the extremely high levels of Spanish social contributions allowed Franco's regime to finance

social protection with out carrying out any deep tax reform[6]; in other words, in a non-redistributive way. In addition, it seems that employers did not have big incentives to oppose high social contributions. Under Franco's dictatorship workers lost their bargaining power, particularly before the 60's, which probably allowed firms to easily transfer social security costs to wages, regardless of social contributions were formally paid by employers or employees. In fact, employers' opposition to social insurances was limited during the first decades of Franco's regime, although bigger among small-size firms. And in any case, it was weaker than opposition to other social reforms, as for example, those aimed at strengthening labor bargaining power (Molinero and Ysas, 1993, 1998).[7] Anyway, since employers were probably able to easily transfers the cost of social protection to wages and since the social protection system built after the Spanish civil war was basically addressed to wage-earners (because it was a compulsory-social-insurance-based system), this implies that workers paid in practice their own social protection.

On the other hand, Dictatorship's trade policy is also an element to be taken into account. As we have already seen, less open economies are more likely to establish contributory systems. Since firms have to face less international competition, they can easily transfer increasing production costs derived from social contributions to final prices. As a consequence, firms' opposition tends to be weaker, especially in strongly protectionist contexts. Franco's dictatorship was characterized by active protectionism, especially during its first decade, although national industry kept protected from international competition along the whole period. It is possible that the Spanish protectionist policy also contributed to reduce employers' opposition. Lastly, the low levels of social spending before the 60's maybe contribute to explain the high ratio of social contributions as well. Probably, if social spending had been higher more public subsidies would have been needed to finance social protection.

[6] On the absence of any deep tax reform during Franco's dictatorship see Comín (2003).
[7] An eloquent example of how the employers acted as pressure groups can be found in Molinero and Ysas (1993). According to them, in the late 40's the government was not able to pass the *Works Council Act* (Ley de Jurados de Empresa), because of the employers' opposition.

Social contributions drop in the mid 60's was probably driven by the changes in the political context which took place in the early-mid 60's. Working class' bargaining power increased from the early-mid 60's on, which maybe reduced employers' ability to transfer social contributions costs to wages. Similarly, increasing workers capacity to act as a pressure group together with democratic opposition and political instability probably made social contributions fall, in the same way that it made social spending rise. On the other hand, as a result of the gradual liberalization of the Spanish economy firms started to face more international competition and transferring social contributions' costs became more difficult. Similarly, the growth of social spending, especially from the 60's, probably made that cost bigger. In fact, employers complained for the first time about the high level of Spanish social contributions in the 70's, in a context of economic crisis but also in a context of relative high social spending, relative high international competition and intense labor disputes, which prevented firms to transfer social contributions' costs to wages or consumers (Cabrera and Del Rey, 2002).

To sum up, Francoist model of social protection was characterized by a low level of social spending and a high level of social contributions. The low level of social spending is mainly explained by the political repression of the social groups which were in favor of redistribution. The high levels of social contributions are partially explained by that political repression, and partially by the government trade policy and the weak employers' opposition. We suggest that employers did not oppose high social contributions because the political context together with Franco's protectionist trade policy allowed firms to transfer the cost of social protection to wages and final prices. Finally, changes in the political context, such as the consolidation of a democratic opposition, the strengthening of the labor movement, and increasing political instability made social spending rise. At the same time, that growth of social spending, plus increasing labor disputes, and increasing trade openness prevented firms to transfer social contributions' costs to wages or consumers, and therefore, made it more and more difficult to finance social protection through social contributions.

7. Conclusions

Most of the studies about the welfare state have focused so far on the affluent democracies. In contrast, poorer and dictatorial countries have deserved less attention, partially because of the lack of data. This paper provides new evidence on the evolution of social spending in both Spain and Portugal between 1950 and 1980. Since both of them did not enjoy democratic governments until the mid-late 70's that new evidence allows us the relationship between dictatorships and redistribution.

In addition to the level of social spending and its distribution among different items, the way that social spending is financed is also analyzed in this paper. More exactly, the ratio of social security contributions to social spending is used as an indicator of redistribution. From the analysis of that ratio, we can complement the analysis based on the level of social spending and we can go deeply into the connections between dictatorships and redistribution. Similarly, the analysis of the determinants of social contributions has also revealed useful to clarify the role played by globalization. Instead of having a clear positive or negative effect on social spending, it seems that globalization rather shaped the way that social protection is financed.

In general, our findings confirm that economic and demographic factors are important determinants of social spending. On the one hand, there is empirical support for the Wagner's law, as GDP per capita has a positive effect on almost all kinds of social spending. Social transfers, in turn, show a rather counter cycle effect, and it seems that the elderly favored the rise of several types of social spending besides pensions, which suggest that they empathize somehow with other vulnerable social groups.

Globalization, in contrast, does not show any clear effect on social spending levels. Only unemployment and pensions were influenced by globalization, but they show opposite signs. Therefore, there is no strong

empirical evidence for Dani Rodrik's hypothesis or for the existence of a *race to the bottom*. In other words, it seems that globalization neither encourages social transfers nor was a hurdle for the rise of social spending. However, it played a bigger a role in shaping social protection systems' financing-style. More open economies tended to establish tax-funded systems, while less open economies were more likely to create contributory systems (funded through compulsory social contributions paid by employers and employees). This suggests that export-oriented firms opposed contributory systems, which would have increased labor cost.

Besides economic and demographic factors, political factors appear to matter. According to our results, being a dictatorship hindered the development of the welfare state. In fact, it helps to explain a big share of the differences in social spending levels between Spain (which was a dictatorship until the late 70's) and other European countries. It seems that the suppression of voting rights and the banning free unions and parties limited the political voice of those who were in favor of social transfers, which, in turn, decreased social demands for increasing redistribution. On the other hand, the role played by dictatorships is also reflected in the distribution of social spending, as dictatorships' negative influence is clearer in more redistributive types of spending as unemployment or education. Political instability, in contrast, contributed to increase social spending. Non-democratic governments appear to use social transfers to avoid social unrest and demands for regime shift. However, that positive effect is not enough to compensate the overall dictatorships' negative effect.

On the other hand, the way that social spending is funded is also analyzed in this paper, which may help us to assess whether dictatorships are less redistributive than democracies or not. More exactly, the ratio of social contributions to social spending is analyzed here. As mentioned before, more open economies were more prone to establish non contributory systems. Similarly, institutional factors such as predominant religion, predominant political tradition, or legal traditions were also important determinants of the

ratio of social contributions. Catholic, conservative and French-law-tradition countries appear to be more likely to create contributory systems, instead of tax-funded systems. The analysis of social protection funding also reveals that dictatorships were more prone to finance social protection via social contributions, which did not imply redistribution through government budgets.

To conclude, Western European countries, which suffered non-democratic governments between the 50's and 80's, appear to be less redistributive than the average European democracy. They had lower levels of social spending, gave priority to les redistributive types of social programs, and financed social protection in a non-redistributive way. Finally, an interpretation of the political economy of the Spanish welfare state during Franco's dictatorship on the light of this paper's findings is also provided. We suggest that Francoist model of social protection was characterized by a low level of social spending and a high level of social contributions. Political repression of pro-social-transfers groups explains the low level of social spending. The high levels of social contributions are partially explained by that political repression, and partially by the government trade policy and the weak employers' opposition. Employers did not probably oppose high social contributions because the political context together with Franco's protectionist trade policy allowed firms to transfer the cost of social protection to wages and final prices.

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Annex 1, data and sources

Dependent variables (table 2):

Education: public spending on education
Pension: spending on old-age, and survivors and disability benefits.
Health: public spending on health care.
Welfare: maternity and sickness leave spending, plus family allowances and other welfare spending.
Unemployment: spending on unemployment compensation.
Total social spending: the total of the above five categories.

Sources:

The Portuguese levels of social spending between 1950 and 1980 have been estimated from the statistical yearbooks of Portugal. They provide detailed information on the Portuguese social security system expenditures and the government expenditures. For the time period 1970-80, data on the Portuguese health care expenditures comes from the OECD health data, 2008 (*www.oecd.org/health/healthdata*). Functional classification of social spending before 1962 has been made from Pereirinha and Carolo (2007), and public spending on education is coming from Valerio (2001). For more details on the Portuguese estimates see annex 2.

The Spanish levels of social spending between 1950 and 1980 have been estimated through the careful examination of public budgets, and the reports, statistics, and yearbooks of the Spanish National Institute of Social Insurance (*Instituto Nacional de Previsión*). Public spending on education is coming from Comín and Díaz (2005).

The estimates of both Spanish and Portuguese social spending fit OECD functional classification and definitions.

Data for the remaining thirteen western-European countries included in the sample (Sweden, Norway, Ireland, Netherlands, Finland, Belgium, Denmark, Austria, United Kingdom, Italy, France, Greece and Germany) is coming from Flora (1986) and OECD (1985). OECD's data covers the time-period 1960-81, while Flora's data covers the time-period 1950-60. Flora (1986)'s levels of social spending have been rescaled to make them equal to OECD levels in 1960.

Dependent variables (tables 4 & 5):

> Ratio of social security contributions to social spending: social security contributions in current prices divided by public social spending in currents prices

Sources:

The sample includes the following 15 countries: Sweden, Norway, Ireland, Netherlands, Finland, Belgium, Denmark, Austria, United Kingdom, Italy, France, Greece, Portugal, Spain and Germany.

Data on social contributions is coming from OECD National Accounts [OECD (several years), *National Accounts, detailed tables*, volume II, Paris, OECD, Department of economics and statistics]. Most of the data is actually coming from the 1983 edition [National Accounts, detailed tables, volume II, 1964-1981, OECD, Department of economics and statistics, Paris, 1983], which provides the longer and homogeneous series on social contributions for the 60's and 70's. When the 1983 edition did not provide data for one particular year or country, data has been compiled from a different edition. However, sometimes, different editions of the OECD National Accounts show differences in the levels of social contributions. In that case, that discrepancy has been erased by rescaling the

series from the older edition so that it equals the last year available in the newer series.

Data on Spanish social contribution during the time-period 1958-81 is coming from Comín and Díaz (2005). For the time period 1954-58 data is coming from OECD National Accounts.

Independent variables (tables 2 and 3):

Log (GDP per capita): the log of GDP per capita, measured in 1990 International Geary-Khamis dollars. Source: Maddison (*www.ggdc.net/maddison/)*

GDP growth: the annual rate of GDP growth. Source: Maddison (*www.ggdc.net/maddison/).*

Elderly: Share of the total population over 65 years old. Source: *UN, World Population Prospects: The 2008 Revision.*

Kids (5-14): Share of the total population between 5 and 14 years old. Source: *UN, World Population Prospects: The 2008 Revision.*

Openness: imports plus exports divided by GDP. Source: Penn tables 6.2.

Dictatorship: is a dummy variable, which takes value 1 when a country was a dictatorship during 4 years within the last four ones. If a country was a dictatorship during three years within the last 4 years then it takes value 0.75. It takes value 0.5 if there were two years of dictatorship and 0.25 if there was one year. If a country did not suffer any non-democratic government it takes value cero.

Years in which transition to democracy or military coup happened are considered half democratic and half dictatorial. For example, if a country suffered a coup in 1976, dictatorship dummy variable in 1978 takes value 0.625 (0.5 because that country was non-democratic during two years: 1977 and 1978, plus 0.125 because half of the year 1976 is considered dictatorial).

The countries included in our sample have been ranked into democratic or non-democratic according to the Polity-IV project. The Polity-iv project offers several combined indicators of democracy and autocracy. One of them is the Polity2 indicator, where countries are ranked from +10 (strongly democratic) to -10 (strongly autocratic). Those countries whose combined polity2 indicator was below cero, that is to say negative, has been considered dictatorships herein. In our sample are non-democratic countries: Greece, from 1967 to 1974, Spain until 1977, and Portugal until 1974. Source: *Polity IV Project, Center for Global Policy, School of Public Policy, George Mason University and Center for Systemic Peace (www.systemicpeace.org/polity4)*

Political instability: number of executive adjustments in non-democratic governments during the last 4 years. Source:

Migration: Net migration rate, defined as: "*The number of immigrants minus the number of emigrants over a period, divided by the person-years lived by the population of the receiving country over that period. It is expressed as net number of migrants per 1,000 population.*" Source: *UN, World Population Prospects: The 2008 Revision.*

Unemployment: rate of unemployment (the denominator is the total active population), Source: *OECD, Annual Labor Force statistics.*

Annex 2, Portuguese social spending data

Portuguese social spending levels have been estimated from several sources, which are:

1. The statistical yearbooks of Portugal
2. The OECD health data, 2008
3. Pereirinha and Carolo (2007)
4. Valerio (2001)

As mentioned before, social spending is classified into five different categories: pensions, health, welfare, education and unemployment. Social spending on pensions, welfare and unemployment have been estimated from the statistical yearbooks of Portugal, and Pereirinha and Carolo (2007).

From 1962 onwards, the statistical yearbooks of Portugal provide detailed information on the Portuguese social security system expenditures. More exactly, social expenditures are classified in several categories (family allowances, sickness, old-age and invalidity pensions, survivors, general welfare and other subsidies, and unemployment compensation from 1977 on), and the administration cost are collected separately, so we can calculate social spending excluding the administration cost.

Pensions spending are composed of old-age and invalidity pensions plus survivors pensions. **Welfare** includes family allowances, sickness leave benefits, general welfare spending and other subsidies to families. It is worth mentioning that the total sickness benefits reported by the Portuguese statistical yearbooks include both *benefits in kind* (health care and medicines) and *cash benefits* (sickness leave benefits). Only *cash benefits* are included in the category *welfare*. Finally, **Unemployment** includes unemployment compensation spending.

Before 1962, the statistical yearbooks still provide information on social security expenditures, but they do not provide information about its distribution among different categories. However, Pereirinha and Carolo (2007) offer disaggregated data on Portuguese social spending levels and its distribution among different items. Therefore, for the time-period 1950-61 we have calculated Portuguese levels of social spending from Pereirinha and Carolo's data. It is important to point out that the total levels of social spending provided by the Portuguese statistical yearbooks and Pereirinhas and Carolo's total spending levels are coincident, so we do not expect any distortion because of we use two alternative sources.

Data on Portuguese **health** spending levels are also coming from several sources. From 1970 onwards levels on public health spending reported by the OECD health data, 2008 (*www.oecd.org/health/healthdata*) are used. Before 1969 health spending are calculated adding up sickness benefits in kind (from the sickness insurance) and public health spending from the Department of Health and Welfare (*saúde e assistência*). This information comes from the statistical yearbooks.

As already mentioned, before 1962 the Portuguese statistical yearbooks do not provide disaggregated information, so we are not able to know the amount of sickness benefits in kind. Pereirinha and Carolo (2007) offer data on total sickness insurance benefits, but they do not distinguish benefits in kind from cash benefits. However, we can estimate the level of sickness in kind from the information we have for the sixties. Between 1960 and 1968 the ratio of benefits in kinds to total benefits kept almost constant around 0.5[8]. Therefore we can estimate sickness benefits in kind assuming that this ratio also held constant and around 0.5 for the period 1950-61.

Finally, public spending on **education** is coming from Valerio (2001).

[8] From 1969 on this ratio increased to more than 0.6, so I decided to take the period 1960-68 for the calculations.

Table 1, the evolution of social spending (%GDP) in selected Western-European countries, 1950-80

	Denmark	Germany	Ireland	Italy	Belgium	Portugal	Spain	United Kingdom
1950	12,46	16,63	10,01	9,39	12,57	3,21	2,48	12,45
1955	15,09	16,94	11,36	12,31	13,57	4,06	3,39	12,17
1960	16,06	20,48	11,33	16,58	17,58	4,69	3,41	13,87
1965	19,11	22,41	13,38	19,87	21,32	4,96	3,57	16,13
1970	26,19	23,55	16,55	21,11	25,10	5,99	9,74	18,42
1975	32,39	32,55	22,33	25,40	34,21	12,01	12,46	22,39
1980	35,49	30,78	24,62	26,18	37,88	13,98	18,77	21,88

Source: see text.

Table 2, the determinants of social spending levels, 1950-78

Dep. var. (in Logs)	Education		Pensions		Health		Welfare		Unemployment		Total	
	(1)		(2)		(3)		(4)		(5)		(6)	
C	-4,733	***	-6,068	***	-9,087	***	-6,277	***	-7,699	***	-4,025	***
	(1,874)		(1,055)		(0,902)		(1,205)		(2,253)		(0,985)	
Log(GDP per capita)	0,637	***	0,647	***	0,973	***	0,745	***	-0,319		0,488	***
	(0,168)		(0,201)		(0,166)		(0,237)		(0,454)		(0,165)	
GDP growth	-0,011	**	-0,014		-0,014	**	0,004				-0,008	
	(0,005)		(0,008)		(0,007)		(0,010)				(0,005)	
Log(Elderly)			1,173	***	0,628	*	0,622		2,500	**	1,172	***
			(0,405)		(0,366)		(0,555)		(1,040)		(0,334)	
Log(Kids, 5-14)	0,243											
	(0,258)											
Log(Openness)	-0,082		-0,227	*	0,005		-0,201		0,740	**	-0,093	
	(0,086)		(0,121)		(0,091)		(0,153)		(0,317)		(0,077)	
Migration	0,007	*	-0,006		-0,005		-0,018	***	-0,003		-0,004	
	(0,004)		(0,007)		(0,004)		(0,007)		(0,021)		(0,004)	
Dictatorships	-0,403	***	-0,560		-0,512	***	0,037		-1,256	***	-0,476	***
	(0,130)		(0,374)		(0,125)		(0,271)		(0,322)		(0,171)	
Political instability	0,022	**	0,032		0,021	**	-0,009		0,070	***	0,022	*
	(0,010)		(0,029)		(0,010)		(0,022)		(0,024)		(0,013)	
Unemployment									0,190	***		
									(0,028)			
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
R-squared	0,980		0,960		0,976		0,955		0,942		0,974	
Mean dep. var.	1,523		2,620		1,529		2,046		-1,484		3,904	
DW	1,971		2,065		2,317		2,238		2,346		1,997	
Obs.	102		99		97		97		67		100	

Notes: Dependent variables are education, pensions, health, welfare unemployment and total social spending as a percentage of GDP. Dependent variables, GDP per capita, share of population over 65 and the degree of openness are in logs. For details about the sources and definitions of both the dependent and the independent variables see the annex. The sample is composed of 15 countries: Sweden, Norway, Ireland, Netherlands, Finland, Greece, Belgium, Denmark, Austria, UK, Italy, France, Germany, Spain, and Portugal. Eight four-year time periods are included (from 1950 to 1978). Estimation method is weighted least squares in order to correct for heteroscedasticity and adjusted for a first order serial correlation. All the regressions include cross-country fixed-effects. Standard errors are in brackets, * significance at 10% level, ** significance at 5% level, *** significance at 1% level.

Table 3, explaining differences in total social spending, 1974

	Europe	Italy	France	Ireland
	(This country's level minus Spain's level in 1974)			
Country Fixed Effects	0,146	0,292	0,105	0,418
	(14,26)	(24,16)	(8,51)	(33,90)
Log of GDP per capita	0,150	0,148	0,232	-0,071
	(14,61)	(12,28)	(18,87)	(5,78)
GDP growth	0,000	0,000	0,000	0,000
	(0,03)	(0,01)	(0,02)	(0,02)
Elderly	0,216	0,171	0,291	0,066
	(21,08)	(14,15)	(23,64)	(5,31)
Globalization	-0,067	-0,031	-0,027	-0,099
	(6,53)	(2,56)	(2,22)	(8,02)
Migration	-0,004	-0,001	-0,010	-0,014
	(0,38)	(0,07)	(0,80)	(1,14)
Dictatorships	0,389	0,476	0,476	0,476
	(37,93)	(39,42)	(38,73)	(38,64)
Political instability	-0,053	-0,089	-0,089	-0,089
	(5,17)	(7,33)	(7,20)	(7,19)
Total predicted difference (in logs)	0,778	0,968	0,979	0,687
	(100)	(100)	(100)	(100)
Total observed difference (in logs)	0,724	0,783	0,773	0,631

Notes: each variable contribution is calculated by multiplying coefficients from regression 6 (table 2) by the independent variables values in 1974. All variables are defined as in table 6 (the dependent variable, GDP per capita, share of population over 65 and openness are in logs). Europe's independent variables values are just the average of our 15 European countries included in the sample. Each variable contribution's percentage appears in brackets.

Table 4, the determinants of (low) social contributions levels, 1950-81

Dependent variable: social contributions are less than 30% of social spending								
C	13,593	**	21,889	***	-7,020	*	18,581	***
	(6,127)		(6,438)		(4,117)		(5,941)	
Log GDP	-1,731	**	-3,142	***	0,916	*	-2,711	***
	(0,824)		(0,879)		(0,553)		(0,813)	
GDP growth	0,002		-0,107		0,089		-0,029	
	(0,062)		(0,070)		(0,060)		(0,082)	
Elderly	-0,008		0,093		-0,319	***	0,094	
	(0,114)		(0,113)		(0,094)		(0,112)	
Openness	0,025	***	0,022	***	0,007	*	0,020	**
	(0,007)		(0,007)		(0,004)		(0,008)	
Catholicism	-2,900	***						
	(0,332)							
Protestantism			4,048	***				
			(0,454)					
Legal origins								
English					0,927	***		
					(0,282)			
Scandinavian							3,729	***
							(0,338)	
McFadden R-squared	0,166		0,237		0,050		0,314	
Log likelihood	-160,234		-146,689		-182,563		-131,811	
Obs. with dep. var.=0	377		377		377		377	
Obs. with dep. var.=1	69		69		69		69	
Total obs.	446		446		446		446	

Notes: Dependent variable is a binary variable, which takes value one when the ratio of compulsory social contributions to social spending is lower o equal to 0.3, and takes value cero otherwise. For details about the sources and definitions of both the dependent and the independent variables see the annex. The sample is composed of 15 countries: Sweden, Norway, Ireland, Netherlands, Finland, Greece, Belgium, Denmark, Austria, UK, Italy, France, Germany, Spain, and Portugal. The time-period is 1950-81 and observations are annual. Estimation method is logit regressions. Robust Standard errors are in brackets, * significance at 10% level, ** significance at 5% level, *** significance at 1% level.

Table 5, the determinants of (high) social contribution levels, 1950-81

Dependent variable: social contributions are more than 70% of social spending										
C	-4,667		-13,940	**	0,409		-8,138		-9,928	
	(6,290)		(5,469)		(6,370)		(6,385)		(6,472)	
Log GDP	0,423		1,719	**	-1,163		1,021		1,033	
	(0,734)		(0,691)		(0,928)		(0,823)		(0,803)	
GDP growth	-0,876	***	-0,757	***	-0,990	**	-0,777	***	-0,784	***
	(0,245)		(0,284)		(0,393)		(0,235)		(0,251)	
Elderly	0,098		-0,017		0,699	***	-0,008		-0,032	
	(0,100)		(0,115)		(0,234)		(0,113)		(0,106)	
Openness	-0,058	***	-0,050	***	-0,048	***	-0,055	***	-0,046	***
	(0,013)		(0,010)		(0,010)		(0,011)		(0,010)	
Catholicism	1,160	**								
	(0,473)									
Protestantism			-2,963	***						
			(0,673)							
Legal origin										
French					3,666	***				
					(0,723)					
Scandinavian							-1,095	**		
							(0,524)			
Continental									1,907	***
									(0,480)	
Dictatorship	8,871	***	8,953	***	9,369	***	8,932	***	8,639	***
	(2,088)		(2,261)		(2,928)		(2,053)		(2,130)	
McFadden R-squared	0,550		0,605		0,659		0,543		0,570	
Log likelihood	-106,147		-93,361		-80,434		-107,932		-101,530	
Obs. with dep. var. =0	347		347		347		347		347	
Obs. with dep. var. =1	99		99		99		99		99	
Total obs.	446		446		446		446		446	

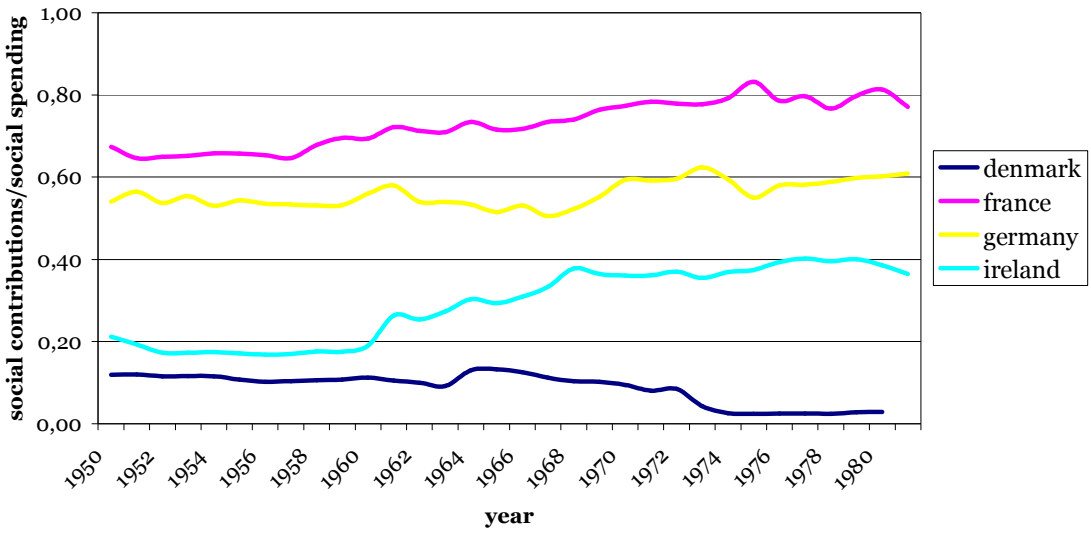
Notes: Dependent variable is a binary variable, which takes value one when the ratio of compulsory social contributions to social spending is higher o equal to 0.7, and takes value cero otherwise. Independent variables, time-period, countries included in the sample and estimation method is the same as in table 4.

Table 6, comparing religion, legal origins and Esping-Andersen's classification

	average social contributions, 1950-81	share of Catholics	share of Protestants	Legal origins	Esping-Andersen's classification
Denmark	0,09	0,01	0,99	Scandinavian	Social-democratic
Finland	0,30	0	0,98	Scandinavian	Social-democratic
Norway	0,57	0	1	Scandinavian	Social-democratic
Sweden	0,35	0	1	Scandinavian	Social-democratic
Ireland	0,29	0,93	0,07	English	Liberal
UK	0,37	0,14	0,84	English	Liberal
Austria	0,47	0,91	0,04	German	Conservative
Germany	0,56	0,34	0,65	German	Conservative
Belgium	0,52	0,98	0,02	French	Conservative
Netherlands	0,58	0,43	0,53	French	Conservative
Italy	0,61	1	0	French	Conservative
France	0,73	0,98	0,02	French	Conservative
Greece	0,72	0,01	0	French	Conservative
Portugal	0,92	1	0	French	Conservative
Spain	0,95	1	0	French	Conservative

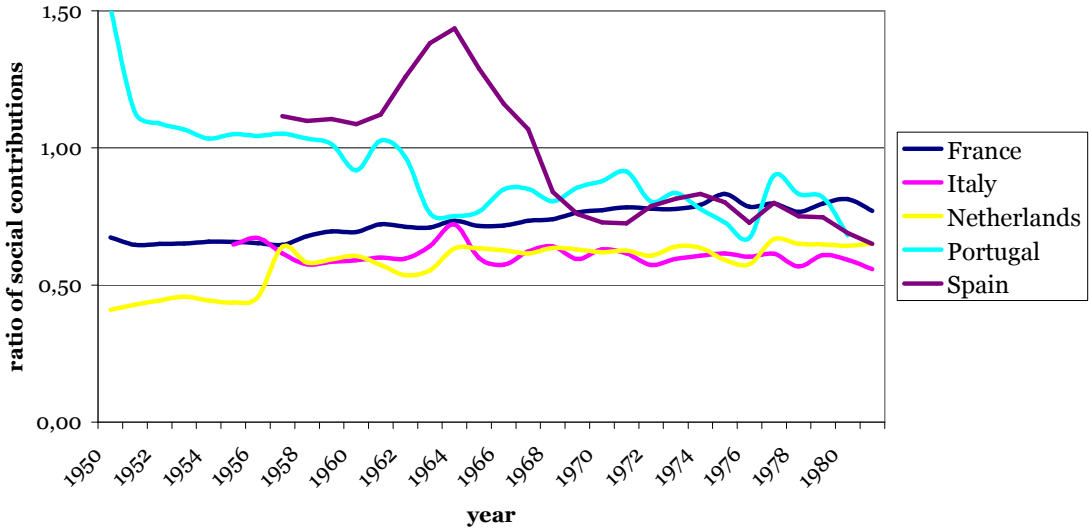
Source: for the ratio of social contributions see text. The share of Catholics and Protestants come from Lindert's worksheet, Legal origins classification from Botero et.al. (2004), and Esping-Andersen's classification comes from Esping-Andersen (1990).

Graph 1
the evolution of social contributions, 1950-81



Source: see text

Graph 2
Dictatorships and social contributions, 1950-81



Source: see text