

# **The determinants of social spending in Spain, 1950-1980, Are dictatorships less redistributive?<sup>1</sup>**

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## **Abstract**

The development of the Welfare State has been much studied. However, most of the studies about the Welfare state focus on the affluent democracies. This paper provides new evidence on the evolution of social spending in Spain and Portugal, two countries which had been traditionally excluded from the comparative analyses of welfare state, partially because of the lack of data. Since both Spain and Portugal were dictatorships for a long time (from the interwar period to the mid seventies), they offer us an interesting opportunity in order to test the relationship between dictatorships and social spending from a comparative perspective. 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. According to our econometric results, during the time-period 1950-80 dictatorships had a negative effect on social spending. In addition, dictatorships show a strong preference for non-redistributive taxation during the time-period 1964-80. 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 peripheral western-European) dictatorships were less redistributive than democracies.

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## 1. Introduction

The rise of 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, higher 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, the expected sign of dictatorships' effect on social spending is not clear, even for those authors who stress the role of political factors. 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, the OECD database of social spending between 1960 and 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 late seventies), they offer us an interesting opportunity in order to test the relationship between dictatorships and social spending from a comparative perspective.

The impact on social policy of non-democratic governments 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. Not only the level of social spending but also its composition might be considered an indicator of redistribution. 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 seventies), Greece, which experienced a short period of dictatorship between the late sixties and the early seventies, and twelve more western-European democratic countries.

In addition to the determinants of social spending levels, the way that social protection is funded is also analyzed. The different choice between social security contributions (which, in fact, are a labor-taxes) and indirect or direct taxes, can help us to clarify the relationship between non-democratic governments and social spending, and therefore why some countries are more (or less) redistributive than others.

The next section introduces some leading theories and hypothesis about the evolution of social spending paying special attention to 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, while section 4 analyzes the determinants of social spending funding during the time-period 1964-80. Finally section 5 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 makes rise public revenues and, therefore, makes the provision of welfare easier. Similarly, 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). Nevertheless, 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. As a consequence, democracies with universal suffrage will spend more than elitist democracies. On the other hand, 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).

On the other hand, 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 below 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. As a consequence, 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”. According to this theory, social policy can be considered as a working class instrument to modify the market distribution of income. As a consequence, 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. But since they emphasize the role of democratic institutions, they seem to implicitly suggest that the welfare state is less likely to develop under dictatorships<sup>2</sup>. 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 how 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

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<sup>2</sup> Actually, using the “social democratic theories” framework, Hicks (1999) found the dictatorships to have a negative impact on social policy.

democracies. They point 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.

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 variables, the ageing of population, and the economic growth, the effect of globalization on social spending is also analyzed in this paper. 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. 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 of 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 tended to favor education expenditures in order to improve human capital and the economy's competitiveness. 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 1950-1980. 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 1950-1980. As usual, the dependent variable is the annual public social spending as a share of GDP. The data and the definitions of social spending are those provided by the OECD. However, given that both Spain and Portugal were not included in the OECD reports before 1980, I have estimated their levels of 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](http://www.oecd.org/health/healthdata)). 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*). For the twelve remaining western-European countries included in the sample (Sweden, Norway, Ireland, Netherlands, Finland, Belgium, Denmark, Austria, United Kingdom, Italy, France, and Germany) the data on the level of social spending is coming from two different sources. From 1960 to 1980 the data is coming from the OECD (1985) statistics on social spending, while for the time-period 1950-60 the data was compiled from Flora (1986).

The sample includes both public spending on social protection and its distribution among different items. In my analysis, 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. Similarly, the differences in less redistributive programs, like pensions, for example, could 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) but social spending also seem to have grown faster in these two countries. In contrast, social spending in countries like Ireland or the United Kingdom seems to have grown more slowly. 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.

[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 should expect a positive relationship between the level of income and social spending, because growing incomes imply growing public revenues. 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 more willing to support social transfers. On the other hand, 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 the impact of dictatorships, all the countries in the sample have been classified following the Polity-iv Project ranking. 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). In my analysis I have reversed the sign of the polity2 indicator, so I have built a “dictatorship” variable which ranks countries from 10 (strongly authoritarian) to -10 (strongly democratic).

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 not expect significant differences. 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.

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 may expect a negative impact of globalization on social spending, but authors as Dani Rodrik (1997) have suggested that globalization should 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 though. On the one hand, one might expect a

negative effect of migrations on social spending because they could reduce social demands of social protection (people is leaving instead of asking the government for more social protection). However, since the emigrants are usually working people, migration might increase the share of dependent people staying in the home country, and therefore this could increase the demands of social protection.

### 3.3. Discussion

The results of the econometric analysis are shown in table 2. Columns 1 to 6 show the results for pensions, health, welfare, education, unemployment and total social spending as dependent variables, respectively.

[Table 2 over here]

In general, the econometric results point out that there is some 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 had a positive and statistically significant impact on the level of social spending, especially in the cases of health, education and total social spending. However, its impact on pensions, welfare and unemployment spending is less clear, because the coefficient is not statistically significant, although it still keeps the positive (and expected) sign.

In contrast, the rate of growth of GDP does not show any statistically significant effect. In addition, its coefficient sign varies from type to type of social spending (it is positive in the case of welfare and unemployment spending, but negative as regards pensions, health and education). Therefore, it seems that social spending did not have a clear pro cycle or counter cycle behavior during the time-period 1950-80.

On the other hand, as we can see in table 2, demographic variables 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, welfare and total social spending). The only exception is unemployment spending, where the share of population over 65 has no significant effect. Therefore, as already stressed by Lindert (2004) the elderly seem to have exerted a positive influence upon different types of social programs and not only upon pensions expenditures. This results, could be suggesting that the elderly empathize with other vulnerable social groups and 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’s influence on social spending is also analyzed in this paper. However, according to the results shown in table 2 there is only weak support for Dani Rodrik’s hypothesis. Globalization, which is measured as the degree of openness, does not have any significant effect on social spending. The only exception is unemployment, where the degree of openness has a positive and significant influence on unemployment expenditures. This result is not surprising though. Unemployment is the social risk which is more clearly linked to market stability, and therefore, it is the social risk more sensitive to globalization. However, although globalization does not show a very strong positive effect, it is important to emphasize that, at least before the eighties, globalization has not been a threat for the Welfare State. Actually, as already said, it seems to have encouraged the expansion of unemployment benefits before 1980.

Similarly, the net migration rate slightly influenced social spending. More exactly, the net migration rate only has a negative and significant effect on welfare spending. This means that *immigration* has a negative impact on welfare spending, and at the same time, that *emigration* has a positive impact on welfare

spending. This result might be driven by the fact that emigrants are usually people able to work, and therefore emigration might increase the share of dependent people staying in the home country, increasing at the same time social demands for social protection. On the other hand, this result could be suggesting too, that home-countries tried to prevent emigration by increasing social benefits. Anyway, with the exception of welfare spending, the impact of migrations on social spending was insignificant.

Finally, as can be seen in table 2, the variable *Dictatorships* has a negative and statistically significant impact on the evolution of health, education and total social spending. Therefore, contrary to what have been stressed by authors like Mulligan *et. all.* (2002) political variables matter for the development of the Welfare State. Actually, the suppression of voting rights and the prohibition of left-wing parties and free trade-unions have a clear negative effect on the evolution of social spending. Probably, because these measures (at least in the cases of the Spanish, Portuguese and Greek dictatorships) limited the political voice of those social groups more willing to support growing social spending, that is to say, the working class and lower income groups. On the other hand, the *political legitimacy* theories, which suggest that non-democratic governments tend to create social insurance systems in order to legitimate themselves (Cutler and Johnson, 2004), do not seem to find empirical support. Because as already pointed out dictatorships show a negative impact on social spending. It seems that dictatorships tended to legitimate themselves (if so) in a different way.

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 seem to have had a negative influence on the evolution of social spending, although this negative effect is clearer in the case of health, education and total social spending. The next section analyzes the way that social spending is funded in several countries. As we will see next, this approach can also help us to shed some light on the relationship between social spending and

politics, and especially about the redistributive preferences of authoritarian governments.

#### 4. The determinants of social spending funding

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). Since social spending is basically funded by these social security contributions plus government subsidies, and since governments receipts are mainly composed of direct and indirect taxes, we can consider that social spending is basically funded through social security contributions, plus direct and indirect taxes<sup>3</sup>.

From this point of view, social protection systems mainly funded by compulsory social contributions (paid by employers and employees, which in fact are taxes on wages) and (or) indirect taxes, would be considered less redistributive than those ones mainly funded through direct taxes. Thanks to the national accounts records from the OECD we have detailed information about the government receipts for a wide range of European countries. More exactly, we know the sum of social security contributions, direct taxes and indirect taxes paid every year in several OECD countries since 1964. From this information we can calculate the ratio of compulsory social security contributions to social spending, and the ratios of direct and indirect taxes to social spending. The ratio of social security contributions to social spending 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. The ratio of direct and indirect taxes to this difference (that is to say the social spending not funded by social security contributions) is

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<sup>3</sup> Of course some social protection programs have its own resources (like receipts from assets for example) but it does not affect our argument.

assumed to be the same than the ratio of indirect and direct taxes to the total government receipts. For example, in a country “A” where the ratio of social contributions to social spending is 60% and the ratios of indirect and direct taxes to total government receipts are 60% and 40% respectively, then the ratio of direct taxes to social spending would be  $24\% = 40\% * 60\%$ , and the ratio of indirect taxes would be  $16\% = 40\% * 40\%$ .

As mentioned before, one would expect both the social security contributions ratio and indirect tax ratio to be higher in less redistributive economies. The determinants of all these three ratios are analyzed by using the same methodology than in the previous section, and the variables included are also the same. The sample is composed of twelve European countries (Sweden, Norway, Netherlands, Finland, Belgium, Austria, UK, Germany, Spain, France, Italy and Greece) and the time period is 1964-80. The results of the econometric analysis are shown in table 3.

[Table 3 over here]

Firstly, the level of GDP shows a negative effect on the indirect tax ratio and social contributions, and a positive effect on direct taxes. This means that, between 1964 and 1980, poorer countries relied extensively on indirect taxes and social contributions. This result is not completely surprising since poor countries tend to have less efficient tax systems and therefore it would be easier to increase public revenues via social contributions than through direct taxes. As regards GDP growth, it does not seem to have any significant effect on the way that social spending is funded. The share of population over 65 shows a positive effect on indirect taxes and the degree of openness show a negative impact on indirect taxes ratio.

Regarding the political variables, the econometric analysis shows that dictatorial governments have a positive statistically significant effect on indirect taxes and a negative and statistically significant influence on direct taxes. These

results imply that non-democratic governments (at least in the peripheral western-European countries) had a strong preference for non-redistributive taxation. In the previous section we found that dictatorships have a negative influence on social spending. In this section, we have found that dictatorships finance social spending in a less redistributive way as well. Therefore, 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.

## 5. Conclusions

This paper provides new evidence on the evolution of social spending in Spain and Portugal, two countries which had been traditionally excluded from the comparative analyses of welfare state, partially because of the lack of data. Since both Spain and Portugal did not enjoy democratic governments until the mid seventies, this new evidence allows us to analyze the influence exerted by non-democratic governments on social spending.

Both the evolution of total social spending and its several components (pensions, health, welfare, education, and unemployment expenditures plus total social spending) are analyzed in this paper. In addition, the way that social protection is funded is also analyzed. This research strategy allows us to carry out a deep analysis of the evolution of social spending and helps us to clarify the connections between politics and social spending, and more exactly between non-democratic governments and social spending.

In general, the main findings of this paper show that there is some empirical support for the Wagner's law. In other words, the level of GDP has a positive effect on social spending, which is clearer in the cases of health, education and total social spending. On the other hand, the level of GDP also has a positive effect on the direct tax ratio, suggesting a preference of the richer

countries for direct taxes in order to finance social protection. However, social spending does not show any pro-cycle or counter-cycle effect.

The demographic variables rise as an important determinant of social spending. As already emphasized by other authors like Lindert (2004), the elderly exerted a positive influence on the evolution of social spending. However, the impact of globalization is less obvious. According to our econometric results, globalization did not have any significant effect upon social spending. The only exception was unemployment benefits, as globalization exerted a positive influence on them. In any case, our results show that globalization was not a threat for the welfare state.

Regarding the political variables, our results show that authoritarian governments exerted a negative influence on the level of social spending. This negative effect was clearer in the cases of health, education, and total social spending. Therefore the *political legitimacy* theories and those theories neglecting the role played by political factors do not seem to find empirical support. In addition, the analysis of the way that social spending is funded also helps us to clarify the relationship between dictatorships and social spending. According to our econometric results non-democratic governments show a strong preference for non-redistributive taxation, as they rely on high indirect taxes and lower direct taxes. In general, these findings suggest that political factors matter for the evolution of social spending, and that dictatorships are less redistributive than democracies, regardless we analyze the level of social spending or the way it is funded.

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## ANNEX

### Dependent variables (table 2):

Pension: expenditures on old-age, and survivors and disability benefits.

Health: expenditures on health care.

Welfare: maternity and sickness leave expenditures, family allowances and other welfare expenditures.

Unemployment: unemployment compensation expenditures.

Education: expenditures on education.

Total social expenditures: the total of the above five categories.

The Portuguese levels of social spending between 1950 and 1981 have been estimated from the statistical yearbooks of Portugal. 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](http://www.oecd.org/health/healthdata)).

The Spanish levels of social spending between 1950 and 1981 have been estimated through the careful examination of public budgets, and the reports, statistics, and yearbooks of the Spanish National Institute of Social Insurance.

The rest of European countries levels of social spending are from Flora (1986) and from OECD (1985).

### Dependent variables (table 3):

Ratio social security contributions/social spending (sc/sp): social security contributions in current prices divided by public social spending in current prices

Ratio direct taxes/ social spending:  $(1-sc/sp)$  times the ratio of direct taxes to total public revenues minus social security contributions

Ratio indirect taxes/social spending:  $(1-sc/sp)$  times the ratio of indirect taxes to total public revenues minus social security contributions

Source: National Accounts, detailed tables, volume II, 1964-1981 OECD, Department of economics and statistics, Paris, 1983

Independent variables:

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

GDP growth: the annual rate of GDP growth. Source: Maddison ([www.ggd.net/maddison/](http://www.ggd.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: all the countries in the sample have been classified following the Polity-iv Project ranking. 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). In my analysis I have reversed the sign of the polity2 indicator, so I have built a “dictatorship” variable which ranks countries from 10 (strongly authoritarian) to -10 (strongly democratic). Source: *Polity IV Project, Center for Global Policy, School of Public Policy, George Mason University and Center for Systemic Peace* ([www.systemicpeace.org/polity4](http://www.systemicpeace.org/polity4))

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*.

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	10,30	17,28	9,45	9,16	13,27	3,21	2,48	11,93
1955	12,66	17,22	10,64	11,79	14,75	4,06	3,39	11,57
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, 15 Western-European countries, 1950-80

Dep. variable	Pensions	Health	Welfare	Education	Unemployment	Total
C	-13,216 (9,809)	-32,825 *** (6,936)	-12,273 (7,547)	-17,460 *** (5,314)	-1,482 (1,232)	-66,376 ** (25,227)
Log GDP per capita	0,527 (1,283)	3,407 *** (0,839)	1,272 (0,964)	2,606 *** (0,515)	0,158 (0,173)	5,630 * (2,944)
GDP growth	-0,026 (0,041)	-0,023 (0,024)	0,049 (0,034)	-0,026 (0,017)	0,029 (0,020)	-0,033 (0,078)
Elderly kids (5-14)	1,315 *** (0,214)	0,450 *** (0,143)	0,442 ** (0,179)		-0,027 (0,029)	2,939 *** (0,468)
Openness	-0,015 (0,013)	-0,006 (0,008)	-0,004 (0,010)	-0,008 (0,006)	0,006 ** (0,003)	-0,033 (0,026)
Dictatorship	-0,041 (0,034)	-0,055 *** (0,018)	0,020 (0,019)	-0,019 ** (0,008)	-0,002 (0,012)	-0,150 ** (0,067)
Migration unemployment	-0,021 (0,029)	-0,027 (0,018)	-0,033 * (0,019)	0,006 (0,012)	0,001 (0,009)	-0,074 (0,059)
					0,166 *** (0,016)	
R-squared	0,958	0,950	0,921	0,983	0,864	0,972
Mean dep. var.	6,165	3,833	4,816	5,617	0,698	19,774
DW	1,992	1,784	2,251	2,149	1,625	1,798
Obs.	99	97	97	102	87	100

Notes: Dependent Variables are total social spending, pensions, health, welfare, education and unemployment, all of them as a percentage of GDP. For details about 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 number of time periods included are eight four-year time periods 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 in brackets, \* significance at 10% level, \*\* significance at 5% level, \*\*\* significance at 1% level.

Table 3, the determinants of social spending funding, 12 Western-European countries, 1964-80

Dep. variable	Social Contributions	Direct taxes	Indirect taxes
c	2,280 *** (0,695)	-0,313 (0,228)	1,714 *** (0,201)
log GDP per capita	-0,201 ** (0,092)	0,073 ** (0,032)	-0,154 *** (0,028)
GDP growth	-0,422 (0,340)	0,219 (0,144)	0,224 (0,136)
Elderly	0,373 (0,953)	-0,584 (0,355)	0,687 ** (0,329)
Dictatorship	0,014 (0,102)	-0,036 *** (0,011)	0,033 ** (0,014)
Openness	0,002 (0,002)	0,0005 (0,001)	-0,0014 *** (0,0005)
R-squared	0,897	0,963	0,955
Mean dep. var.	1,284	0,390	0,416
DW	1,526	1,692	1,961

Notes: Dependent variables are social contributions as a share of social spending, direct taxes as a share of global public revenues and indirect taxes as a share of global public revenues. For details about both the dependent and the independent variables see the annex. The sample is composed of 12 countries: Sweden, Norway, Netherlands, Finland, Greece, Belgium, Austria, UK, Italy, France, Germany, and Spain. The number of time periods included are five four-year time periods from 1964 to 1980. Therefore the global number of observations is 60 (12 times 5). For estimation method see table 2.