Civic Attitudes and the Design of Labor Market Institutions: Which Countries can Implement the Danish Flexicurity Model?

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Abstract

We argue that the efficiency of the Danish flexicurity Model, which combines high unemployment benefits with low job protection and high participation rate, relies on strong public-spiritedness. We also argue that Continental and Mediterranean European countries are unlikely to be able to implement the Danish Model because the lack of public-spiritedness of their citizens raises moral hazard issues which hinder the implementation of efficient public unemployment insurance.

1 Introduction

In June 2005, the Danish Minister of Employment Claus Hjort Frederiksen claimed at the occasion of a conference on flexicurity that: "the Danish flexicurity model has been proclaimed to be the panacea that will solve all the problems on the French labour market (...) And there are many good reasons why the French are looking to Denmark for inspiration: 1) Denmark is among the European countries with the highest employment rates and the lowest unemployment rates. 2) Danish employees are in the forefront internationally when it comes to how they see their job security. 3) Denmark is also in the top class as regards job satisfaction".[1]

The Danes can be proud: the Danish flexicurity model does not look attractive only in France. It is attractive for many European countries because it has been able to combine high participation rates with generous safety nets. For a decade now, the European Commission advised European countries to adopt the main features of the flexicurity model in order to increase labor market efficiency. Yet, although many features of the Danish Model look ideal for the European Commission, the labor market institutions and labor market outcomes of

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[1]This speech is available at http://www.bm.dk/ministeren/taler/050616_uk.asp.
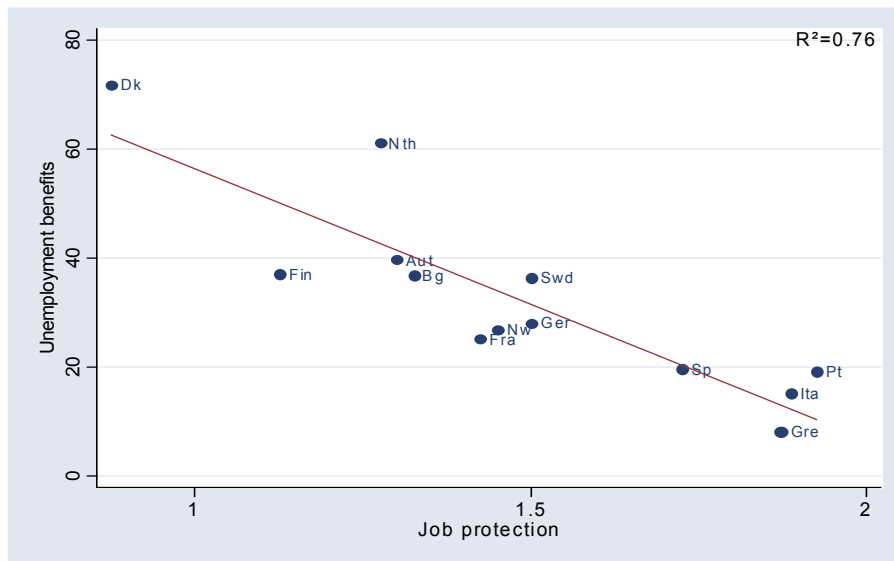
Figure 1: Unemployment benefits and Job protection in the end of the 1990s. Source: OCDE.

European countries are still very different from those of Denmark. The most striking difference is to be found in the combination of unemployment benefits and job protection, which are the main devices to protect workers against the risk of unemployment. As shown in Figure 1,[2] a trade-off shows up between unemployment benefits and employment protection in European countries (see Boeri et al., 2004, and Clark and Postel-Vinay, 2005). Mediterranean countries and (to a less extent) Continental European countries have lower unemployment benefits but more stringent job protection compared to Denmark, which appears as a clear outlier on this issue.

As noted by Freeman (2000), the emergence of a set of labor market institutions heralded by policy analysts and economists is not new. And Freeman argues that diversity of labor market institutions among advanced countries stems from cross-country differences in values over distributional issues because labor market institutions have large effects on distribution, but modest hard-to-uncover effects on efficiency. This relativist conception, according to which the choice of labor market institutions is a matter of taste, unrelated to efficiency, is often advocated for. For instance, some contributions have claimed that differences in labor market

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[2] The figures of the introduction are focused on European countries only. The trade-off between unemployment benefits and employment protection legislation is less clear-cut in a two dimensional space when other countries are accounted for. In particular, Anglo-Saxon countries, in which there is less redistribution of income, have lower unemployment benefits than that expected because unemployment benefits are influenced by insurance and redistributional purposes. Such effects are taken into account in the empirical part of the paper. Unemployment benefits are computed as the share of GDP per capita expenditure per unemployed worker provided by the OECD. Job protection is proxied by the OECD index on regular and temporary contracts (EPL1 indicator).
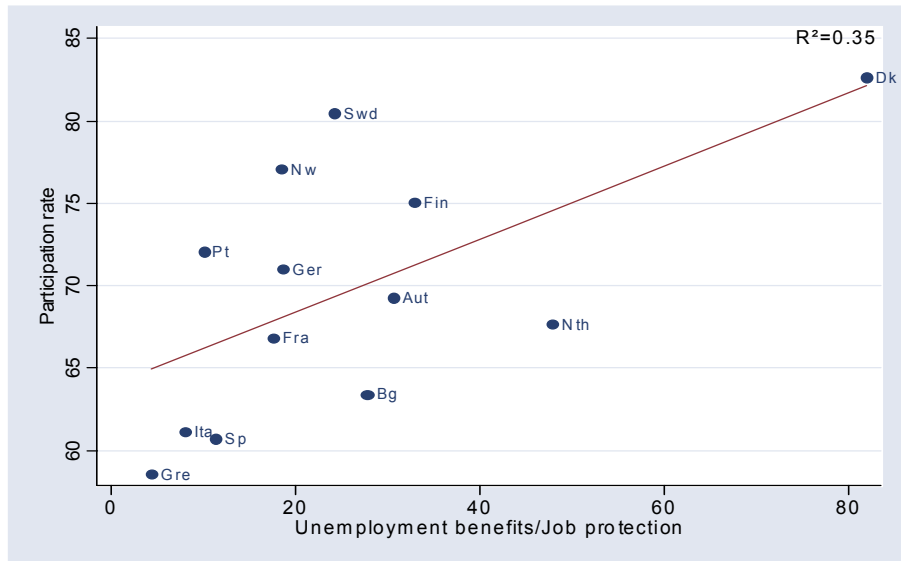
Figure 2: Unemployment benefits/protection ratios and participation rates in the end of the 1990s. Source: OECD.

institutions and outcome are rooted in the higher weight put on home production in European countries (Rogerson, 2003, Freeman and Shettkat, 2005), or come from stronger preferences for leisure (Blanchard, 2004, Alesina et al., 2005) and from more traditional family values in Continental European countries and Mediterranean countries (Algan and Cahuc, 2005).

The efficiency of the Danish flexicurity Model seems to contradict this common relativist stand. Figure 2 shows that European countries with high unemployment benefits /job protection ratio are also those in which participation rates are high. Figure 3 also shows that countries with high unemployment benefits have high participation rates whereas the correlation between employment protection and participation rates is negative. Moreover, studies based on individual subjective data suggest that individuals feel better protected by unemployment benefits rather than by employment protection (Clark and Postel-Vinay, 2005).

From that perspective, it becomes hardly understandable why European countries do not implement the flexicurity model. The aim of our paper is to provide an explanation for this puzzle. We argue that the flexicurity model is hardly sustainable in countries displaying weak public-spiritedness because the unemployment insurance design raises moral hazard issues that are much more difficult to overcome in countries in which individuals are more prone to cheat over government benefits. Besides, we are also able to document that civic attitudes cannot be systematically changed quickly just by changing institutions. This result has far-reaching consequences for the policy reforms agenda. It indicates that civic attitudes impose real constraints
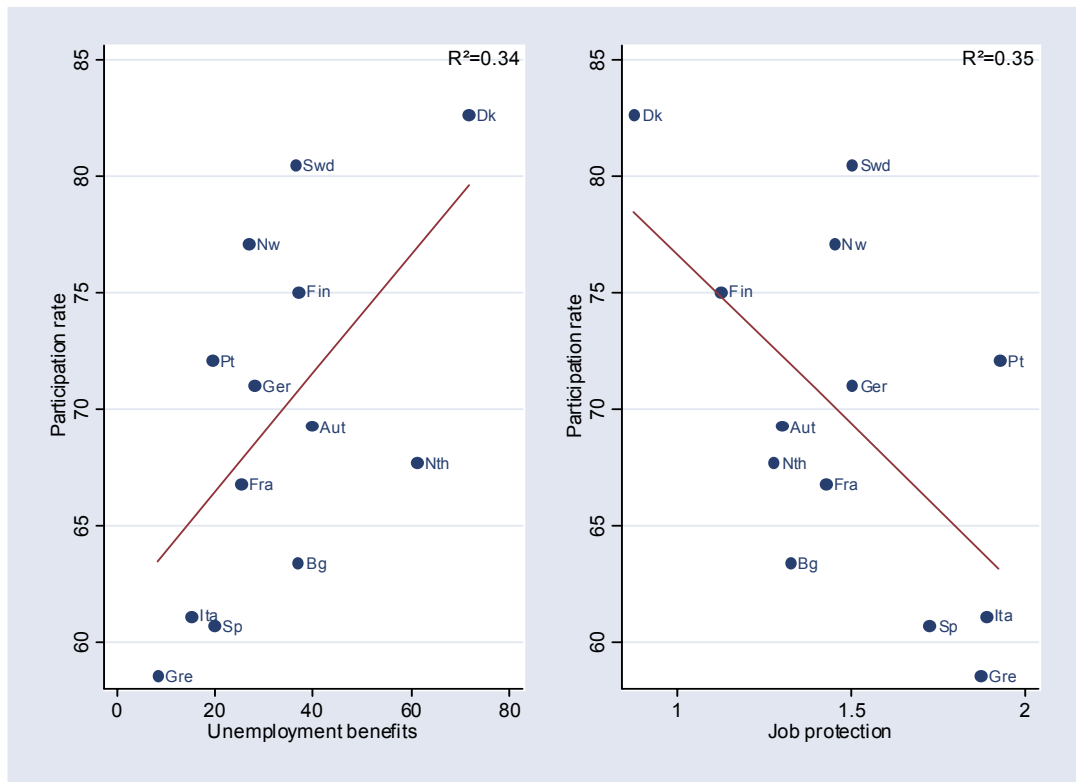
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Figure 3: Unemployment benefits, job protection and participation rate in the end of the 1990s.
Source: OCDE.

on the choice of labor market institutions. From this point of view, it is unlikely that countries with weak public-spiritedness can implement the Danish Model without specific actions aiming at changing the values of their citizens.

It is worth noticing that our conclusions are in line with those of the literature focused on the interactions between culture, institutions and economic outcomes. This literature, which had recently a new start in economics thanks to the availability of new international surveys,[3] shows that individuals' preferences and priors are rooted in cultural orientations that are acquired through socialization in a society's historical heritage. Moreover, those priors and preferences have an impact on outcomes. For instance, cultural differences turn out to have an impact on savings across countries (Guiso et al., 2005), but also on fertility rates (Fernandez et al., 2004, Fernandez and Fogli., 2005), on employment rates (Algan and Cahuc, 2005, Fernandez and Fogli., 2005), on individuals' prior on social mobility (Alesina and Glaeser, 2004) and on trust toward a third party (Guiso et al. 2003). In the same spirit, the paper of Ichino and Maggi (2000), which documents the existence of north-south regional shirking differences in a large Italian bank, suggests that the degree of 'civicness' is influenced by individuals' historical heritage.[4] This literature has also stressed that the degree of trust and of 'civicness' have an impact on economic outcome. For instance, Guiso et al. (2004) find that a country whose residents trust residents of another country more tend to exchange more goods and financial assets with it. Tabellini (2005) estimates that GDP per capita and growth are higher in European regions that exhibit higher degree of values such as trust, respect for others, and confidence in individual selfdetermination. Tabellini documents that those values are related to historical variables such as the literacy rate at the end of the XIXth century, and the political institutions in place over the past several centuries. From this point of view, the customary priors and preferences that ethnic and social groups transmit seem to remain fairly unchanged across generations. All these findings are in line with our results, that are obtained in two steps.

First (section 2), we provide a model in which unemployment insurance and job protection are shaped by a government[5] which implements a policy platform that has won an electoral competition.[6] This model shows that the provision of unemployment insurance is more costly in

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[3] See the survey of Guiso et al. (2005).

[4] This idea has been explored in sociology and political science by Banfield (1958) and Putnam (1993).

[5] In the seminal papers of the "implicit contract" (Baily, 1974, Azariadis, 1975), unemployment insurance is provided by employers. However, unemployment insurance is always provided by government or public agencies and not by firms in the real world because selection and moral hazard problems prevent firms to offer unemployment benefits (Kiander, 1993, Chui and Karni, 1998). When unemployment insurance is provided by public authorities, it is worth introducing employment protection, under the form of layoff taxes, to induce firms to take account of the fiscal externalities linked to their job destruction decisions (Feldstein, 1976, Burdett and Wright, 1989a,b, Blanchard and Tirole, 2004).

[6] Electoral competition is represented by the probabilistic voting model: see Persson and Tabelini (2000).

economies in which civic attitudes make it more acceptable to cheat on unemployment benefits, leading the government to provide lower unemployment benefits. As a counterpart, employees are protected thanks to more stringent employment protection. But the lack of unemployment insurance due to moral hazard is detrimental to labor market participation. In this context, moral hazard hampers government's ability to implement efficient labor market institutions which undermines participation rates.

Second (section 3), we use international individual surveys to document that attitudes toward government benefits are shaped to a large extent by country specific effects. Aggregate panel data also show that countries in which a large fraction of the population considers that it is not justifiable to claim government benefits to which you are not entitled also have high unemployment benefits, low job protection and high participation rates. Obviously, the correlation between civic attitudes and the design of labor market institutions does not mean that the causal relation goes from social attitudes to the unemployment benefits/employment protection ratio. Yet we provide some evidence of such a causal relationship. First, by showing that people who face the same economic environment by living in the same country, but who differ by the national origin of their ancestors, do have significantly different attitudes towards government benefits. The influence of the national backgrounds still holds when controlling for the socioeconomic individual characteristics.[7] Moreover, their civic attitudes are perfectly in line with those currently expressed in their country of origin. This suggests that civic attitudes towards government benefits are rooted in country specific features which have long lasting effects on individuals. Second, we instrument the average degree of public-spiritedness within each country by the shares of people belonging to each religious denomination at the beginning of the seventies. The IV estimates provides more evidence on the causal impact of civic attitudes on labor market outcomes.

2 The model

We consider an economy in which a numeraire good is produced thanks to labor. There is a continuum of mass 1 of individuals. Individuals differ in their taste for leisure whose continuous differentiable cumulative distribution function is denoted by $H(h) : \mathbb{R} \to [0,1]$. As regards

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[7]This type of empirical strategy has been used by Reimers (1985), Blau (1992), Carroll et al. (1999), Antecol (2000), Guinnane et al. (2002), Giuliano (2004), Fernandez and Fogli (2005) and Algan and Cahuc (2005). Blau (1992) and Guinnane et al. (2002) examine whether the fertility of immigrants differs from that of the native born in the US. Reimers (1985) and Antecol (2000) study the effect of the country of origin on the labor force participation of immigrants. Using the same approach, Giuliano (2004) focuses on family leaving arrangements and Fernandez and Fogli (2005) analyze female labor participation and fertility. Caroll et al. (1999) use this approach for the analysis of saving behavior. Algan and Cahuc (2005) look at family values. All these studies find some significant influence of the country of origin on cultural values, behaviors and economic outcomes.

consumption and leisure, the preferences of the type-h individuals are represented by the utility function $v(c) + \ell h$, where $c \geq 0$ stands for consumption, v is a increasing, concave and twice derivable function, and ℓ denotes leisure. Inactive individuals get $\ell = 1$ and $c = 0$. Active individuals can be either employed or unemployed. Employed workers get a wage, denoted by w, but do not benefit from any leisure: $\ell = 0$. Thus, the utility level of an employee amounts to $v(w)$. Unemployed workers get unemployment benefits, denoted by b, provided by the government. Unemployed workers choose a level of search effort that can be either low or high because the government cannot perfectly monitor search activity. The utility level of unemployed workers who produce the high level of search effort is worth $v(b)$ because the leisure cost of the high search effort is assumed to be the same as the leisure cost of waged work. The utility level of unemployed workers who produce the low level of search effort amounts to $v(b) + (1 - \alpha)h - \gamma$. The term $(1 - \alpha)h$ shows up because the government can force job seekers to devote a share $\alpha \in (0, 1)$ to job search activities; $\gamma \geq 0$ stands for the utility loss induced by guilt feelings of individuals cheating on unemployment benefits. In the following, we focus on the consequences of such guilt feelings on the design of unemployment insurance and job protection.

There is a potentially large number of firms that can create jobs. Creating a job entails fixed costs denoted by $k > 0$. A job produces x units of the numeraire good, where $x \in \mathbb{R}$ is an idiosyncratic shock drawn in a distribution with a continuous differentiable cumulative distribution function denoted by G. The productivity shock, x, which is a private information of the firm, is not contractable. Firms enter into competition to offer wages to workers. As workers are assumed to be perfectly mobile, between-firm competition entails zero profit.

There is a government which provides unemployment benefits, financed by payroll taxes, denoted by τ, and by layoff taxes, denoted by f. The policy of the government is determined by elections.

The time sequence of events runs as follows:

1) Individuals vote on the policy platforms (τ, f, b).

2) Individuals decide whether to be active or not.

3) Workers choose their level of search effort. Only workers who produce the high level of search effort are matched with firms. The others are unemployed and get the unemployment benefits b.

4) Employers compete to hire workers.

5) The idiosyncratic productivity shocks x occur and employers decide whether they keep the workers or they destroy the jobs. Then, employers pay wages and payroll taxes on every continuing job. Every destroyed job gives rise to the payment of layoff taxes. Employed workers get the wage w, unemployed workers get unemployment benefits b.

This problem can be solved by backward induction. The market equilibrium is solved in a first stage. Then, the outcome of elections is determined.

Market equilibrium

Market equilibrium yields labor contracts that allow workers to achieve the maximum level of expected utility compatible with zero expected profits. Labor contracts only include wages since the reservation value of the productivity parameter x is not contractable and firms cannot commit ex-ante to this reservation value by keeping aside funds to be paid to a third party in case of layoff (see the discussion in Blanchard and Tirole, 2004). Accordingly, at step **5)** firms destroy jobs if and only if their profits, $x - w - \tau$, are lower than their destruction costs, $-f$. The job destruction decision boils down to the choice of a reservation value of the productivity parameter x, denoted by X, below which job are destroyed. The reservation productivity reads:

$$X = w + \tau - f. \tag{1}$$

The job destruction rate is equal to $G(X)$. Given the expression X of the reservation productivity, there is a single value[8] of the wage compatible with the zero profit condition

$$\int_X^{+\infty} (x - w - \tau)\, dG(x) - G(X)f = k. \tag{2}$$

Individuals whose utility in inactivity, $v(0) + h$, is lower than their expected utility when they are active decide to enter into the labor market. The expected utility of a type-h active individual is

$$V = \max\left\{ [1 - G(X)]\, v(w) + G(X)v(b), v(b) + (1 - \alpha)h - \gamma \right\}.$$

Therefore, the threshold value $\bar{h}$ of the taste for leisure below which individuals enter into the labor market solves

$$v(0) + \bar{h} = \max\left\{ [1 - G(X)]\, v(w) + G(X)v(b), v(b) + (1 - \alpha)\bar{h} - \gamma \right\}, \tag{3}$$

and the participation rate amounts to $H(\bar{h})$.

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[8] As the expected profit is decreasing with respect to w, there exists a single positive equilibrium value of the wage if and only if the two following conditions are fulfilled:

$$\int_{\tau - f}^{+\infty} (x - \tau)\, dG(x) - G(\tau - f)f - k > 0,$$

$$\lim_{w \to \infty} \int_{w + \tau - f}^{+\infty} (x - w - \tau)\, dG(x) - G(w + \tau - f)f - k < 0.$$

These conditions are assumed to be fulfilled.

Equations (1), (2) and (3) define the market equilibrium value of the wage w, the reservation productivity X and the participation rate $H(\bar{h})$. Let us now analyze the choice of the unemployment benefits, the payroll taxes and the layoff taxes.

Equilibrium policy

The elections are represented by the probabilistic voting model (see Persson and Tabelini, 2000, chapter 3) in which there are two candidates who announce simultaneously and non-cooperatively their electoral platforms. Then, individuals, who are influenced by ideological biases, vote. The candidate who gets the majority is elected and implements her announced policy platform. Under some simplifying assumptions, which are adopted henceforth, the outcome of the vote maximizes the sum of expected utilities.[9] Accordingly, the optimal choice of the elected candidate maximizes

$$\int_0^{\bar{h}} \left\{ [1 - G(X)]\, v(w) + G(X)v(b) \right\} dH(h) + \int_{\bar{h}}^{+\infty} [v(0) + h]\, dH(h),$$

subject to four constraints.[10]

1. The incentive compatibility constraint

$$[1 - G(X)]\, v(w) + G(X)v(b) \geq v(b) + (1 - \alpha)h - \gamma, \forall h \leq \bar{h}. \tag{4}$$

2. The government balanced budget constraint:

$$\left[\tau\, [1 - G(X)] + (f - b)G(X) \right] H(\bar{h}) = 0. \tag{5}$$

3. The zero profit condition (2).

4. The participation constraint (3).

It is useful to rewrite this program as the maximization of the sum of expected utilities with respect to (w, X, b) subject to the incentive compatibility constraint (4), the participation constraint (3) and to the equation

$$\int_X^{+\infty} (x - w)\, dG(x) - G(X)b = k, \tag{6}$$

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[9]This outcome can be derived from the simple case in which each group of individuals of type-h is heterogenous with respect to ideological biases towards the two candidates. Then, following Persson and Tabelini (2000) it turns out that the outcome of the elections maximizes the utilitarian criterion if the ideological bias is represented by an additive term in the utility function and is distributed with a uniform distribution that is the same for all type-h individuals.

[10]We apply the revelation principle.

that is obtained by summing up the balanced budget constraint of the government (5) and the zero profit condition (2). Then, once the optimal value of (w, X, b) is determined, it is possible to use equations (1) and (2) to find out the optimal value of (τ, f, b).

The computation of the optimal values for (w, X, b), presented in appendix A, allows us to claim that:

Result 1

Full insurance, with $w = b$, can be obtained only if utility losses induced by guilt feelings are sufficiently large.

When the utility cost of cheating on unemployment benefits is high, the incentive compatibility condition (4) is not binding and the government can provide full insurance. It also turns out that the reservation productivity amounts to zero $(X = 0)$ when individuals are perfectly insured. Otherwise, the optimal value of (w, X, b) is defined by equation (6) and by:

$$X = w - b - \frac{v(w) - v(b)}{v'(w)}, \tag{7}$$

$$v(w) - v(b) = \frac{(1 - \alpha)\left[v(b) - v(0)\right] - \gamma}{\alpha\left[1 - G(X)\right]}. \tag{8}$$

Equation (8) is merely the binding incentive compatibility condition, which shows that the wage is larger than the unemployment benefits if utility losses associated with guilt feelings are small enough.[11] Equation (7) shows that the government decides to keep jobs filled up to the point where the utility cost (in numeraire good units) of job destruction, $\frac{v(w) - v(b)}{v'(w)}$, is equal to the gains of job destruction, $w - b - x$.

These tow equations allow us to claim the following result which is proved in appendix B:

Result 2

The unemployment benefits and the reservation productivity are increasing with respect to guilt feelings.

Result 2 can be understood as follows. First, when guilt feelings are lower, unemployment benefits are decreased to insure that workers devote sufficient effort to job search. Moreover, when guilt feelings are decreased, as $v(w) - v(b) = \frac{(1-\alpha)[v(b)-v(0)]-\gamma}{\alpha[1-G(X)]}$, the utility cost of job destruction is increased and the optimal reservation productivity drops.

The scheme (τ, f, b) that allows the government to implement the optimal value of (w, X, b) is defined by equation (7), by the definition of the reservation productivity (1) and by the zero

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[11] A more rigourous presentation is provided in appendix A.

profit condition (2) which reads, using (1):

$$f = \int_X^{+\infty} (x - X)\, dG(x) - k.$$

This last expression of the zero profit condition implies that layoff taxes decrease with the reservation productivity, which leads to the following result

Result 3

   Layoff taxes decrease with respect to guilt feelings.

   The following result is also proved in appendix C:

Result 4

   The expected utility of active workers and the participation rate are lower when there are less guilt feelings.

   The participation rate $H(\bar{h})$ increases with γ since the optimal response of the government is to provide less insurance against productivity shocks when it becomes less costly to cheat on unemployment benefits: unemployment benefits are lower and employment protection becomes more stringent. The lower degree of insurance, which decreases the expected utility of active individuals, implies that labor market participation falls. Thus, in equilibrium, any increase in the utility cost of guilt feelings allows individuals to reach better allocations according to the Pareto criterion. From this perspective, more public-spiritedness improves efficiency.

   The next section provides empirical tests of the main predictions of the theoretical model, according to which better civic attitudes towards government benefits lead to lower job protection, higher unemployment benefits and higher participation rates.

3   Empirical results

3.1   Cross countries heterogeneity in civic attitudes

In this section we document to what extent people living in different OECD countries differ in their civic attitudes towards government benefits. The first goal of the empirical strategy is to assess whether civic attitudes are shaped by country specific features rather than individual characteristics, providing rationale for the observed cross-country heterogeneity in labor market institutions. This first analysis is based on international social surveys on civic attitudes covering

an extensive set of countries over the last three decades. The second goal is to uncover the causal link between civic attitudes and institutions by isolating the effect of culture from those of the economic environment. This analysis is carried on by studying the civic attitudes of people who were born in and reside in the US, thus facing the same incentives, but whose ancestors were born in other countries.

3.1.1 Database on civic attitudes

The measure of cross-country differences in civic attitudes is based on two international social surveys: the *World Value Survey* (WVS) and the *International Social Survey Programme* (ISSP). The key advantage of these surveys is to provide harmonized questions on civic attitudes for an extensive set of countries, including OECD countries, Eastern European countries and Latin American countries. The *WVS* covers three main waves (1981, 1990, 1999-2001)[12] and the *ISSP* provides specific questions on civic attitudes in two surveys on religion in 1991 and 1998. These two different database are complementary in as much as they report the same kind of questions on civic attitudes but provide different controls to probe into the determinants of public-spiritedness. The *WVS* covers a larger set of countries and a larger period than the *ISSP*. But the latter database provides information on the country of origins of the ancestors of the respondent, allowing us to push further the analysis of the cultural foundations of civic attitudes.

In both surveys respondents were asked a question directly related to civic attitudes towards government benefits. The question reported in the WVS database reads as follows: *"Do you think it can always be justified, never be justified or something in between to claim government/state benefits to which you have no rights"*. The answers are given on an ordering scale of 1 for "Never justifiable" to 10 for "Always justifiable". The wording in the ISSP database is somehow similar: *"Do you feel it is wrong or not wrong if a person gives the government incorrect information about himself/herself to get government benefits that she/ he is not entitled to?"*. The answer ranges from 1 to 4, which correspond to "Seriously wrong", "Wrong", "A bit wrong" and "Not wrong". To ease the interpretation of the results, we group the answers categories together to represent individuals with strong civic attitudes. Hence we create a dummy variable which takes on the value 1 if the respondent answered "Seriously wrong" in the ISSP and "Never justifiable" in the WVS, and 0 otherwise. As a robustness check, all the estimations have also been run on the original variables without any significant changes in the results.

The analysis includes the main OECD countries: Australia, Austria, Belgium, Canada,

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[12]The World Value Survey has also a wave in 1995 but for a smaller set of countries and questions.

Denmark, France, Germany, Ireland, Italy, Mexico, Netherlands, New Zealand, Portugal, Spain, Sweden, Switzerland, UK and USA. We also include Chile in order to get richer information on Latin American countries. Actually, Latin American countries provide a useful benchmark of comparison since they displays even higher level of employment protection and lower level of unemployment benefits than Mediterranean countries. Eventually, we also analyze the situation of formerly planned economies: Hungary, Czech Republic, Poland and Slovakia. To some extent these countries provide an insightful natural experiment since they have implemented from scratch different designs of labor market institutions following a common shock caused by the fall of Communism. By grouping together the different countries and different waves, this selection leaves us with 76221 working aged individuals in the WVS and 33027 working aged individuals in the ISSP database. The number of observations by country reaches at least 1031 individuals in the *WVS* database and 850 individuals in the ISSP database (see Appendix D for the summary statistics by country).

Figure 4 reports the basic mean reply to our main question of interest concerning government benefits as a average over the three main waves of the *WVS*. This figure already highlights important facts. First, a much larger share of individuals in Nordic countries than in other countries display strong civic attitudes. Denmark is a clear outlier with 88 percent of households who strongly blame the fact of cheating over government benefits. Such a civic stand is shared by almost 80 percent of individuals in other Nordic countries such as Norway, Sweden or Netherlands. Second the other European countries lag far behind their Nordic counterparts. They are on average no more than 65 percent to blame uncivil behavior in Continental European and Mediterranean countries. Third the former planned economies in Eastern Europe and the Latin American countries look alike the Continental and Mediterranean European countries. The only outlier is Hungary which is much closer to Nordic countries on this issue, which is perfectly consistent with the fact that this country is the only one to have implemented generous unemployment insurance in Eastern Europe. Fourth, the Anglo-Saxon countries stand at an intermediate position between Nordic countries and the other ones with more than 70 percent of household blaming uncivil attitudes. At first blush this ordering of country closely resembles the heterogeneity in the design of labor market institutions displayed in Figure 1. Figure 5 also shows that civic attitudes are rather stable over time. It turns tout that there is a strong correlation, within each country,[13] between the share of people who think that it is never justifiable to cheat on government benefits in 1980 and in 2000. Accordingly, the ordering of countries as regards civic attitudes remains stable over time.

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[13] The WVS provides informations only for 15 countries among the 25 countries of our sample in 1980.

Figure 4: Mean reply to the question: "Do you think it can always be justified, never be justified or something in between to claim government/state benefits to which you have no rights". The score associated with the answer 'never' is 1, the score of other answers is zero. Source: WVS, 1980, 1990, 1999–2001.
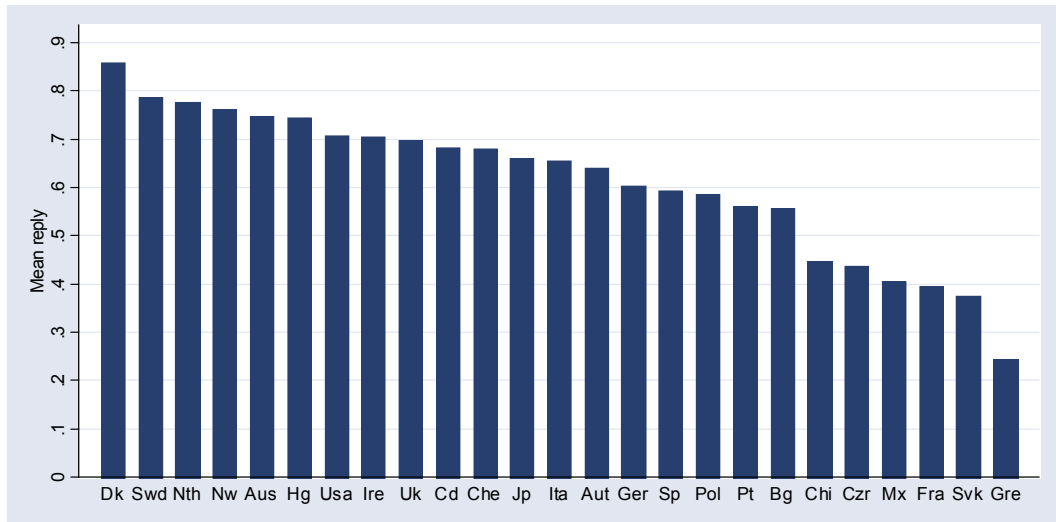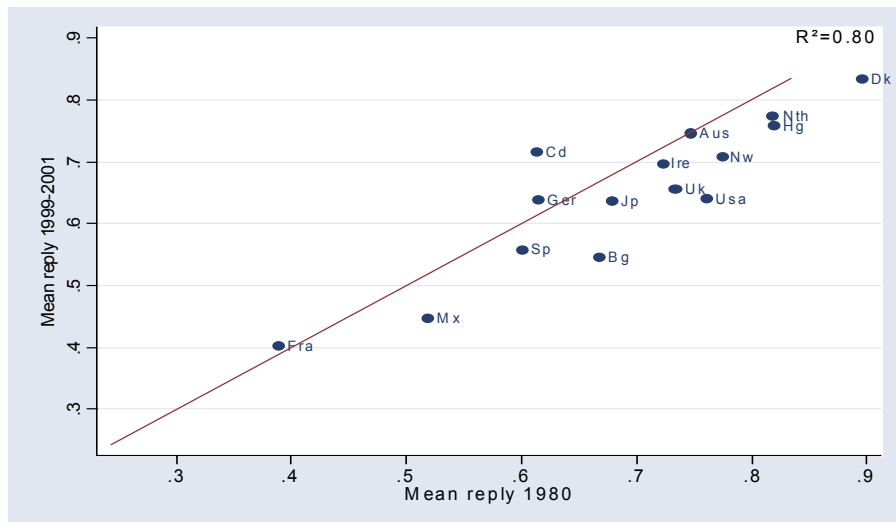

Figure 5: Mean reply to the question: "Do you think it can always be justified, never be justified or something in between to claim government/state benefits to which you have no rights". The score associated with the answer 'never' is 1, the score of other answers is zero. Source: WVS, 1980, 1999–2001.

3.1.2 Determinants of civic attitudes

The issue at stake is whether the observed cross-country heterogeneity in civic attitudes is shaped by individual characteristics or rather by specific country effects. We thus estimate the specific contribution of national features likely to affect the answers to the previous WVS question regarding civic attitudes towards cheating on government benefits. The dependent variable still takes the value 1 if the respondent thinks that cheating on government benefit is never justifiable and 0 otherwise. The national features are proxied by country dummies. Denmark is considered as the reference group since this country always displays the highest average level of civic attitude in this realm. To disentangle the specific country effect, we also control for the main individual characteristics such as the gender, the age and age squared, the number of years of education, the employment status, the income category, the political orientation and the religious affiliation. This estimation is run on the three main waves of the WVS (1980,1990,1999-2001). We do not merge the estimations on the WVS and the ISSP since the question of interest is not originally coded in the same manner across the two databases. Yet, the results are not significantly changed if we run the estimation on the ISSP database (see next section).

Table 1 reports the probit estimates of the question on government benefits. Table 1 shows that all country dummies are significant at 1 percent level. The marginal coefficients of each country are reported in Figure 6. They indicate to what extent living in countries different from Denmark lowers the probability of displaying good civic attitudes. The coefficients go from 0 for the reference group (Denmark) to −.58 for individuals living in Greece which displays the worse civic attitudes. Let us focus on the groups of countries with the highest gap compared to Denmark. One of them is made up of Latin American and Mediterranean countries. The probability to have good civic attitudes decreases by 57 percent in Mexico, by 35 percent in Spain and Portugal and 27 percent in Italy. Another distinctive group consists of Eastern countries in which the probability to share high civic stands decreases by 36 percent in Slovakia or by 34 percent in Poland. It is noteworthy to stress the existence of an outlier (Hungary) which displays civic attitudes more comparable to those of Continental European countries. This result fits in square with the fact that Hungary is precisely the only Eastern country to have implemented a high level of unemployment benefits. The group of countries much closer to Denmark is made up of Nordic and Anglo-Saxon countries. Living in Norway or in Australia instead of Denmark decreases the probability of good civic attitudes by 6 and 13 percent respectively. The striking result is that this ordering of countries closely matches that of the unemployment benefit-employment protection trade-off.

It is also noteworthy to compare the size of the country coefficients with that of the individual characteristics. Table 1 reports that the probability to consider unjustifiable to cheat on government benefits increases with the level of education, the age and the fact to be employed rather than unemployed. Strikingly enough, people leaning to the right and to the Protestant religious affiliation also display better civic attitudes. But importantly enough, it turns out that coefficients of individual controls are much smaller than those associated with the country dummies. In terms of marginal effect,[14] the probability to think that cheating on government benefits is never justifiable increases by 6 percent if the respondent is employed rather than unemployed or by 0.4 percent by year of education.

Table 1: Probit estimation of civic attitudes

Dependent variable	Claim state benefits to which you have no rights (never justifiable =1)	
	Coeff	Std Error
Country dummies	Yes[***]	
Male	-.084[***]	.010
Age	.015[***]	.000
Age2	-.000[***]	.000
Education	.004[***]	.001
Unemployed	Reference	
Employed	.163[***]	.026
Inactive	.102[***]	.026
Political orientation: Center	Reference	
Left	-.116[***]	.013
Right	.094[***]	.013
Religious affiliation: No_religion	Reference	
Catholic	.115[***]	.019
Protestant	.170[***]	.021
Buddhist	.069	.050
Muslim	-.043	.105
Jews	.083	.085
Other_religion	.147[***]	.028
Log_likelihood	-33897.306	
Observations	56311	
WVS database 1980, 1990, 1999-2001		

As a matter of fact, the level of civic attitudes is mainly driven by national features. Fig 7

[14]The coefficients reported are the total coefficients. Here, we use the corresponding marginal coefficient when interpreting the size of the coefficients.
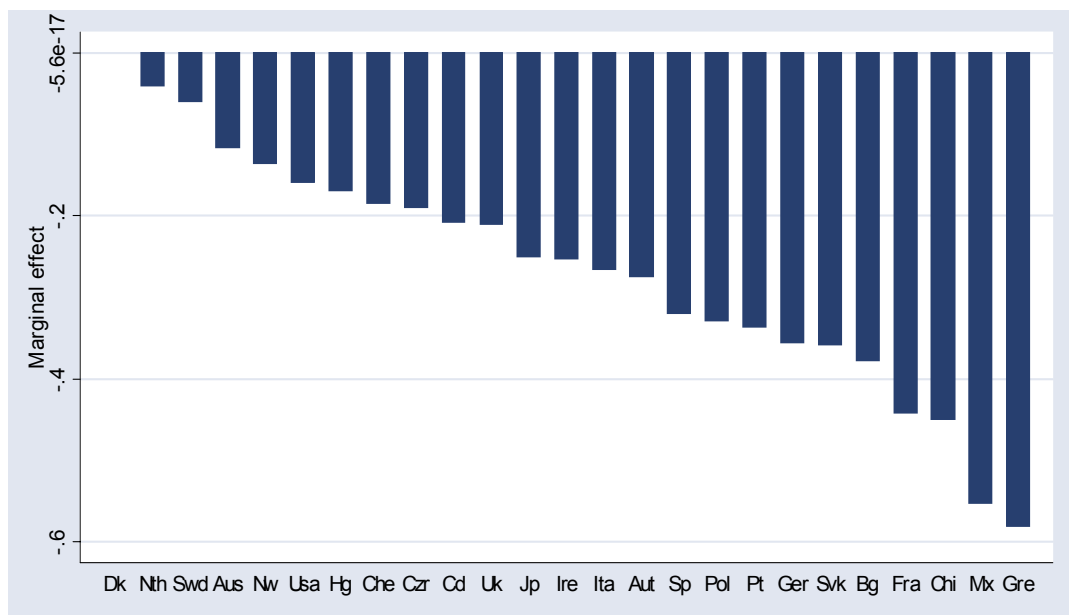
Figure 6: Marginal country effects associated with the question: "Do you think it can always be justified, never be justified or something in between to claim government/state benefits to which you have no rights". The score associated with the answer 'never' is 1, the score of other answers is zero. Source: WVS, 1980, 1990, 1999–2001.

highlights this finding by showing the correlation between the mean reply to the question and the probit estimates of the coefficients associated with each country dummy. The correlation is almost perfect yielding a coefficient of determination of 0.9. Thus the clue for understanding the cross-country heterogeneity in civic attitudes is to look at specific national features.

3.1.3 Long lasting effects of national features

The observation of cross-country differences in civic attitudes leaves unexplained the roots of such heterogeneity. Do people face different national environment and national institutions which could quickly change their civic attitudes? For instance people might feel less guilty to cheat on taxes in countries plagued by administrative inefficiencies. People could feel all the more guilty if they live in an environment in which everybody checks the attitude of others. But the relationship could also go the other way around. Civic attitudes might be difficult to change because they are deeply rooted in specific culture and people facing the same incentives could react differently depending on their cultural background. Obviously the scope for policy reform to overcome moral hazard issues raised by public insurance depends to a large extent on the answer to this question. If culture matters and has long lasting effects on civic attitudes
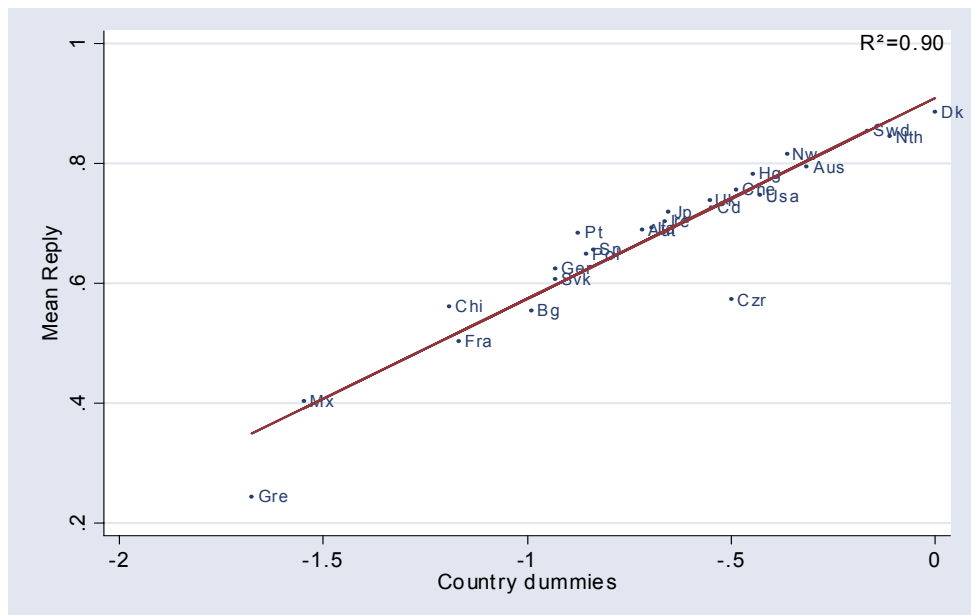
17

Figure 7: Correlation between the mean reply and the estimated country dummies associated with the question: "Do you think it can always be justified, never be justified or something in between to claim government/state benefits to which you have no rights". The score associated with the answer 'never' is 1, the score of other answers is zero. Source: WVS, 1980, 1990, 1999–2001.

that cannot be changed quickly by changes in labor market institutions, the Danish flexicurity model cannot be implemented without specific actions aiming at changing civic attitudes.

To investigate this issue, we look at civic attitudes of people who come from different national origins but face the same economic environment by living in the same country. In lines with the previous analysis, we still focus on the question regarding civic attitudes towards cheating over government benefits. But we limit the analysis to the ISSP database which is the only one to provide information on the country of origin of the respondent's ancestors. The question is provided for the two waves 1991 and 1998 and reads as follows: "*From what country or part of the world did your ancestor come from? If there is more than one country, which one of these countries do you feel closer*".[15] This question is mainly referenced for the United States on which our analysis will henceforth be based. In order to use the maximum number of observations, we group the different countries of origins into the following clusters: Nordic countries (Denmark, Netherlands, Norway and Sweden), European Anglo-Saxon countries (UK and Ireland), European Continental countries (France and Germany), Mediterranean countries (Italy, Portugal, Spain and Greece), Eastern European countries (Poland) and Latin American origins. We end up with a sample of 1057 households made up of 317 Anglo-Saxons, 192 Mediterranean, 39 Nordic, 40 Eastern Europeans, 65 Latin Americans and 404 Continental Europeans. We then assess to what extent the country of origin does matter by using dummies for each cluster. We also control for the main other individual characteristics: age, sex, education, employment status, income category and political orientation.

Table 2 reports the probit estimates. The explained variable is scaled 1 if people think that cheating over government benefits is seriously wrong. Our main variable of interest is the coefficient associated with the country of origin of the respondent. Households with Nordic origins are still considered as the reference group. As a first step we estimate the coefficient associated with the other regions of origins without controlling for individuals characteristics since most of these characteristics, such as education, income, family status and religious affiliation, are likely to be endogenous to the cultural backgrounds.

Table 2 - Col. 2 shows that the fact to have ancestors from Eastern Europe, Mediterranean countries and above all Latin American countries, significantly reduce the probability that the respondent considers as seriously wrong the fact to cheat on government benefits compared to people with Nordic ancestors. The coefficients are economically sizeable and statistically significant at the 5 percent level. Respondents with Anglo-Saxon or Continental European origins also display lower public-spiritedness, but the gap with people originated from Nordic

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[15]Unfortunately we cannot use the *WVS* questions in as much as this survey does not document the country of origin of the ancestors.

countries is not statistically significant.

Table 2 - Col. 3 develops this analysis further by reporting ordered Probit estimates on the US when the main individual characteristics are controlled for. The same ordering of the regions of origins is still at stakes with the significant opposition between Latin American, Eastern European and Mediterranean countries on one hand, and Nordic countries on the other.

We then assess to what extent the same opposition pattern across-country holds in the two ISPP surveys. For that purpose we group the different countries into the same categories as that used for the ancestors' country of origin within the USA. Note that in the ISSP database, the only Latin American country is Chile. The explained variable is still the answer to the question related to cheating over government benefit and we use the same individual characteristics as the estimations run on US. As a first step, we estimate the regional effects on the probability to find it immoral to cheat on government benefits without controlling for individual variables. Table 2 - Col. 3 shows that the same opposition pattern applies between the clusters of countries in which the respondent is currently living. Respondents living in Mediterranean, Eastern European and Latin American display much lower civic attitudes than Nordic households. Remarkably enough the ordering of regions closely matches the one found for the ancestors' regions of origin in the USA. Moreover, the economic size and the statistical significance is robust to the inclusion of individual characteristics. This analysis strongly suggests that civic attitudes are caused by national features that have very long lasting effects.

3.2 Civic attitudes, institutions and participation rates

This section analyzes the labor market and policy outcomes of civic attitudes diversity. In lines with the political economy model, we test whether countries in which a larger share of individuals consider that it is never justifiable to cheat on government benefits are more prone to insure workers by unemployment benefits instead of employment protection. We also estimate to what extent the labor force participation is influenced by such civic attitudes through the design of labor market institutions.

The analysis is based on the eighties and the nineties. The indicator for unemployment benefits is the share of GDP per capita expenditure per unemployed worker provided by the OECD. The value-added of this indicator is to capture information on both the replacement rate and the spell of unemployment benefits. Moreover, this indicator is available for all OECD countries including Mexico and the Eastern European countries. The employment protection legislation is proxied by the OECD index on regular and temporary contracts.[16] Three time-

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[16]We use the OECD overall EPL1 indicator available at: http://www.oecd.org.

Table 2: National origin and civic attitudes: Ordered probit estimates

	Estimations on the US		Cross-country estimations	
	Country of origins		Country of residency	
Nordic		Reference		
Anglo-Saxon Europe	-.281	-.337	-.240***	-.270***
	(.215)	(.222)	(.026)	(.034)
Continental Europe	-.243	-.270	-.381***	-.301***
	(.213)	(.219)	(.028)	(.038)
Eastern Europe	-.482**	-.503*	-.742***	-.739***
	(.243)	(.292)	(.027)	(.032)
Mediterranean	-.397**	-.440**	-.423***	-.439***
	(.182)	(.220)	(.031)	(.033)
Latin America	-.546**	-.505*	-.786***	-.746***
	(.257)	(.269)	(.037)	(.042)
Men		.030		-.076***
		(.082)		(.021)
Age		-.003		.005
		(.002)		(.007)
Age2		.000		-.000
		(.000)		(.000)
Education		.053***		.020***
(in years)		(.015)		(.003)
Unemployed		Reference		
Employed		.279		.191***
		(.276)		(.051)
Inactive		.332		.088
		(.284)		(.053)
		Reference		
Religious person		.285**		-.012
		(.112)		(.026)
Income_class: Center		Reference		
Low		-.061**		-.092
		(.085)		(.023)
High		.188		.191***
		(.248)		(.051)
Log-Likelihood	-728.84	-708.09	-13569.179	-10016.112
Nb of informations	1057	1057	15253	15253

A positive sign increases the likelihood that individuals say that it is never justifiable to claim state benefits to which you have no rights, ***:1%, **: 5%, *: 10%

varying indicators are provided for the late eighties, the late nineties and the early 2000s.

Our main explanatory variables of interest for labor market institutions are the national civic attitudes. They are proxied by the coefficients of the country dummies estimated for the WVS questions on civic attitudes towards government benefits in 1980, 1990 and 1999-2001. They correspond to the marginal effects of living in a country on the probability to say that it is never justifiable to cheat on government benefits by comparison with Denmark. Other explanatory variables found in the political economy literature of labor market institutions are also taken into account. Agell (2001) argued that the degree of openness gives rise to more uncertainty for households and could have fueled their need for more insurance. The level of insurance is also likely to vary over the business cycles captured by the growth rate of GDP taken in US 1995 dollars. Naturally, a lot of other explanatory variables might be relevant for explaining the level of employment protection, unemployment benefits and labor force participations but are not available for an extensive set of countries. We thus control for country fixed effects to capture other specific national features such as institutions. And we introduce time period dummies and country specific trends to control for both common and country specific aggregate shocks.

Since we are interested in causal relationship between civic attitudes and labor market outcomes, we introduce a lag period between the explained variables and the proxies for civic attitudes. Namely the coefficient estimated for national civic attitudes in the waves 1980, 1990 and 1999-2001 explain institutions in the late eighties, the late nineties and the early 2000s respectively. The data for the dependent variable and the other controls are taken as five years average over the period 1985-89, 1990-94 and 1999-2003.

Table 3 reports GLS estimates of the determinants of unemployment insurance (UI), employment protection (EP), and the ratio of the those two variables (UI/EP). As a first step, we estimate the effects of national civic attitudes without any other control, since these attitudes might influence the overall economic environment. The effects are statistically significant. Table 3 - Col. (1) shows that a one percent increase in the probability to say that it is never justifiable to cheat on government benefits relatively to Denmark would increase UI spending by 0.7 percent. Table 3 - Col. (3) indicates there is a significant correlation between the civic attitudes indicator and employment protection. If the OECD indicator is rescaled so that it amounts to zero for the most flexible economy (the US) and to 1 for the most rigid economy (Portugal),[17] it turns out that a one percent increase in civic attitudes indicator leads to a 0.6 percent decrease in the EP indicator. As a matter of fact, Table 3 - Col. (6) shows that a relative increase in national civic attitudes increase the ratio of UI over EP. The coefficients associated with national civic attitudes are significant at the 1 percent level for each regression. As a second step, we control

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[17]The OECD overall EPL1 indicator goes from .2 to 4.1.

for the economic environment by introducing country fixed effects, period effects and country specific trends. The same relationship holds: a marginal increase in civic attitudes is associated with higher UI, lower EP and an increase in the overall ratio. The estimated coefficients are economically less important but they are still significant at the one percent level.

We then turn to the labor market outcomes of such civic attitudes. In lines with the model, we estimate the impact of civic attitudes on labor force participation rates going through the employment protection-unemployment benefits ratio. For that purpose, we run a simultaneous equations estimation in which the UI-EP ratio is explained by civic attitudes on one hand and the labor participation rates are explained by the UI-EP ratio on the other hand. We focus the analysis on the labor participation rates of young workers (aged between 20 and 24 years old) since the whole cross-country heterogeneity in labor force participation rates is concentrated on outsiders demographic groups and in particular on young workers who are much more hampered by employment protection than prime-age male workers.[18]

Table 4 reports the simultaneous equations estimates. Table 4 - Col.(1) shows the coefficients estimates when civic attitudes are used as the only explanatory variables. It turns out that their effect on labor force going through the UI-EP trade-off is highly positive and statistically significant at the one percent level. And this correlation is robust to the inclusion of country fixed effects and period dummies, as shown by Table 4 - Col.(2). The coefficient estimated in Col.(2) implies that a one percent increase in the indicator of civic attitudes leads to a 0.3 percent increase[19] in the participation rate. Looking at the size of the country marginal effects in Figure 6, this entails that differences in civic attitudes between Denmark and France, for instance, may explain about 12 points of percentage of the difference in labor force participation rates of young people.[20]

Eventually, since civic attitudes might be influenced by public policies, we use intrumental variable method to control for endogeneity bias. Although our previous results on the behavior of native born American suggest that civic attitudes are not influenced by the economic environment in the U.S, it cannot be excluded that values may change faster in other countries in which communautarism is less widespread. Therefore, we instrument the country dummies for civic attitudes by the shares of people belonging to each religious denomination within each country. To control for the exogeneity of the religious variable towards the country dummies for civic

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[18] See Algan and Cahuc (2005), Bertola et al., (2002) and Heckman and Pagès (2000) for a fully-flegded decomposition by demographic groups of the effects of employment protection on labor market performances.

[19] This figure is obtained by multiplying the coefficient of the country dummies by the coefficient of UI/EP in Table 4 - Col. 2.

[20] The employment rate of young people amounts to .50 in France and .78 in Denmark over the period 1999-2003.

Table 3: Civic attitudes and labor market institutions. GLS estimates. Period: 1980-2003

	UI		EP		UI/EP	
	(1)	(2)	(3)	(4)	(5)	(6)
Country dummies for civic attitudes	.713*** (.13)	.356*** (.081)	-2.342*** (.875)	-1.00** (.500)	.550*** (.121)	.132*** (.056)
Open	.086 (.058)		.001 (.343)		-.038 (.049)	
DGDP	-.011 (.011)		.004 (.068)		.00096 (.009)	
Constant	-.399*** (.059)	4.447 (3.678)	1.375*** (.352)	-.5.28*** (2.40)	.338*** (.049)	-4.295 (3.532)
Fixed Effects	No	Yes***	No	Yes***	No	Yes***
Period effects	No	Yes***	No	Yes***	No	Yes***
Specific trends	No	Yes***	No	Yes***	No	Yes***
Observations	58	58	58	58	58	58

Table 4: Participation rates of young people (20-24 years old) and civic attitudes. 3SLS estimates. Period: 1980-2003

	Labor force	UI/EP	Labor force	UI/EP
	(1)		(2)	
Country dummies for civic attitudes		.511*** (.118)		.136*** (.067)
UI/EP	.571*** (.130)		.208*** (.099)	
Open	-.012 (.027)	-.038 (.040)		
DGDP	-.318 (.540)	.001 (.009)		
Constant	.632*** (.030)	.322*** (.047)	.771*** (.307)	.223*** (.016)
Fixed Effects		No		Yes***
Period effects		No		Yes***
Specific trends		No		Yes***
R^2	.24	.24	.82	.99
Observations	58	58	58	58

attitudes, we take the ten years lagged values of the share of each religious denominations.[21] The choice of this instrument is based on the results displayed in Table 1 showing that there is a significant correlation between religious affiliations and public-spiritedness (see also Guiso et al., 2005). We use the same set of explanatory variables as before including country fixed effects, time period dummies and national specific trends.

Table 5 reports the IV estimates for both unemployment benefits (Col. (1)) and the ratio of unemployment benefits over employment protection (Col. (2)). The IV estimates reveal a significant impact of civic attitudes on these institutions transiting through the religious affiliation. Compared with the GLS estimates of Table 3- Col. (2) and Col. (6), it appears that both the size and the statistical relevance of the coefficients are even higher. These results suggest that the positive correlation between public-spiritedness on one hand and institutions on the other hand, is not driven by the potential endogeneity of civic attitudes. It is also worth noticing that the religious denominations have an impact which is consistent with those estimated from individual data (see Table 1). Namely, Table 5 - Col. (3) suggests that public-spiritedness is more widespread among Protestants. Moreover it turns out that the religious factor can explain by itself nearly half the variance in national civic attitudes.

Table 5: <u>Civic attitudes and labor market institutions. IV estimates. Period: 1980-2003</u>

	(1)	(2)	(3)
	UI	UI/EP	Country dummies for civic attitudes
Country dummies for civic attitudes	.683*** (.198)	.531*** (.155)	
Protestant			Reference
Catholic			-.285*** (.047)
Other religion			-.295*** (.070)
Non religious			-.258 (.210)
Constant	8.513* (4.749)	13.923*** (3.712)	-.050 (.040)
Fixed effects		Yes***	No
Period effects		Yes***	No
Specific trend		Yes***	No
R^2	.985	.985	.398
Observations	58	58	58

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[21]The data come from the World Christian Encyclopedia (Barrett et al., 2001). The religious affiliations of the early 1970s, the early 1980s and the early 1990s explain the countries dummies of civic attitudes estimated respectively in the waves 1980, 1990 and 1999-2001 of the World Value Survey.

4 Conclusion

This paper argues that the efficiency of the Danish flexicurity Model relies on strong public-spiritedness which is absent in many other countries whose labor market institutions are different from those met in Denmark. From this perspective, the weak public-spiritedness observed in many European countries may hinder the implementation of the Danish recipe. More generally, this analysis suggests that public-spiritedness is a key ingredient in the possibility for a society to implement efficient public unemployment insurance. To that regard, a country may be unlikely to succeed in its labor market reforms without a comprehensive policy affecting civic behavior of its citizens.

This conclusion raises many questions about the scope and the instruments of policy reforms. In particular: how can civic attitudes be changed? Our paper suggests, along with many others (see Guiso et al., 2005), that it is far from being straigthforward to change civic attitudes, because it turns out that they are largely shaped by cultural heritages and that they are not systematically influenced by the economic environment. From this point of view, more research is required to shed light on the relations between public-spiritedness, trust, other elements of social capital and the economic environment in order to improve our understanding of the dynamics of values and preferences.

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Appendix

A   The equilibrium policy (τ, f, b)

Let us first remark that the system made of the participation constraint (3) and the incentive compatibility constraint (4) can be written as

$$v(0) \geq v(b) - \alpha\bar{h} - \gamma, \tag{A1}$$

$$[1 - G(X)]\,v(w) + G(X)v(b) = v(0) + \bar{h}. \tag{A2}$$

Therefore, the maximization program of the elected candidate reads

$$\max_{\{w,b,X,\bar{h}\}} \int_0^{\bar{h}} \{[1 - G(X)]\,v(w) + G(X)v(b)\}\,dH(h) + \int_{\bar{h}}^{+\infty} [v(0) + h]dH(h),$$

subject to

$$\int_X^{+\infty} (x - w)\,dG(x) - G(X)b = k, \tag{A3}$$

$$v(0) \geq v(b) - \alpha\bar{h} - \gamma, \tag{A4}$$

$$[1 - G(X)]\,v(w) + G(X)v(b) = v(0) + \bar{h}. \tag{A5}$$

Let us denote by $\mathcal{L}$ the Lagrangian of this program and by μ_1, μ_2 and μ_3 the Lagrange multipliers associated with contraints (A3), (A4) and (A5) respectively. The first-order conditions read:[22]

$$\frac{\partial \mathcal{L}}{\partial w} = 0 \Leftrightarrow v'(w) = \mu_1 - \mu_3 v'(w) \tag{A6}$$

$$\frac{\partial \mathcal{L}}{\partial b} = 0 \Leftrightarrow v'(b) = \mu_1 + \mu_2 v'(b) - \mu_3 v'(b) \tag{A7}$$

$$\frac{\partial \mathcal{L}}{\partial X} = 0 \Leftrightarrow X = w - b - [v(w) - v(b)]\left(\frac{1 + \mu_3}{\mu_1}\right) \tag{A8}$$

$$\frac{\partial \mathcal{L}}{\partial \bar{h}} = 0 \Leftrightarrow \mu_3 = \alpha\mu_2 \tag{A9}$$

The first-order conditions lead us to analyze two cases.

Case 1: $\gamma \geq (1 - \alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$

In that case, $\mu_2 = 0$ implies, according to equations (A9), (A6) and (A7), that $b = w$. When $b = w$ and $\gamma \geq (1 - \alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$, the incentive compatibility constraint (A4) is not binding. Therefore, there is full insurance and equation (A8) implies that $X = 0$. Then, free entry condition implies that $w = \int_0^{+\infty} xdG(x) - k$.

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[22]In order to simplify the presentation of the first-order conditions, both sides of constraints (A3), (A4) and (A5) have been multiplied by $H(\bar{h}) > 0$.

Case 2: $\gamma < (1-\alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$

In that case, $\mu_2 = 0$ which still implies, according to equations (A9), (A6) and (A7), that $b = w$, is impossible because the incentive compatibility constraint (A4) cannot be satisfied. Therefore, $\mu_2 > 0$, which means that the incentive compatibility constraint (A4) is binding. Equation (A6) can be written as $v'(w) = \mu_1/(1+\mu_3)$. Substituting this expression into (A8) yields

$$X = w - b - \frac{v(w) - v(b)}{v'(w)}. \tag{A10}$$

Therefore, the optimal value of (w, X, b) is defined by (A10), the zero profit condition (A3) and the binding incentive compatibility constraint (A4), where, $\bar{h}$ is defined by (A5). Then, using (A4) and (A5), it possible to define the optimal value of (w, X, b) thanks to equations (A10), (A3) and

$$v(w) - v(b) = \frac{(1-\alpha)\left[v(b) - v(0)\right] - \gamma}{\alpha\left[1 - G(X)\right]}\blacksquare$$

B   Static comparative properties of b and X

Let us show that the optimal values of X and b are increasing with respect to γ when $\gamma < (1-\alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$.

The optimal value of (w, X, b) is defined by the zero profit condition

$$\int_X^{+\infty} (x - w)\, dG(x) - G(X)b = k, \tag{B11}$$

and

$$X = w - b - \frac{v(w) - v(b)}{v'(w)}, \tag{B12}$$

$$v(w) - v(b) = \frac{(1-\alpha)\left[v(b) - v(0)\right] - \gamma}{\alpha\left[1 - G(X)\right]}. \tag{B13}$$

The zero profit condition (B11) implicitly defines w as a function of X and b. Let us denote by $w(X, b)$ this function, whose partial derivatives are

$$\frac{\partial w(X, b)}{\partial X} = \frac{G'(X)}{1 - G(X)}(w - X - b),$$

$$\frac{\partial w(X, b)}{\partial b} = \frac{-G(X)}{1 - G(X)}.$$

When $w = w(X, b)$, the differentiation of equations (B12) and (B13) with respect to X, b and γ yields

$$\frac{db}{d\gamma} = \frac{1}{\alpha\left\{G(X)v'(w) + \left[1 - G(X) + \frac{1-\alpha}{\alpha}\right]v'(b)\right\}} > 0, \tag{B14}$$

$$\frac{dX}{d\gamma} = \frac{\left[v'(b) - v'(w)\right]\left[1 - G(X)\right] - G(X)\left[v(w) - v(b)\right]\frac{v''(w)}{v'(w)}}{\left[1 - G(X)\right]v'(w) - G'(X)v''(w)\left(X - w + b\right)^2}\frac{db}{d\gamma} > 0. \tag{B15}$$

The last equation is positive because v is concave and $w > b$ when $\gamma < (1-\alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$
$\blacksquare$

C   Participation rate and the intensity of guilt feelings

Let us show that the participation rate $H(\bar{h})$ increases with the intensity of guilt feelings. Formally, this amounts to show that $\bar{h}$, increases with γ when $\gamma < (1-\alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$. As the incentive compatibility constraint (A4) is binding, $\bar{h}$ is defined by $\alpha\bar{h} \geq v(b) - v(0) - \gamma$. Using equation (B14), the derivative of $\bar{h}$ with respect to γ reads

$$\frac{d\bar{h}}{d\gamma} = \frac{[v'(b) - v'(w)]G(X)}{G(X)v'(w) + \left[1 - G(X) + \frac{1-\alpha}{\alpha}\right]v'(b)},$$

which is positive because v is concave and $w > b$ when $\gamma < (1-\alpha)v\left(\int_0^{+\infty} xdG(x) - k\right) - v(0)$ ∎

D   Data and summary statistics

Table 6 reports the sample of countries used in the WVS database and the ISSP database. Table **??** shows the main individual characteristics of the respondents in these two surveys. The variable "Age" is expressed in age. The variable "Education" is the age at which the respondent completed her highest education. The variable "Income" derives from the question : "Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other income that come in". The variable is ranked into deciles. We constructed three categories : low income (1th-3th deciles), mean income (4th-6th) and high income (7th-10th).

Table 6: Sample of countries in WVS and ISSP

Country	WVS (1980, 1990, 1999-2001) Observations	ISSP (1991, 1998) Observations
Australia	3131	1310
Austria	2840	1986
Belgium	5508	
Canada	4844	974
Chile	2677	1503
Czech Republic	2790	1224
Denmark	2807	1114
France	3725	1133
Germany	5382	2346
Greece	1107	
Hungary	3311	2000
Ireland	3199	2015
Italy	5328	1991
Japan	3378	1368
Mexico	4761	
Netherlands	3038	3655
Norway	3558	3038
Poland	1998	2210
Portugal	2168	1201
Spain	8778	2488
Slovakia	1317	1284
Sweden	2854	1189
Switzerland	2491	1204
United Kingdom	3573	2061
United States	5242	2643

Table 7: Summary statistics of WVS and ISSP

Variables	WVS		ISSP	
	Mean	Std. Dev.	Mean	Std. Dev.
Men	0.481	0.5	0.469	0.499
Age	42.807	17.278	46.228	17.332
Age education	17.317	3.582	11.845	3.885
Low-income	0.426	0.494	0.418	0.493
Mid-income	0.236	0.498	0.485	0.5
Up-income	0.339	0.473	0.097	0.296
Catholics	0.413	0.492	0.379	0.485
Protestants	0.322	0.467	0.289	0.453
Muslims	0.043	0.202	0.003	0.051
Jews	0.005	0.074	0.002	0.043
Buddhists	0.025	0.155	0.02	0.139
Others	0.025	0.155	0.032	0.175
No religion	0.168	0.374	0.268	0.443