FACTORS DETERMINING THE DURATION OF LEGAL DISPUTES. AN EMPIRICAL ANALYSIS WITH MICRO DATA

by

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Abstract. This paper attempts to shed light on some factors determining the duration of disputes up to now not fully considered in literature. To this aim a unique database is used, accounting for eight hundred sentences pronounced by the Italian Regional Administrative Courts from 2000 to 2007. Our research yielded many findings. They confirm that normative complexity hampers a rapid solution and show that the indicator of social capital is also useful to understand the duration of disputes. The number of judges does not appear to be relevant to explain the time needed to obtain a sentence of the first rank. Finally, the different topics of disputes may contribute to explain the differences in average duration observed.

JEL classification: K41; K32; C34.

Keywords: Administrative Courts; Legal Disputes; Normative Complexity; Parametric Analysis; Survival Model.

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1. Introduction. Many scholars have focused their attention on the problem of the efficiency of the justice system, owing to its undeniable consequences for economic growth (Aghion *et al.*, 2008, Bianco and Giacomelli, 2004, Buscaglia and Ullen, 1997, Buscaglia and Paul, 2005, Dari-Mattiacci and Deffains, 2007, Deffains, 2008, Djankov *et al.*, 2002, 2006, Gravelle, 1990, Jappelli *et al.*, 2005, Penn and Rickman, 1999, Spurr, 1997, Vereeck and Mühl, 2000). The spill-over of the law enforcement service on the economic system as a whole has become of such importance than even leading economic institutions such as the International Monetary Fund and the European Commission (2006) are paying considerable attention to this issue.

Under the pressure of these international institutions, research has been carried out in order to understand the causes and consequences of the excessive duration of disputes and to identify possible remedies for it.[1,2] Economics scholars have proposed four different reasons, not necessarily mutually exclusive, to explain the duration of disputes.

Djankov *et al.* (2003) and Parisi and Luppi (2010) focus on procedural aspects, especially in countries where the parties may prolong the time required to conclude a dispute. Others underline the inefficient organization of the courts and the scarcity of resources allotted to the justice service (Buscaglia and Dakolias, 1996). Another branch of the literature in this field pinpoints the distorted incentives for judges and private parties (Dewatripont and Tirole, 1999, Djankov *et al.*, 2003, 2006, Emons, 2000, Miceli, 1994). Some research has indicated the poor quality of legislation as a source of conflict and, indirectly, of the total amount of disputes (Vereeck and Mühl, 2000). Within the most recent stream of literature, research has been conducted to understand

[1] In an international comparative approach we can affirm that disputes have an excessive duration in a country if the time required to enforce a contract, as measured by the World Bank (2011) in the *Doing Business Report*, is greater than the average in other economies at the same stage of development.
[2] For purposes of clarity and uniformity of language in the body of the paper we use the word "dispute" to indicate a case filed in court.

whether normative complexity (Schuck, 1992),[3] may, at the same time, represent an obstacle to the aims of judges and send distorted signals to private agents, in terms of uncertainty regarding the outcome of a dispute (Dari-Mattiacci and Deffains, 2007). The problem of the right amount of regulation and its effects on the economic system has been widely studied (Aghion *et al*., 2008, Banerjee, 1997, Blanchard and Giavazzi 2003, Dari-Mattiacci and Deffains, 2007, Djankov *et al*. 2002, 2006, Epstein, 1997), but despite this, their arguments are not principally aimed at explaining the duration of disputes, with the exception of Di Vita (2010, 2011).

The aim of this paper is to investigate some factors determining duration of disputes, including normative complexity, in order to suggest appropriate measures of economic policy to fight the phenomenon of delays in justice. To the purposes of this research a unique database has been built, using sentences pronounced by the Italian Regional Administrative Courts (in brief TAR), between 2000 and 2007.

This is an empirical paper where we employ, together with the Ordinary Least Square (OLS) approach, the random effects (RE) model that is used when the panel data regard a numerically large source from which the sample has been randomly drawn (Baltagi, 2008). In our case, the large source of data from which the panel is derived consists of the thousands of sentences pronounced by the TAR in each Italian region in the period under consideration.

The paper is innovative with respect to the state of the art in the same area for several reasons. Firstly, the database used here is so far unpublished and regards microeconomic data for each of the eight hundred disputes decided with sentences considered in the analysis. Secondly, the paper employs the random effects model, which up to now has not been applied to the problem of the duration of disputes. Thirdly, this study represents one of the few empirical analyses using national data

[3] The concept of complexity in general has recently attracted the attention of much research as an undesirable by-product of economic growth (Koppl, 2010).

(Mitsopoulos and Pelagidis, 2007, Rosales-Lopez, 2008, Schneider, 2005). Fourthly, the database allows us to see how normative complexity works and may be measured at a disaggregate level. Fifthly, among the covariates two explanatory variables are included, never fully considered in previous analyses on this issue: these are two indicators of social capital (de Blasio and Nuzzo, 2010) and the number of judges weighted by the population. The proxies of social capital represent an instrumental variable that may be useful to account for varying results among the regions, reflecting the different cultural traditions of the inhabitants.[4] The weighted number of judges per region constitutes another way to measure the public resources allotted by the State to guarantee the justice service with respect to public spending. Previous analyses have shown significant differences among macro-areas of Italy in the duration of disputes (Di Vita, 2010, 2011); this may be explained, among other reasons, by the different endowment of social capital (Putnam, 1993).[5] The use of the number of volunteers as a proxy of social capital is derived from previous research by the OCSE (2001), and has been applied by several scholars (de Blasio and Nuzzo, 2010, Leonard *et al.*, 2010, Nuzzo, 2006). To account for a specific dimension of social capital related to the topic of the research, we also employ a regional indicator of litigiousness that measures the propensity of private agents to file disputes (ISTAT, 2001).

The main findings of this research may be summarized as follows. Normative complexity appears to impede a rapid solution of disputes. Previous analyses on the relationship between legal complexity and the duration of disputes have left some room for uncertainty, so this is a good opportunity to shed light on this topic. Using observations within our sample with a greater than average duration, we have demonstrated that they have a doubly negative economic effect: firstly, they increase the

[4] For the use of social variables as instruments in econometric analyses regarding disputes, see Rubinfeld (1985).
[5] I am indebted to Magda Bianco for this useful suggestion.

future workload of courts; secondly, they make the State liable to pay damages for the excessive duration of disputes. The indicator of social capital shows a negative correlation with the duration of disputes. The number of judges appear to be weak relevant in explaining the time required to obtain a sentence of the first rank. Finally, the different objects of dispute may contribute to explain the differences in the average durations observed.

The structure of the paper is as follows. After this introduction, section two aims to supply some legal and institutional warnings. Section three contains the description and sources of the data. Section four illustrates the variables and their descriptive statistics and offers a preliminary data analysis. In section five the econometric analysis is performed, starting with the entire panel and following with some refinements. Final remarks conclude the paper.

2. Legal and institutional warnings. Before continuing with the paper it is useful to provide some legal and institutional information about the Italian legal system, related to the topic of this research.

The Italian legal system falls within the family of civil law (with a high level of formalism, Djankov *et* al. 2003), where public law is well developed. This is the reason why administrative courts with regional jurisdiction have existed in this country since 1971, (*Tribunali Amministrativi Regionali*, for simplicity TAR) having competence for disputes filed against the public administration (PA). The TAR exercise their jurisdiction on individual juridical situations defined "legitimate interest" (*interessi legittimi*), in which the right of the plaintiff to file a dispute is primarily directed to enforce public law and only indirectly to protect private interest (Di Vita, 2011).[6] In consideration of such public interest the topics covered by disputes devolved to the

[6] "Legitimate interest" is linked to the individual situation of right (*diritto soggettivo*) in which primarily private interest is protected, and public interest only indirectly, in the enforcement of civil law.

jurisdiction of the TAR are not in the hands of the parties, both public and private, and there is no possibility to devolve this kind of dispute in arbitration.

To make the institutional background clear it is important to note that to date (March 2011) there is no mandatory pre-trial procedure in Italy. Moreover, settlement cannot take place in disputes devolved to the jurisdiction of the regional administrative courts in consideration of the prevalent public interest involved.

Italy is a member of the European Union and is divided into twenty regions, which in turn possess a limited normative capacity. The sentences of the Constitutional Court have the same effect as the law in many cases, so that there are different sources of laws that may be in conflict with one another, creating problems in enforcement due to stratification, errors in coordination and misinterpretation. However, it should be noted that European directives always prevail over national sources of law: in a case of contrast between the European directive and national law, the courts therefore disregard the latter.

In a previous analysis on administrative disputes using macro data, it has been noted that there is not an evident relationship between the average duration of disputes and an aggregate indicator of normative complexity (Di Vita, 2011), unlike that found with regard to civil disputes, where a fall in the average duration of civil disputes corresponds to a reduction of the indicator of normative complexity (Di Vita, 2010).

In Italy the sentence that concludes a dispute must be motivated with reference to the laws applied to decide the case. Thus if there are several kinds of normative in the body of a sentence (European, national, regional, sentence of the Constitutional court), this probably means that the case is complex, requiring an additional effort of the courts to produce the sentence. In other words, the use of many sources of law to formulate a sentence is an indicator of the complexity of a dispute. The sentences are not usually published immediately by the TAR, because the court takes some time from the day of

public session of the dispute to the date when the decision is lodged in the register of the court. The procedural code establishes a time limit of sixty days for the court to draw up a sentence, starting from the day of public session. In some cases, for example in complex disputes, the courts take more than sixty days to publish the sentence.

In the disputes devolved to the jurisdiction of the Regional Administrative Courts there is not a problem of "forum shopping" (Kessler and Rubinfeld, 2007), because despite the agreement among parties, the court may act officially to decline its competence in favour of the territorially cognizant court .

The Italian regional administrative courts apply the continental "loser pays" rule. Sometimes the Courts decide to compensate the legal fees among the parties of the dispute, deviating from the general principle of the "loser pays" rule.

Italy's twenty regions have very different endowments of per capita income, public resources (for example judges), social capital, and cultural traditions, that probably contribute to explaining the difference in duration of disputes among the three macro-areas in which it is possible to divide this country.

Disputes with a greater than average duration can have a doubly negative effect. Firstly, they accrue the workload of undecided disputes for the courts. Secondly, they make the State liable to refund damages to private parties of disputes for the excessive duration of disputes, in application of Pinto's law, from the name of its proponent within the Italian parliament. Thus judges may be forced to handle first old disputes for which the parties, both private and public, probably no longer have an interest in the decision, in consideration of the long delay, to avoid the State being obliged to refund damages.

Old disputes are not only a problem in themselves because they weigh on the clerk of the courts and constitute an obstacle for the activity of judges; they also push parties to apply for damages for the excessive duration of disputes, thus subtracting

judicial resources from the decision of new disputes and prolonging their average duration.

Procedural rules have also been indicated as possibly responsible for the excessive duration of administrative controversies, because, on the basis of practice and procedural code, Courts do not fix an audience to conclude a dispute if the parties have not presented a specific petition in this direction.

The object of a dispute may be relevant to explain the greater or lesser duration of a dispute, for the reason that the social phenomena regulated may reflect a different degree in normative complexity. There are some special norms that oblige courts to reach a rapid definition of controversies, for example for public contracts (article 23-bis of Italian Law no. 1034 of 6 December 1971, recently modified by law no. 205 of 21 July 2000).

3. Description and sources of data. The data collected and analysed in this research come from eight hundred sentences pronounced by the Italian Regional Administrative Courts from 2000 to 2007, forty for each of twenty regions of Italy. More precisely, five sentences are examined per year for each region, randomly chosen at intervals of fifty. Sentences where the dispute was not decided because the court merely declined its competence are not enclosed in the sample, for two reasons: firstly, procedural rule regarding jurisdiction is applied; secondly, the dispute was not concluded. The data regarding disputes are publicly available at the web site www.giustizia-amministrativa.it; moreover, the eight hundred sentences specifically employed here are available upon request from the author. From the sentences concluding the disputes we were able to draw some important information about the history of the cases. The sentences considered in the analysis were published between 2000 and 2007, without considering the year in which the disputes were filed. Data

regarding disputes which for some reason remained undecided, were not available and in any case do not constitute part of the data set.

In this research four types of data were considered:

i) Data regarding disputes and sentences. From the reading of the sentences and the web site mentioned above we were able to draw a large quantity of data. The first and most important variable is the duration of administrative disputes (timevar), which is measured in days, from the date on which the petition is deposited in the register of the court until the sentence is published. The length of the sentence (leg) is measured by the number of characters in each decision undertaken, without spaces. The time taken to decide the dispute (tdd) is given in days from the date of public session until the decision is deposited in the registry of the court. The outcome of administrative disputes (outd) is a binary variable that assumes a value of one if the plaintiff wins the dispute, and zero otherwise. Conviction to pay legal expenses (conexp) is a binary variable that assumes the value of one if the plaintiff has been convicted to pay the legal expenses of her/his counterpart, and zero otherwise. The disputes were codified (code) in five groups according to their object. The codes used to label the five groups of disputes are: one for public contracts; two for city planning; three for public employment; four for public utilities; five for expropriation. The codification of disputes was carried out after the sentences were read , because this information is not available *ex ante* from the web site of the administrative regional courts. Through the differences among regions in the topic of disputes it is possible to understand the peculiarities of single regions or areas, not directly accounted for in the control variable that considers only the general economic conditions of a region. Moreover the codification of disputes is useful to understand whether the application of different kinds of normative, sources of law or special procedural rules (as in the case of public contracts, as we say in section two) affects the duration of disputes.

All the disputes considered were decided using at least the national law. The data regarding the use of European directives (edir), national and regional normative (rl) and sentences of the Constitutional courts (scc) are derived through the reading of the eight hundred sentences under consideration. These are binary variables that assume the value of zero if no single source of normative applied is mentioned in the body of the sentence and one if a single kind of normative is used.

ii)Variables that may indirectly affect disputes. Some variables that may have an effect on the duration of disputes are taken into consideration in our database. The first is the number of administrative judges per region (jud) that is a proxy of public resources allotted to the justice service. Because the absolute value of the administrative judges per region could be not fully informative, we weight it with the regional population (judp), to measure the number of judges per capita. The figures regarding the administrative judges per region were drawn from the web site www.giustizia-amministrativa.it, while the data for the regional population were supplied by ISTAT.

Public financial investment in the courts is measured by the expenses incurred for justice (pej), expressed in millions of euro at current prices. These data come from ISTAT.

Following the stream of literature that places emphasis on social variables to understand litigation choices (Kessler and Rubinfeld, 2007) two different measures of social capital were considered. The first is the number of volunteers per region enrolled in market and non-market no-profit associations (volun). This is not in itself, in our opinion, fully informative of the regional endowment of social capital; we therefore weight it by dividing it by the regional population (volunp). The number of volunteers is made available by ISTAT, and was surveyed in the first report on no-profit associations (ISTAT, 2001, for more information see Nuzzo, 2006). The second variable used in this research to account for social capital is the regional index of litigiousness (litig), and it

was calculated by ISTAT (Nuzzo, 2006). This variable accounts in a more specific way for the role of social capital in determining the propensity to define a potential dispute by filing the case to the court. This index measures the number of disputes filed to the courts, weighted by the population, at a regional level, using data surveyed in 2000 by ISTAT (in particular see the so called "Demos indicators").

iii) Control variables accounting for general economic conditions. Departing from the consideration that economic conditions have an undeniable spill-over on disputes (Djankov *et al.* 2003), we initially considered a number of economic variables that are good potential candidates to describe the general economic conditions of the twenty Italian regions; after the preliminary analysis of data, we then selected which of them to enclose among the covariates as control variables in the regressions. In particular these are: Regional Gross Domestic Product (reggdp); Regional consumption of households (rch); Regional Population (rpop); Regional income per capita (ipc); Regional consumption per capita (rcpc), expressed in current euro. All these data were made available by ISTAT.

iv) Dummy variables. Finally, three dummies were taken into account in order to consider some phenomena not of immediate evidence from the raw data.

To consider normative complexity at a microeconomic level, the indicator of normative complexity (ail), a dummy variable was built to assume a value of one if only one kind of legislation source is employed to motivate a sentence and a value of two if two sources of normative are present and so on until its maximum that is four, when state law, regional law, sentences of the constitutional court and European directives are all used in the sentence concluding the dispute (for example the ail is equal to one if only the national law is used, and is equal to four if all kinds of normative are employed by the court in very complicated disputes). With respect to an aggregate index of normative complexity, this indicator possesses the advantage of reporting, case by case,

the difficulties encountered by all the parties involved in a dispute in identifying, interpreting, coordinating and applying the law. In previous analyses of the relationship between the indicator of normative complexity and the average duration of disputes (Di Vita, 2010, 2011), conducted at an aggregate level for Italy, it was noted that the indicator of normative complexity started to fall from 2000 and, at the same time, the average duration of civil disputes began to decrease.

The differences among Italian regions are taken into account by another dummy variable (regdum), that assumes a value of zero for the regions located in the North, one for the regions of the Centre, and two for the South of Italy.[7]

The particular duration of disputes (pinto) is considered in a dummy variable that assumes a value of zero if the duration of the dispute is lower that the average of the sample considered and one otherwise. This variable is useful to include the potential effects of Pinto's law on the duration of disputes in the analysis, because 32,75% of the disputes in our database had an above average duration. In average the duration of administrative disputes is 1.102 days.[8] If we assume that the approximate time required to achieve a sentence and define a dispute at the first stage is the yardstick to evaluate whether it is possible to apply Pinto's law, and request the State to pay damages for the excessive duration of disputes, this can be done in about thirty-three percent of the cases examined.[9]

[7] The ISTAT classifies the Italian regions in the **NORTH**: Piemonte, Valle d'Aosta, Lombardia, Liguria, Veneto, Emilia-Romagna, Trentino-Alto Adige, Friuli-Venezia Giulia. **CENTRE**: Toscana, Umbria, Marche, Lazio. **SOUTH**: Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna

[8] Kesler and Rubinfeld (2007) report the average duration of civil disputes in the United States. They observe that in that country the court takes on average 479 days to decide a dispute. A broad comparison of the times can be made using data published by the World Bank in the *Doing Business Report* (2011). Due to institutional differences between the Italian legal system and other countries that do not have administrative courts, we do not have any possibility of comparison regarding this special kind of contentious.

[9] Also in Germany the so-called Pinto's law has started to be introduced to refund damages for the excessive duration of disputes.

The data are enclosed in the panel per region, proceeding from the North to the South of Italy following the same order used by ISTAT. The figures for each region are reported from 2000 to 2007.

4. Variables, descriptive statistics and preliminary analysis of data. Table 1 reports a full description of the variables considered.

[Table 1, around here]

Table 2 shows the descriptive statistics of data.

[Table 2, around here]

It is worth noting that the duration of disputes shows a very high variability, from six days to more than eighteen years. The application of the different types of normative seems to follow the criteria of "proximity" to the source of law, in terms of the magnitude of their correlation coefficient. Apart from the national normative, always present in the body of the sentences, the regional law is the most frequently used, compared to constitutional sentences and European directives. The outcome of disputes is highly uncertain, in fact the percentage of adjudication of the plaintiff's claim is about fifty per cent. Only in twenty-five percent of the disputes did the court condemn one of the parties to pay the legal expenses, in application of the "loser pay" rule.

Regarding the topic of disputes, we may observe that public contracts covered 18,38% (147/800, with a very low ratio of cases of above-average duration, only 8,16%, 12/147). City planning regarded 20.13% of the disputes considered in the sample, with a little over forty percent (exactly 41,62%), having an above-average duration. Public employment disputes represented 28,12% of the sample considered, a little more than fifty per cent of the cases having an above-average duration. Public utilities constituted 30.50% of the disputes considered in our sample, with less than twenty five per cent of

them having an above-average duration. Finally, expropriation disputes accounted for less than three per cent of the sample, 2.88% to be precise, and a little less than forty per cent of these had an above-average duration. With respect to the object of the disputes, there is some evidence to support the intuition that sentences reflect the socio-economic conditions of the area in which they are produced.

The data reported in Table 2 regarding the regional index of contentiousness show important differences among the regions in propensity to file a dispute. This confirms the existence of significant differences among the regions, that could be relevant in the subsequent analysis.

The correlation matrix among all the variables considered is reported in the following Table 3

[Table 3, around here]

The coefficient of correlation between the time required to decide disputes and the indicator of legal complexity is higher than that between the average duration of disputes and the ail. The negative algebraic sign found with respect to one of the indices of legal complexity accounting for European directives (edir) is probably correlated with the normative attention that the Italian State pays to a quick solution of controversies regarding public supplies. The sector of public contracts is heavily exposed to the European normative to ensure perfect competition among the entrepreneurs, thus reducing the space for domestic regulation. The number of judges weighted by regional population possesses a high level of correlation with the duration of disputes. Incidentally, it is possible to note that public expenditure on justice and the number of judges are positively correlated or, in other words, that they complement each other.

The correlation index between the duration of disputes and the dummy variable accounting for dispute with duration over the average (pinto) is high. This means that

excessively slow disputes increase the average time to achieve a sentence of the first rank, and constitute an impediment for a rapid solution of new disputes. The length of sentences shows a high and positive correlation index with the ail, thus confirming our intuition that more complex disputes require an additional effort of the courts to produce a sentence. This result is confirmed by the fact that the time necessary to decide a dispute denotes a positive and not negligible coefficient with the indicator of legal complexity, while the correlation with the European directives is still direct but less noticeable.

We may observe that, although the obligation to pay legal expenses (conexp) and the outcome of disputes (outdisp) have the same algebraic sign, the latter is quantitatively more important. This probably means that uncertainty over the outcome of disputes assumes more importance than the probability of being condemned to pay the legal costs of the winning party, according to the continental rule.

From Table 3 it is clear that the variables accounting for social capital are always positively correlated with the figures representing the general economic conditions in the region considered (gross domestic product, household consumption, population, income per capita, consumption per capita), while we may observe a negative correlation between the indicator of the rate of contentiousness and the variables accounting for the general economic conditions in the region.

In other words, there is a double positive externality in improving economic conditions: to increase and reinforce the formation of social capital and, at the same time, to reduce the propensity for litigation, which may be determined by poor socio-economic conditions.

5. Econometric analysis. This section starts with a short introduction to the random effects (RE) model, and continues with a description of the choice of the

relevant variables, followed by the regression that was performed using the classic OLS and the FE models, for the purpose of comparison of the statistical results.

5.1 **The random effects model**. Previous econometric studies on the duration of disputes have been conducted using well-known models such as OLS, two-stage OLS, fixed effects, sometimes including some instrumental variables to avoid the problem of endogeneity. Despite the important contribution of these analyses, the aspect that we want to emphasize here is that our sample was drawn from a very numerous population: the sentences pronounced by the Italian Administrative Regional courts between 2000 and 2007. This crucial characteristic of the dataset is the main reason for using the random effects model (Baltagi, 2008). We therefore assumed that it was worth extending the existent analyses by employing a different econometric model to account for the random selection of the sentences used to build our panel.[10]

After choosing the relevant variables and performing the regression with the OLS model, a Breusch-Pagan test was performed to check the reliability of the results. Successively we again performed a Brusch-Pagan Lagrangian Multiplier test to check whether or not our regressions were distorted (Baltagi, 2008, Greene, 2008, Pindyck and Rubinfeld, 1998).

5.2 Choice of variables. In our analysis the dependent variable is the time required to obtain a sentence of the first rank. (timevar). The indicator of normative complexity (ail) was included among the covariates, to account for the different normative sources mentioned above. The ail possessed the highest correlation coefficient, in the restricted data panel from which the disputes with an above-average duration were excluded, thus avoiding the potential perverse effect due to Pinto's law. This covariate was expected to possess a positive algebraic sign.

[10] In this case there is no reason to assume that differences among regions may be accounted for by differences in the constant term, such as a measure of omitted effects on included covariates. These conditions that only justify the use of fixed effects model (Greene, 2008).

The outcome of disputes (outdis) and the possibility of being condemned to pay legal expenses (conexp), both showed an indirect relationship with the dependant variable, but the former was quantitatively more significant, according to the results of the correlation matrix. In other words, the outcome of disputes and the possibility of being condemned to pay legal expenses were related to the history of similar cases (Cooter and Rubinfeld, 1989, Johnston and Waldfogel, 2002, Rubinfeld and Kessler, 2007, Manning, 1997). Moreover, the assumptions of exogeneity and invariant time of the independent variables were thus violated, two conditions necessary to ensure non-biased results in the regressions. We therefore decided not to consider them among the explanatory variables.

The dummy accounting for the object of the disputes (code) proved very important from the quantitative point of view and was also taken into consideration. It was thus possible to give a weight to the topic of the disputes.

Among the control variables accounting for the general socio-economic conditions, regional consumption per capita (rcpc) possessed the highest correlation value in Table 3, therefore it was considered in the regressions, with a negative algebraic sign expected, because it was assumed that an improvement in economic conditions would discourage people from promoting disputes.

In consideration of the high value obtained in the correlation matrix by the dummy accounting for differences among macro-areas (regdummy), it was included among the covariates to verify the relevance of the different socio-economic conditions of the regions.

Among the explanatory variables we also considered the administrative judges (judpop) and the number of people involved in the no-profit sector (volunp) weighted by the regional population, to represent the impact of this variable per capita (in our opinion the absolute value has no significance in this case. This intuition was confirmed

in the coefficient of correlation reported in Table 3, where the absolute value of jud and volun possessed a very low coefficient regression compared to their value weighted by the population). In both cases we expected to find a negative relation with timevar.

The first variable represents a good proxy of the effort that the State makes to ensure the efficiency of the justice service. The number of volunteers weighted with respect to the population constitutes an indicator of the development of social capital in each region.

The index of contentiousness (litind), as reported by Nuzzo (2006), showed a positive correlation with the duration of disputes. It may be considered as an indirect indicator of the deficiency of social capital that leads to the filing of more disputes than are necessary. To avoid a possible problem of multicollinearity, due to the high level of correlation observed in Table 3 between volunp and litig, the number of volunteers weighted by the population and the index of contentiousness was enclosed in the regression among covariates separately.

Finally, the dummy accounting for the disputes with a duration over the average (pinto) was included among the covariates, to account for the perverse effects of Pinto's law and the workload of the courts on the time required to define a dispute. *Ex* ante we expected it to be statistically significant, with a positive correlation with the dependent variable.

5.3 The econometric model and analysis of the entire panel. On the basis of our preliminary analysis of data, the econometric model employed was:

[1] $$Timevar_{j,t} = \alpha_1 const + \alpha_{2ail} ail_{j,t} + \alpha_3 code_{j,t} + \alpha_4 rcpc_{j,t} + \alpha_5 regdummy_{j,t} + \alpha_6 volunp_{j,t} + \alpha_7 judp_{j,t} + \alpha_8 pinto_{j,t} + u_t.$$

where:

const = is the intercept term;

u_t = is a stochastic term;

α_i = are coefficient regressors (i = 1, …, 8);

j = 1, … , 20, denotes the twenty Italian regions and t = 1, … , 8, is the period of observation (from 2000 to 2007).

The necessity to use the random effects (RE) model derived from the results of the Breusch and Pagan test for heteroscedasticity, under OLS specification, that gave a value of chi-squared equal to 564,61, greater than its critical value, so that the hypothesis of homoscedasticity was rejected using OLS. Under the RE model specification, the Breusch and Pagan Lagrangian multiplier test for random effects produced a value of chi-squared of 6,12 that is lower that its critical value, thus confirming that the null hypothesis of homoscedasticity and normally distributed disturbances were satisfied in this case. The combined results of these two tests confirmed that it was advisable to use the RE model to analyse the dataset under consideration. The results of the tests performed for homoscedasticity confirmed that there were not negligible individual and time effects within the regions considered. In any case, for the purposes of comparison the results of the regressions performed using the OLS model are reported in the following Table 4, together with those obtained with the RE model.

[Table 4, around here]

In our regressions high levels of R-squared were found for panel-data. Regarding the single covariates, we may observe that the low statistic significance of the ail may be explained by the fact that the administrative courts set the conclusive session of disputes mainly in response to a request from the plaintiff or the defendant, such that the duration of disputes depends on the procedural decisions of the parties. But we should emphasize that the indicator of legal complexity always possesses a positive

algebraic sign, although it is always statistically insignificant.[11] From the last columns of Table 4, where the European directive was used instead of the ail, we found that this source of law reduces the duration of disputes and is statistically significant in both of the econometric models employed. This result confirmed that a normative that is simple to identify and uniformly applied, within the borders of the country considered, may be useful to reduce the duration of disputes.

As was foreseeable from the correlation matrix, the variable that accounts for the object of controversy is positively correlated with the dependent variable, and is not or is weakly statistically significant using both the models, under three different specifications of the model. This confirms that the object of dispute and the peculiarities of its normative sector may help to explain the duration of disputes.

The dummy variable accounting for economic and social differences among the three macro-areas of Italy was always found to be positively related to the dependent variable and highly statistically significant.

Although the social capital, as measured by the number of volunteers weighted by the regional population, possessed the expected negative algebraic sign, it was never statistically significant. The same result was obtained when we used, instead of volunp, the other indicator of social capital that measures the regional propensity for contentiousness. However, the negative algebraic sign of both indicators of social capital confirm that the deficit of social capital may contribute to explain the duration of disputes.

The number of administrative judges weighted by the regional population always possessed a negative algebraic sign, despite the fact that it was statistically

[11] It is worth noting that the indicator of normative complexity possesses a positive algrebaic sign and is statistically significant just using the survival model, also employed in a preliminary version of this work, under the specification of a lognormal hazard function rate distribution (accelerated), in which a high probability of short duration of disputes is assumed.

insignificant. This means that an increase in the number of judges may help to reduce the duration of disputes.

The strong significance of the dummy variable accounting for disputes with an above-average duration and its correlation coefficients, increase the workload of the courts, negatively influencing the prompt conclusion of disputes.

5.4 Using the time necessary to decide a dispute as a dependent variable. To test whether normative complexity influences the decision phase of disputes, that begins on the day of the public session of court and concludes with the publication of the sentence, the time required to decide the dispute (tdd) was used as a dependent variable, subject to the same covariates as in [1]. The results of regressions using different specifications are reported in Table 5.

[Table 5, around here]

In this case we find that the indicator of legal complexity is always statistically significant at a level of 1% and its algebraic sign is positive, using both econometric models and under different specifications. The simultaneous presence of many sources of the law in the body of a sentence increase the time necessary for the court to draw up a sentence. This is probably because in order to decide a case the Court needs to solve a number of interpretative problems, for example identifying which law to apply, and to solve possible conflicts among different sources of law.

The European directives also showed a direct relationship with the dependent variable, but the coefficients of the regressors were lower than for the ail.

Finally, using the time necessary to decide a dispute as a dependent variable we may observe, considering the outcome of regression displayed in Table 5, that disputes increasing the workload of the court are of impediment to an immediate decision of disputes.

5.5 Considering the three macro-areas. To understand better how the regional dimension may affect the average duration of disputes, in Table 6 we report the results of regressions for the three different macro-areas of Italy, obtained by using the OLS and RE models.

[Table 6, around here]

This analysis confirms the peculiarities of the three macro areas of Italy. In fact there is a difference in the slopes among the three groups of regions. The indicator of normative complexity and the code of disputes, as in previous regressions, always possess a positive algebraic sign, although they are not statistically significant. The covariate judp is weakly relevant: it is worth noting that in the North and in the Centre of Italy it shows a negative algebraic sign, while in the South the weighted number of judges denotes a positive relation to the dependent variable, in a very surprising way. Finally, regarding the disputes with an above average duration, the previous outcomes are confirmed, but we should highlight that the coefficient estimated for this regression increases as we move from North to South. This implies that in the South the phenomenon of excessively slow disputes is particularly frequent.

6. Final remarks. This study on some determinants of the duration of administrative disputes in Italy allows us to make a number of considerations.

Normative complexity does not directly constitute an obstacle to a prompt definition of disputes. This is because it is in the decision phase of disputes that we find strong empirical evidence of a correlation between the time required to publish a sentence, after the public session, and the indicator of normative complexity measured at a microeconomic level. This outcome supports the previously drawn conclusions in this area for civil disputes in Italy, performed using macroeconomic data. The Italian procedural code reserves to judges the power to schedule hearings to decide disputes,

after a petition of the parties; judges therefore have the power to postpone the deadline for deciding disputes.

Surprisingly, the duration of disputes showed a negative and significant correlation with the European directives. This source of law, for its uniformity and prevalent application with respect to the national normative, may contribute to simplify the national legal system, favouring a rapid conclusion of disputes. But this preliminary result represents a good topic for further and more in-depth research.

The result of our regressions confirms moreover that disputes with above average duration constitute an obstacle to a more efficient functioning of the justice service.

This study shows that social capital may contribute to explain the duration of disputes in Italy, in particular in the South where there is a deficit of social capital and very high levels of litigiousness.

Normative simplification may discourage people from promoting unnecessary and costly disputes, thus it is a social value that the State should promote.

This research shows that differences among the three macro-areas of Italy, in terms of general economic conditions and endowment of social capital, are helpful to explain the non-uniform duration of disputes within this country.

A strong implication of policy underlies our research. To render the decision of disputes more rapid it is necessary to eliminate old disputes, that represent a burden for the inflow of new cases. The increasing complexity of legal systems requires judges to be more specialized, not creating special courts, but developing knowledge and competence with a better organization of the existing ones. Finally, we find that an answer to the increasing complexity of the world is to create laws that are simpler and reduced in number, so as to render more straightforward the tasks of both lawyers and judges (Epstein, 1997).

The aim of conducting an international analysis to compare the determinants of the duration of disputes is left to further and deeper analysis.

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REFERENCES

Aghion, Philippe, Yann Algan, Pierre Cahuc and Andrei Shleifer. 2008. "Regulation and Distrust." Working paper Series of Harvard University, *mimeo*.

Baltagi, B. H. 2008. *Econometric Analysis of Panel Data*. Fourth Edition, Wiley, Chichester (UK).

Banerjee, Abhijit V. 1997. "A Theory of Misgovernance." *Quarterly Journal of Economics* **112**(4):1289-1332.

Bianco, Magda and Silvia, Giacomelli. 2004. "Efficienza della Giustizia e Imprenditorialità: Il Caso Italiano." *Economia e Politica Industriale* **124**:89-111.

Blanchard, Olivier and Francesco Giavazzi. 2003. "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets." *Quarterly Journal of Economics* **118**(3):879-907.

Buscaglia, Eduardo, & Stephan, Paul. 2005. "An empirical assessment of the impact of formal versus informal dispute resolution on poverty: A governance-based approach." *International Review of Law and Economics* **25**:89–106.

Buscaglia, Eduardo and Thomas Ulen. 1997. "A Quantitative Assessment of the Efficiency of the Judicial Sector in Latin America." *International Review of Law and Economics* **17**:275-291.

Buscaglia, Eduardo and Michael Dakolias. 1996. "Judicial reform in Latin American Courts: The experience in Argentina and Ecuador." *World Bank Technical Paper* 350.

Cooter, Robert D. and Daniel L. Rubinfeld. 1989. "Economic Analysis of Legal Disputes and Their Resolution." *Journal of Economic Literature* **27**(3):1067-1097.

Dari-Mattiacci and Bruno Deffains. 2007. "Uncertainty of Law and the Legal Process." *Journal of Institutional and Theoretical Economics* **163**(4):626-656.

de Blasio, Guido and Giorgio Nuzzo. 2010. "Individual determinants of social behavior." *Journal of Socio-Economics* **39**:466–473.

Deffains, Bruno. 2008. "Civil Justice Reform: A Mechanism Design Framework." *Journal of Institutional and Theoretical Economics* **164**(1):68-71.

Dewatripont, Mathias and Jean, Tirole. 1999. "Advocates." *Journal of Political Economy* **107**(1):1-39.

Di Vita, Giuseppe. 2010. "Production of Laws and Delay in Court Decisions." *International Review of Law and Economics* **30**(3):276-281.

Di Vita, Giuseppe. 2011. "Normative Complexity and the Length of Administrative Disputes: Evidence from Italian Regions." Forthcoming in *European Journal of Law and Economics*.

Djankov, Simeon, La Porta, Rafael, López de Silanes, Florencio, and Shleifer, Andrei. 2002. "The Regulation of Entry." *Quarterly Journal of Economics* **117**:1-37.

Djankov, S., La Porta, R., López de Silanes, F., and Shleifer, A. 2003. "Courts." *Quarterly Journal of Economics* **118**: 453-517.

Djankov, Simeon, McLiesh, Caralee and Ramalho, Rita Maria. 2006. "Regulation and Growth." *mimeo*.

Emons, Winand. 2000. "Expertise, contingent fees, and insufficient attorney effort." *International Review of Law and Economics* **20**:21-33.

Epstein, Richard. 1997. *Simple Rules for a Complex World*. Harvard University Press.

European Commission for the Efficiency of Justice (CEPEJ). 2006. *European Judicial System*. Council of Europe, Belgium.

Gravelle, Hugh. 1990. "Rationing Trials by Waiting: Welfare Implications." *International Review of Law and Economics* **10**:255-270.

Greene, William H. 2008. *Econometric Analysis*. (Sixth Ed.) Pearson Education Inc., Upper Saddle River.

ISTAT. 2001. Istituzioni non-profit in Italia. I risultati della prima rilevazione censuaria anno 1999. ISTAT, Rome.

Jappelli, Tullio, Marco Pagano and Magda Bianco. 2005. "Courts and Banks: Effects of Judicial Enforcement on Credit Markets." *Journal of Money, Credit and Banking* **37**(2):223-244.

Johnston, J.S. and J. Waldfogel .2002. "Does Repeat Play Elicit Cooperation? Evidence from Federal Civil Litigation." *Journal of Legal Studies* **31**:39-60.

Kessler, Daniel P. and. Daniel L. Rubinfeld 2007. "Empirical Study of the Civil Justice System.**"**, in A. Mitchell Polinsky and Steven Shavell, eds., Handbook of Law and Economics, Volume I (Elsevier B.V.: Oxford, U.K.), pp. 343-402.

Koppl, Roger. 2010. "Some Epistemological Implications of Economic Complexity." In press *Journal of Economic Behavior and Organization*.

Leonard, Tammy, Rachel T.A. Croson and Angela C.M. de Oliveira. 2010. "Social capital and public goods." *Journal of Socio-Economics* **39**:474–481.

Manning, R. L. 1997. “Products Liability and Prescription Drug Prices in Canada and the United States.” *Journal of Law and Economics* **40**:203-240.

Miceli, Thomas. 1994. “Do Contingent Fees Promote Excessive litigation.” *Journal of Legal Studies* **23**(1):221-224.

Mitsopoulos, Michael and Theodore Pelagidis. 2007. “Does Staffing Affect the Time to Dispose Cases in Greek Courts?” *International Review of Law and Economics* 27:219-244.

Nuzzo, Giorgio. 2006. “Un secolo di statistiche sociali: persistenza o convergenza tra le regioni italiane?” in Quaderni dell’Ufficio Ricerche Storiche della Banca d’Italia, no. 11, dicembre.

OCSE. 2001. “The Well-being of Nations. The Role of Human and Social Capital.” Center for Educational Research and Innovation, Paris.

Parisi, Francesco and Barbara Luppi. 2010. “Litigation and Legal Evolution: Does Procedure Matter?” *mimeo*.

Penn, Paul and Neil Rickman. 1999. “Delay and Settlement in Litigation.” *Economic Journal* **109**:476-491.

Pindyck, Robert S. and Daniel L. Rubinfeld. 1998. Econometric models and economic forecasts: instructor's manual to accompany. New York: MacGraw-Hill.

Putnam, Robert D. 1993. *La tradizione civica nelle regioni italiane*. Milano, Mondadori.

Rosales-Lopez, Virginia. 2008. “Economics of Court Performance: An Empirical Analysis.” *European Journal of Law and Economics* **25**:231-251.

Rubinfeld, Daniel L. 1985. “Econometrics in the Courtroom.” *Columbia Law Review* **85**(5):1048-1097.

Schneider, Martin R. 2005. “Judicial Career Incentives and Court Performance: An Empirical Study of the German Labour Courts of Appeal.” *European Journal of Law and Economics* **20**:127-144.

Schuck, Peter. 1992. “Legal Complexity: Some Causes, Consequences, and Cures.” *Duke Law Journal* **42**:1-52.

Spurr, S.J. 1997. “The Duration Litigation.” *Law & Policy* **19**(3):285-315.

Vereeck, L and Mühl, M. 2000. “An Economic Theory of Court Delay.” *European Journal of Law and Economics* 10(3):243-268.

World Bank. 2011. *Doing Business in 2011*. The World Bank Group: Washington.

TABLE 1

VARIABLES AND DATA SOURCES

List of the variables collected, their definition, and sources for the twenty Italian Regions included in our study.

VARIABLES NAME	DESCRIPTION
(1) Duration of administrative disputes (timevar)	It is measured in days from the date on which the petition is deposited in the office of the court until the sentence is published by the clerk of the tribunal. ♣
(2) Length of sentence (leg)	Number of characters of each decision accounted, without spaces. ♣
(3) Regional laws (rl)	This is a binary variable that assumes a value of zero if no regional laws are mentioned in the body of the decision and one otherwise. ♣
(4) Sentences of Italian Constitutional Court (scc)	This is a binary variable that assumes a value of zero if no sentences of Constitutional Court are mentioned in the body of the sentence and one otherwise. ♣
(5) European Directives (edir)	This is a binary variable that assumes a value of zero if no European Union Directives are mentioned in the body of the sentence and one otherwise. ♣
(6) Aggregate Indicator of legislation (ail)	This is an indicator of legal complexity that assumes a value of one if only one kind of legislation source is employed to motivate the sentences, a value of two if two sources of normative are present and so on until its maximum that is four, when state and regional laws, sentences of constitutional court and European directives are used at the same time. ♣
(7) Time to decide the dispute (tdd)	It is given in days from the date of public session until the decision is deposited with the clerk of the court. ♣
(8) Outcome of administrative disputes (outd)	This is a binary variable that assumes a value of one if the claimant wins the dispute, and zero otherwise. ♣
(9) Conviction to legal expenses (conexp)	This is a binary variable that assumes a value of one if the claimant has been convicted to pay the legal expenses of her/his counterpart, and zero otherwise. ♣
(10) Codification of disputes (code)	The controversies considered have been classified in five groups, according to their object. Thus the code is: 1 for public contracts; 2 for city planning; 3 for public employment; 4 for public utilities; 5 for expropriation. ♣
(11) Regional GDP (reggdp)	Regional Gross Domestic Product expressed in current euro. Source: ISTAT.
(12) Regional consumption of households (rch)	Regional consumption of households, expressed in current euro. Source: ISTAT.
(13) Regional Population (rpop)	Regional population (annual average) expressed in thousands. Source: ISTAT.
(14) Regional income per capita (ipc)	Regional income per capita, expressed in current euro. Source: ISTAT.
(15)Regional consumption per capita (rcpc)	Regional consumption, expressed in current euro. Source: ISTAT.
(16) Expenses for justice (pej)	Regional expenses for justice expressed in millions of euro. Source: ISTAT.
(17) Regional dummy variable (regdum)	It assumes a value of zero for the regions located in North, one for the regions of the Centre, and two of the South of Italy.
(18) Number of volunteers per region (volun)	Number of volunteers per region, defined at 2003. Sources: ISTAT and Nuzzo (2006).
(19) Number of volunteers per region/rpop (volunp)	Number of volunteers, in 2003, weighted by the regional population. Source: ISTAT and our elaboration.
(20) Number of administrative judges per region (jud)	Number of administrative judges per region. Source: web site www.giustizia-amministrativa.it.
(21) Number of adm. judges per region/rpop (judp)	Number of administrative judges weighted with the regional population. Source: our elaboration.
(22) Regional Index of litigiousness (litig)	Regional indicator of contentiousness. Source: ISTAT and Nuzzo (2006).
(23) Slowness disputes (pinto)	This is a dummy variable that assumes a value of zero if the duration of the dispute is lower that the average length of the sample considered and one otherwise. Source: our elaboration.

Legenda: ISTAT is the Italian Institute of Statistics. ♣ Source: www.giustizia-amministrativa.it and our elaboration.

TABLE 2
SUMMARY STATISTICS

Variables	Obs.	Mean	S.D.	Min.	Max
(1) Duration administrative disputes (timevar)	800	1101.99	1261.38	6	6860
(2) Length of sentence (leg)	800	12941.95	10545.64	1745	121126
(3) Regional laws (rl)	800	.2575	.4375	0	1
(4) Sentences of Constitutional Court (scc)	800	.1363	.3469	0	1
(5) European Directives (edir)	800	.0726	.2596	0	1
(6) Aggregate Indicator of Legislation (ail)	800	1.4588	.6114	1	4
(7) Time required to decide disputes (tdd)	800	64.72	91.02	0	1190
(8) Outcome of controversy (outdis)	800	.4963	.5003	0	1
(9) Conviction to pay legal costs (conexp)	800	.2313	.4219	0	1
(10) Code of disputes (code)	800	2.7938	1.1469	1	5
(11) Regional Gross Domestic Product (rgdp)	800	68.11	65.67	3.22	319.48
(12) Regional consumption of households (rch)	800	40.79	35.19	2.22	166.48
(13) Regional Population (rpop)	800	138.97	283.85	1.01	990
(14) Regional income per capita (rpi)	800	22.74	5.73	13.02	33.83
(15) Regional consumption per capita (rcpc)	800	19.18	3.76	13.03	32.09
(16) Public Expenditure for justice (pej)	800	292.83	251.86	8	937
(17) Regional dummy (regdum)	800	1	.8949	0	2
(18) Number of volunteers per region (volun)	800	161059.3	147881.3	8150	636229
(19) No. of volunteers per region/rpop (volunp)	800	60.47	33.93	20	173
(20) No. administrative judges per region (jud)	800	16.6	16.51	3	66
(21) No. adm. judges per region/rpop (judp)	800	7.21	5.32	1.94	25.19
(22) Regional Index of contentiousness (litig)	800	98.95	64.20	23	231
(23) Slowness disputes (pinto)	800	.3275	.4696	0	1

TABLE 3
CORRELATION MATRIX

VARIABLES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) Timevar	1																						
(2) Leg	-.0876	1																					
(3) Rl	.0619	.2026	1																				
(4) Scc	.0423	.1636	.0003	1																			
(5) Edir	-.1019	.2404	-.0318	.0151	1																		
(6) Ail	.0267	.3327	.6945	.5555	.4139	1																	
(7) Tdd	.0622	.1143	.1158	.0227	.0795	.1309	1																
(8) Outd	-.0757	.0591	.0524	.0061	.0114	.0416	.0630	1															
(9) Conexp	-.0608	-.0160	.0326	-.1037	-.0270	-.0500	.0554	.1580	1														
(10) Code	.1099	-.0753	-.0085	.1217	.0044	.0644	.0208	.0032	-.0383	1													
(11) Rgdp	-.0047	.0601	-.1112	.0277	.0839	-.0279	.0242	.0374	-.0452	.0218	1												
(12) Rch	-.0045	.0618	-.1073	.0328	.0796	-.0254	.0301	.0451	-.0474	.0241	.9925	1											
(13) Rpop	-.0491	-.0477	.0849	-.0135	-.0486	.0374	.0920	-.1110	-.0387	-.095	-.3630	-.4031	1										
(14) Rpi	-.0808	.0140	-.0490	-.0119	.0767	-.0057	.0468	.0468	.0417	.0096	.4360	.3792	.0127	1									
(15) Rcpc	-.1097	-.0137	.0075	-.0126	.0297	.0107	.0305	-.0663	.0311	-.0402	.0960	.0572	.0832	.8732	1								
(16) Pej	-.0141	.0498	-.1065	.0819	.0749	-.0052	.0557	.0952	-.0876	.0141	.7612	.8124	-.4407	.0042	-1617	1							
(17) Regdum	.1269	-.0092	.0504	.0398	-.0489	.0333	.0185	.0686	-.0839	.0100	-.3557	-.3113	-.0098	-.8822	-.7453	.1023	1						
(18) Volun	.0010	.0496	-.0773	-.0066	.0674	-.0275	.0044	.0065	-.0041	.0193	.9290	.9082	-.2826	.5520	.1879	.5300	-.5144	1					
(19) Volunp	-.1039	-.0385	.0790	-.0541	.0352	.0468	.0879	-.0645	.0985	-.0537	.0027	-.0403	.3447	.6618	.6119	-.3675	-.6858	.2792	1				
(20) Judges	-.0473	.0434	-.0918	.0955	.0898	.0203	.0239	.0930	-.0628	.0192	.5566	.6057	.2960	-.0621	-.1599	.8625	.1786	.3078	-.3302	1			
(22) Judgesp	-.0993	-.0095	.0677	.0211	-.0157	.0491	.0145	-.0410	-.0767	-.0523	-.3403	.3585	.1968	.0493	.3833	-.1849	.0694	.4353	-.0630	.0905	1		
(22) Litig	.0590	.0402	-.0439	.0818	-.0125	.0060	.0757	.0670	-.1091	.0218	-.1262	-.0726	-.1294	-.7344	-.6575	.3502	.7428	.3777	-.7541	.4960	.1026	1	
(23) Pinto	.8084	-.1005	.0414	.0404	.0261	.0870	-.0383	-.0465	.0964	.0062	-.1262	-.0087	-.0537	-.0838	-.1146	.0152	.1063	.0063	-.0951	-.0234	-.1129	.0692	1

Table 4

RESULTS OF REGRESSIONS USING PANEL DATA FOR ITALY (2000-2007).
THE DEPENDENT VARIABLE IS THE DURATION OF ADMINISTRATIVE DISPUTES (TIMEVAR)

INDEPENDENT VARIABLES	I. OLS	I. RE	II. OLS	II RE	III. OLS	III. RE
Constant	-243.115 [297.327] (-.82)	-396.841 [354.719] (-1.12)	-50.105 [328.337] (-.15)	-274.338 [357.549] (-0.77)	-215.444 [293.479] (-.73)	-257.648 [353.342] (-0.73)
Aggregate Indicator of Legislation (ail)	5.607 [43.294] (.13)	.307 [43.053] (.15)	2.412 [43.053] (.06)	4.252 [42.985] (.10)		
European Directives (edir)					-207.71 [101.213] (-2.05)**	-208.713 [101.275] (2.06)**
Code of disputes (code)	35.406 [23.087] (1.53)	34.101 [22.903] (1.49)	36.67585 [23.0134] (1.59)***	35.087 [22.906] (1.53)	35.915 [23.002] (1.56)***	35.309 [22.822] (1.55)
Regional consumption per capita (rcpc)	26.444 [14.519] (1.82)***	34.923 [16.124] (2.17)**	16.826 [14.958] (1.12)	27.675 [16.157] (1.71)***	26.389 [14.492] (1.82)***	28.096 [16.132] (1.74)***
Regional dummy (regdummy)	133.4515 [56.166] (2.38)**	156.461 [78.002] (2.01)**	163.339 [56.579] (2.89)*	189.224 [72.257] (2.62)*	131.782 [55.964] (2.35)**	185.656 [72.276] (2.57)*
Number of volunteers per region/population (volunp)	-.4597 [1.119] (-.41)	-.639 [1.708] (-0.37)			-.4387 [1.111] (-.39)	-.6388 [1.708] (-0.37)
No. of administrative judges for region/pop. (judp)	-10.663 [6.774] (-1.57)	-13.073 [9.267] (-1.41)	-7.020 [6.937] (-1.01)	-10.424 [8.613] (-1.21)	-10.939 [6.774] (-1.65)**	-10.889 [8.636] (-1.26)
Regional Index of contentiousness (litig)			-.928 [.659] (-1.41)	-.748 [.894] (-.84)		
Slowness disputes (pinto)	2143.514 [56.911] (37.66)*	2140.233 [56.509] (37.87)*	2145.065 [56.797] (37.77)*	2141.244 [56.547] (37.87)*	2135.666 [56.919] (37.52)*	2140.233 [56.509] (37.87)*
R-squared	.6579	.6577	.6587	.6584	.6596	.6601
Observations	800	800	800	800	800	800

Standard errors in brackets and t-values in Parentheses. *, ** and ***, indicate statistical significance at the 1%, 5% and 10% level respectively.

Table 5

RESULTS OF REGRESSIONS USING PANEL DATA FOR ITALY (2000-2007).
THE DEPENDENT VARIABLE IS THE TIME TO DECIDE THE DISPUTES (TDD)

INDEPENDENT VARIABLES	I. OLS	I. RE	II. OLS	II RE	III. OLS	III. RE
Constant	25.147 [36.022] (.70)	51.993 [41.138] (1.26)	72.866 [39.836] (1.83)***	103.975 [43.373] (2.40)**	40.885 [35.779] (1.14)	71.146 [42.167] (1.69)***
Aggregate Indicator of Legislation (ail)	18.043 [5.245] (3.44)*	17.455 [5.223] (3.34)*	19.080 [5.223] (3.65)*	18.080 [5.213] (3.47)*		
European Directives (edir)					30.191 [12.339] (2.45)**	31.208 [12.345] (2.54)*
Code of disputes (code)	-2.459 [2.797] (-.88)	-2.594 [2.780] (-.93)	-2.817 [2.792] (-1.01)	-2.801 [2.778] (-1.01)	-1.799 [2.804] (-.64)	-1.925 [2.781] (-.69)
Regional consumption per capita (rcpc)	-.820 [1.759] (-.47)	-2.305 [1.915] (-1.20)	-1.199 [1.815] (-.66)	-2.622 [1.959] (-1.64)	-.8045 [1.767] (-0.46)	-2.537 [1.949] (-1.30)
Regional dummy (regdummy)	3.381 [6.805] (.50)	-.0549 [6.865] (-.01)	3.737 [6.865] (.54)	.449 [8.767] (.05)	5.184 [6.823] (.76)	1.151 [9.202] (.13)
Number of volunteers per region/population (volunp)	.363 [.136] (2.68)*	.414 [.186] (2.23)**			.407 [.135] (3.00)*	.466 [.201] (2.33)**
No. of administrative judges for region/pop. (judp)	.611 [.821] (.74)	1.096 [1.035] (1.06)	.792 [.842] (.94)	1.274 [1.045] (1.22)	.781 [.826] (.95)	1.344 [1.097] (1.22)
Regional Index of contentiousness (litig)			-.207 [.081] (-2.58)*	-.231 [.109] (-2.13)**		
Slowness disputes (pinto)	18.730 [6.895] (2.72)*	17.812 [6.857] (2.61)*	18.077 [6.891] (2.62)*	17.461 [6.859] (2.55)**	20.495 [6.939] (2.95)*	19.439 [6.893] (2.82)*
R-squared	.0356	.0347	.0351	.0342	.0285	.0274
Observations	800	800	800	800	800	800

Standard errors in brackets and t-values in Parentheses. *, ** and ***, indicate statistical significance at the 1%, 5% and 10% level respectively.

Table 6
RESULTS OF REGRESSIONS USING DATA FOR ITALIAN MACRO AREAS (2000-2007).
THE DEPENDENT VARIABLE IS THE AVERAGE DURATION OF DISPUTES (ADC)

INDEPENDENT VARIABLES	North		Centre		South	
	OLS	**RE**	**OLS**	**RE**	**OLS**	**RE**
Constant	654.210 [445.566] (1.43)	675.921 [457.283] (1.48)	-1675.284 [783.174] (-2.14)	-1673.538 [784.084] (-2.13)**	-807.552 [507.403] (-1.59)	-1226.765 [604.913] (-2.03)**
Aggregate Indicator of Legislation (ail)	16.261 [64.662] (.25)	15.2504 [64.664] (.24)	70.007 [99.814] (.70)	69.204 [99.675] (.69)	-16.564 [70.707] (-.24)	-21.244 [68.834] (-31)
Code of disputes (code)	-26.301 [32.718] (-.81)	-27.851 [32.704] (-.85)	6.907 [55.540] (.12)	6.976 [55.545] (.15)	98.292 [38.693] (2.52)**	101.579 [37.856] (2.68)*
Regional consumption per capita (rcpc)	-2.181 [22.363] (-.11)	-3.146 [22.581] (-14)	83.141 [33.201] (2.50)**	82.981 [33.117] (2.51)**	53.304 [33.916] (1.57)	82.365 [35.122] (2.36)**
No. of volunteers per region/population (volunp)	-1.516 [1.1609] (-1.31)	-1.511 [1.314] (-1.15)	6.126 [5.581] (1.12)	6.166 [5.529] (1.12)	.359 [3.516] (.10)	-.991 [6.559] (-.15)
No. of administrative judges for region/pop. (judp)	-3.903 [10.464] (-.37)	-3.364 [10.884] (-.31)	-11.533 [23.803] (-.48)	-11.372 [23.545] (-.48)	10.727 [14.644] (.73)	11.112 [28.044] (.40)
Slowness disputes (pinto)	1935.983 [87.432] (22.14)*	1938.427 [87.474] (22.16)*	2044.264 [120.226] (17.00)*	2044.298 [120.225] (17.00)*	2350.903 [92.867] (25.31)*	2345.63 [91.176] (25.63)*
R-squared	.6272	.6271	.6703	.6703	.6869	.6863
Observations	320	320	160	160	320	320

Standard errors in brackets and t-values in Parentheses. *, ** and ***, indicate statistical significance at the 1%, 5% and 10% level respectively. Cox indicate the semi-parametric model of survival analysis.