
8.2. What drives demand and productivity in economic justice?

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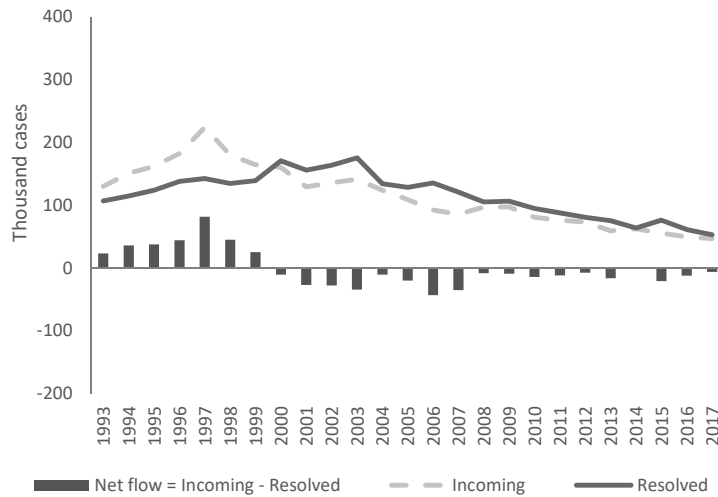
1. Motivation

The impact of the judicial system on economic growth has been widely explored in the literature. A particularly important link between effectiveness of the judicial system and potential growth operates through its effect on the overall regulatory costs faced by firms when doing business in a particular country. The fact that Portuguese firms identify the judicial system as one of the top obstacles to their activity (Instituto Nacional de Estatística, 2018) makes it an issue when discussing Portuguese economic growth. Moreover, although the large heterogeneity of judicial systems hampers a direct comparison of efficiency, the data regularly published by Council of Europe (CEPEJ) shows that the efficiency of Portuguese justice still lags behind top performers in Europe as regards congestion, despite some recent catching up (CEPEJ, 2018).

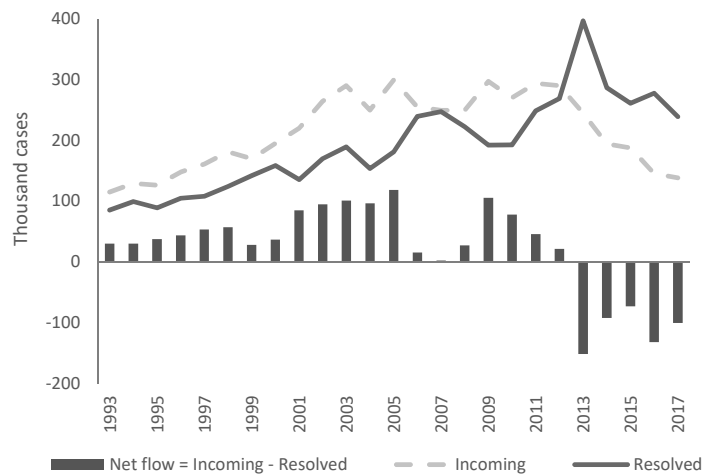
There has been a historical mismatch between incoming and resolved cases in civil justice, in particular as regards economic cases. This helps explaining how the delays in the judicial system rose to the top of business obstacles, as perceived by firms. Figure 71 plots these flows in the past decades considering separately cases aiming at the definition of a particular right (declarative) and those intended to demand the fulfilment of an obligation that was previously established (enforcement).

There has been a considerable decline of incoming declarative cases, driven by the generalisation of the injunction (a simplified procedure which allows the creditor to obtain an enforceable order, so as to require the recovery of a debt), which acted as a substitute for most debt-related cases. This allowed the net flow of declarative cases (i.e. incoming less resolved cases) to become negative since 2000, leading to a slow but steady reduction in congestion for this type of cases. As regards enforcement, however, it has been only since 2013 that the number of resolved cases has surpassed incoming

⁵⁴ Lara Wemans was working at Banco de Portugal when this Section was written.



(a) Declarative cases



(b) Enforcement cases

Figure 71: Demand and supply in civil justice from 1993 to 2017

ones (for more details, see Section 8.3) leading to a reduction in congestion. The closer match between supply and demand was, however, not enough to reduce congestion to more reasonable levels, due to the legacy of the past. In fact, the number of pending civil cases at the end of 2017 was still two times the number of cases resolved in that year, which inevitably translates into large delays.

This Section looks at the determinants of demand and productivity in civil justice in Portugal, focusing on the period just before the most recent change in the judicial map, implemented in 2014. As to demand, there is evidence of rationing-by-queuing and important spillover effects from socioeconomic characteristics of surrounding

comarcas. Regarding productivity, it is worth highlighting a positive impact associated with the number of incoming cases per judge (i.e. demand), judicial staff per judge and specialization. The evidence presented here is based on Pereira and Wemans (2015, 2017).

2. Territorial distribution of demand and human resources

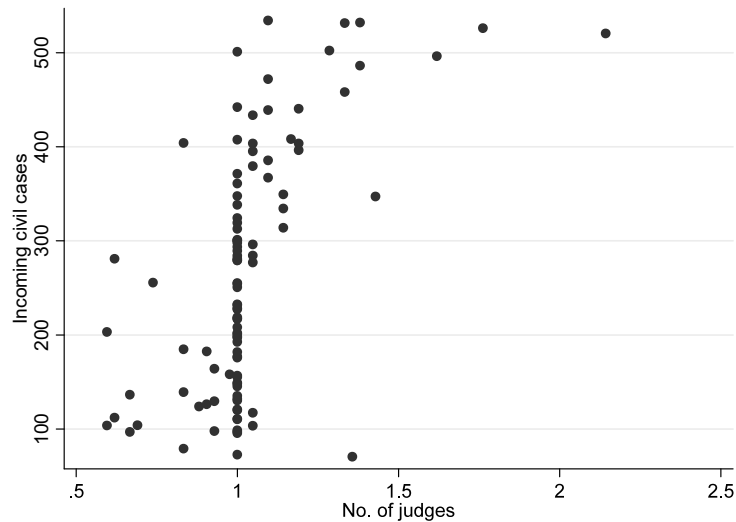
The average number of incoming civil cases in a certain region (*comarca*) can be seen as a measure of demand for civil justice directed to courts with jurisdiction there. Figure 72 shows the relation between this indicator and the number of judges in small and large *comarcas*. The restriction created by the allocation of at least one judge to each *comarca* is very binding in the group of small *comarcas*, with most of them having on average one judge, despite the wide variation in the number of incoming cases (from less than 100 to more than 500 a year). In contrast, for large *comarcas* there is a positive relationship between demand and the number of judges.

Having on average a lighter caseload, small *comarcas* could have better performance indicators, but there is no such an evidence, as congestion measures are somehow independent from the size. Consequently, a more flexible human resource management, in the spirit of the Judicial Map implemented in 2014 will tend to increase productivity, while allowing a more balanced distribution of the caseload within the system.

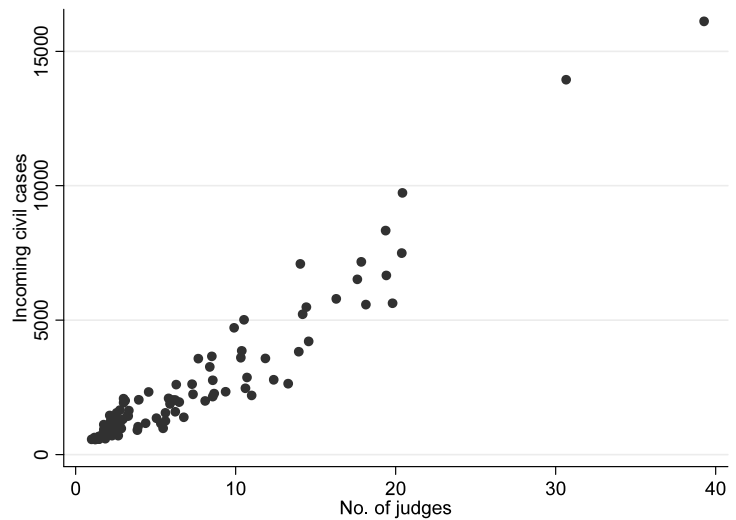
3. Data and analytical framework

The evidence presented in this Section is based on a panel dataset by *comarca*, covering the period from 1993 to 2013, with information about case flows, human resources and the duration of resolved cases in first instance judicial courts, as well as socioeconomic indicators. There is also data on expenditure on judges' wages, from 2007 onwards, and information on the number of lawyers, although only for a higher territorial level (*círculo judicial* instead of *comarca*).

To study the determinants of litigation we follow a two-step approach. Firstly, we take advantage of the panel dataset to investigate how the civil litigation rate (number of cases filed *per capita*) is affected by time-varying characteristics, such as the duration of cases in the previous year. Secondly, we use the results of this first regression in order to understand the more structural determinants of the litigation rate, including as explanatory variables, not only the



(a) Small *comarcas*



(b) Large *comarcas*

Figure 72: Incoming cases vs the number of judges

Note: Lisbon and Porto *comarcas* were excluded from figure B, as the average number of incoming cases in these areas is very high. Averages for each *comarca* between 1993 and 2013.

characteristics of the *comarca* itself, but also those of the neighbouring ones (weighting by the distance between *comarcas*).

As regards productivity, we use a strictly quantitative indicator: the ratio between the outcome - number of resolved civil cases - and the number of judges. A clear limitation of this measure is to ignore both the quality of decisions and the complexity of cases. While the first issue could not be addressed due to data limitations, the second

one has been dealt with by considering both the heterogeneity across different *comarcas* and the caseload from other litigation areas.

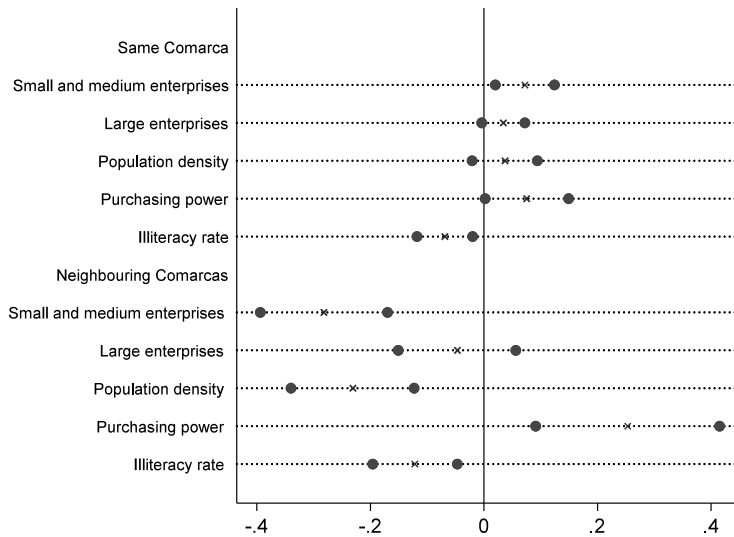
The regression covering the structural determinants of litigation is based on a spatial econometric model, which takes into account spillover effects (for more information on this issue, see Anselin *et al.* (2004)). The other regressions follow a dynamic panel specification (Arellano and Bond, 1991), justified by the relatively long time horizon covered and allowing to deal with variables not strictly exogenous. These regressions include fixed-effects for *comarcas*, in order to capture their specific characteristics, and year fixed-effects, in order to capture the specificities of a given year with a cross-*comarca* impact.

4. Results

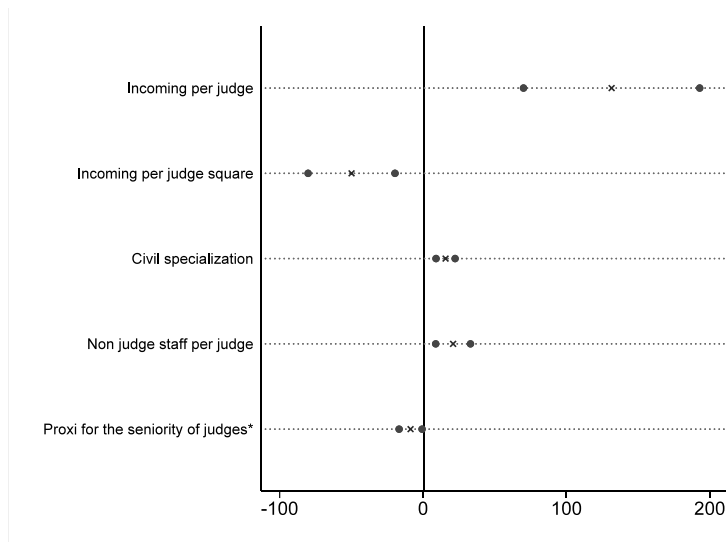
4.1. Determinants of demand

The results show that the duration of proceedings has a negative effect on the litigation rate, which may indicate the existence of a congestion effect. This is consistent with the evidence of rationing-by-queuing, possibly mediated by lawyers that use their knowledge about recent resolved cases to inform potential litigants about the expected duration of their particular case. In addition, non-civil litigation has a positive effect on the number of civil cases filed, meaning that reforms in other areas of litigation can have significant spillovers to civil justice.

As to the structural determinants of litigation, Figure 73a depicts the percentage impact on the civil litigation rate of regional differences in socioeconomic regressors. The results are directly comparable and independent from the measurement unit of each indicator because they reflect the impact of a one standard-deviation change on each variable. This allows to take into account the different degrees of dispersion around the mean. One conclusion is that there are significant spatial spillovers in the generation of litigation. Indeed, some socioeconomic factors, such as the density of small and medium enterprises and purchasing power, appear to play a more important role for litigation when stemming from the surrounding *comarcas* than from the *comarca* itself, despite the uncertainty of the estimates. This importance of spatial spillovers probably reflects the small size of the basic territorial units underlying the organization of justice in the previous Judicial Map vis-à-vis the geographical extent of the transactions between economic agents. Such an evidence highlights the need to take a broad territorial perspective in the definition of justice policies. The 2014 Judicial Map reform proceeded along these lines,



(a) Litigation rate



(b) Productivity

Figure 73: Determinants of litigation and productivity

Notes: Point estimates and 95% confidence intervals. One standard-deviation change of each explanatory variable considered in order to ensure direct comparability. In panel B, the results for the seniority of judges were obtained with data from 2007 to 2013.

by entailing considerable territorial aggregation and some flexibility in resource management.

Moreover, we find a positive relationship between economic development and litigation, particularly visible for the illiteracy rate and purchasing power. This can be associated with a higher degree of formality in economic transactions in more developed regions. Fi-

nally, the location of companies is a strong attractor of litigation, and differences between neighbouring *comarcas* with regard to the concentration of small and medium enterprises divert litigation from each other.

The estimation of the effects of the concentration of lawyers on litigation has the major limitation of being also positively driven by the volume of litigation in the *comarca*. When a standard econometric procedure to take this into account is implemented, using information on the distance of a given *comarca* to the *comarca* where the nearest law college is located as an instrument, there is some evidence of demand inducement by lawyers. This result must be interpreted with caution, however, as uncertainty remains about the effectiveness of such correction.

4.2. *Determinants of productivity*

The impact of the most relevant variables on judges' productivity is illustrated in Figure 73b. There is evidence of a positive response of productivity to the number of incoming cases per judge, meaning that productivity of judges responds to the pressure put by demand on the judicial system. This response of productivity to demand can be related to an attempt by judges to prevent an increase in congestion in the jurisdictions for which they are responsible. However, this capacity to respond to demand is lower as the number of incoming cases per judge increases, with the impact estimated for the quadratic term being negative. This is expectable given the more intense use of resources, as incoming cases grow. For example, the combination of these two effects, computed at the average of incoming cases per judge, indicates that 100 additional cases filed lead to an increase by about 50 in resolved ones. Regarding other human resources allocated to the *comarca*, productivity is also positively impacted by the number of judicial staff per judge.

An indicator of specialization, constructed using case flow information, has a positive effect on productivity. This indicator reflects, in each *comarca* the percentage of civil cases completed in judgeships (the organizational unit below the *comarca*) in which, in a given year, more than 80 percent of resolved cases were civil. An alternative indicator of specialization, reflecting *de jure* instead of *de facto* specialization was not significant.

Finally, benefiting from a strong association between salary and experience documented for Portuguese judges, a variable that intends to approximate their experience through the average salary was included in a second estimation with data from 2007 onwards. There is

evidence of a negative impact of experience on productivity, possibly reflecting factors such as incentives to the resolution of cases or the balance between quantity and quality of judicial decisions.

The explanatory factors of the judicial sector performance are highly complex and it is important to stress that, although we cover some relevant ones, there are several others, such as legislation, procedural rules or the behaviour of different players in the system that should also play a significant role.

5. Final remarks

This Section discusses the determinants of the litigation rate and productivity, contributing to a better understanding of both demand and supply of civil justice in Portugal. In order to contribute to more informed public policies in this area, we believe that quantitative analyses using case level data are of paramount importance. Obviously, the findings of these studies should be seen as complementary to those achieved by other scientific approaches. In this regard, a multidisciplinary analysis of justice policy issues is clearly beneficial.

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