

# Incorporating Taxes and Duties in Supply Chain Design between Tax Payers and Tax Administration in Iraq

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**Abstract**— This research tries to breach the forbidden laws of the judiciary by the help of empirical research of the Iraqi tax courts. So challenges the tax judiciary is going to face while the encompassing the disputes between tax payers and tax administration is going to be measured by two-stage Data Envelopment Analysis technique with bootstrapping. Thus it had measured the disputes of Iraqi courts. This research had also taken the benefit of a distinctive article of this division of the Iraqi judiciary where the judges are appointed for short term of periods and can last to exercise an peripheral profession to measure the influence the costs of opportunities and the conflicts between the payers and the administration including the conduct of the judges. The general result had confirmed that the judges exploit efficacy.

**Keywords**— tax, tax administration, supply chain, judiciary, tax judiciary, dispute.

## 1. Introduction

According to Voigt any country and its financial system is firmly based on the efficiently working judiciary. The business that take out the greater part of this system, and the efficient judiciary, is not only critical in providing justice to people but also to widest intellect of the words, similarly, in provides inevitability and comprehensiveness to financial and administrative mediators. Thus in this regard, disagreement perseverance among the percipients either tax payers or the administration is a principal job of the judiciary, as it lessens the differences among both parties. That's why allowing the mixing of unforeseen possibilities which can else cause them to marketplace disasters. Furthermore, the Tax

judiciary and the judiciary enforcements can also be crucial for the administration policy makers, or the payers. For example, the case of the tax judiciary and the courts, as the mechanisms are critical for giving the benefits beside tax evasion and the collection of taxes from the payers [1-3].

Considering the financial perspective, arbitration can be signified as a business in which the major fabrication object is most probably controlled tax judiciary. Thus this purpose of helping community by providing numerous products wanted to control connections between people. Or alternatively although this is highly impactful, the judiciary system has various qualities which are similar with other sectors especially in production. Therefore, it is agreeable to be examined using the usual tools of financial analysis [4-7]

With this approach, this research gives to the study of the industrial organization of the judiciary through the investigation of its dispute resolution technology. By a unique dataset on the Iraqi tax judiciary, we will start the research by investigating the performance of Iraq's tax judiciary and the factors of this jurisdiction system. Before showing the fundamental part of judges in tax jurisdiction system, hence we will focus our research on the differences and the disputes occur between the tax payers and tax administration along with the inducements symbolizing the activities of tax judges [8-19].

More precisely, this research progresses the recent indulgent of tax judiciary and its key participation, by captivating benefit of an eccentric article of Iraq's tax courts, which depend on the countless magnitude. In this regards, this research concentrate

on the literature of tax judiciary conduct by challenging the possessions of peripheral revenue prospects on the exertion consumed in legal action, that's why the research is exasperating to proceeds the works of tax judiciary decisions as much as revenue expansion matters [20-22]

The key research in the area has given us empirical proof albeit limited to the Iraqi tax judiciary, secondly Posner's also explained that he tax judges are financial representatives same as the others. The most common strategically important consideration it has, therefore, to raise the efficiency of tax judiciary, and by leeway the tax judges, thus the financial inducements have such an significant role. Nevertheless, it will additionally be deliberated; an appropriate strategy that needs to be cautiously analyzed, which reflects the influence on the community budget [23, 24].

## 2. Literature Review

According to Di Vita and Voigt they drove by the struggles of administrations and global societies to restore the understanding and increase the recital of tax judiciary, a developing group research in this literature has been newly strained to advance profounder visions into the works mechanisms of the law court. Numerous researches that has been done on the topic of tax jurisdiction has been admitted that disputes and blocks that came in the way are actually the one of the basic causes of tax judiciary crisis, hence the said "delay" and disputes should be tackled in smart manners. This element, can easily measurable in any tax judiciary, thus this has been accepted as a substitute for the measurement of the effectiveness and efficiency of tax jurisdiction, Adage further agrees that the "justice delayed is justice denied". Thus the problem of this has deeply rooted in the disputes that arrive in the way of justice. Although many researches have discussed this issues on the prodder terms from overall jurisdiction and court conduct but very few studies have highlighted the issue from the tax jurisdiction perspective. Also with the keen focus on the administration and payers perspective [9, 23].

Henceforth, Cook and Seiford agreed that some other factors have to be considered, in order to provide a deeper understanding of judicial efficiency with reference to the resources consumed and the outcomes produced. A considerable amount of literature depends upon Data Envelopment Analysis

(DEA), especially for attaining the accuracy with efficiency and effectiveness of results. Digging deep, DEA is a technique which is non-parametric that creates the reasonably efficient scores. Thus this method bring the scholars to shape a non-parametric and deterministic analysis that can compare the performance with efficiency and effectiveness [6].

There are numerous studies conducted by various researchers including Yeung and Azevedo, Pedraja-Chaparro and Jimenez, Lewin et al. and Kittelsen and Førsund who have used this methodology in there research [25-35].

According to [36-46] the black box of tax judiciary is not this simple, it appears that the vital role that's played by tax judiciary is the back bone of this system, who signify the most vital yield, though there are various administrative factors but the most obvious and effect is this.

Cooter and Posner further explained that the influence of inducements on the performance of tax judiciary is vital when it comes to the choices and efforts, few researchers have put their efforts to test the performance of tax judiciary by categorizing the determinants of tax judges and their efficiency and approximating their function, though various criticizers have confronted this method [1, 7, 23].

Subsequently, the discrete physiognomies of the tax judges had been empirically examined. Taha pragmatic model for the utility-maximization is to focus on the tax judicial decisions. Thus concentrating on the tax courts and their judges, the habits have been regarding publishing their verdicts, which will further confirmed the financial direction of tax jurisdiction choices [30].

Choi et al. and Landes et al. conducted a study on the bases of US data and few years later Ramseyer on Japanese data, in which they examined the effect that how the performance of tax judiciary may effected by the educational background [5, 19, 25].

Beenstock and Haitovsky conducted a research on Israel and Dimitrova-Grajzl et al. 2012 on Slovenia that both have highlighted another major issue that the tax courts and judiciary face the caseload while tackling the internal disputes between administrations. Eisenberg and Huang also added that the behavior of judiciary can also be considered indolence in the work practices [2, 10, 11].

In [18] studied and highlighted the elements influential for the tax judiciary decisions in the time of any conflict. Hence few studies have more focus on dogmatic and internal preferences, few considered that how the higher unemployment rates can judges bias in the deciding the discharges in Iraqi courts, with which decisions are more promising to the employees.

Posner claims that beyond the inflexible laws, there is a considerable amount of legal decision in the prosecution stage. Though, there is a huge gap in the empirical studies concerning the modest suggestion that he upraised, which have signals the tax judiciary for revenue generation. Whereas there are many other factors that add in it for creation the congregation of this indication hard and off course difficult [23]. As claimed by Rubin, the problems generally rise when the facts are not considered to be in there realistic manner. Subsequently, there are few best consider constraints like the amount of files dispensed with, or other either in indirect procedures like tax aversion and many more [26].

This restriction creates the strange preparation of the Iraqi tax judiciary reasonably significant, meanwhile it permits us to link directly the efficiency, pay, and chance. In reality, the jurisdictive framework, in utmost Iraqi tax judiciary are not full time, employed by the community management and from the experts with suitable skill in tax judiciary , while still having there original job.

Thus we can achieve that strange agreement to see either their efficiency within the judiciary is affected or not the simultaneous revenue prospects in surviving peripheral marketplace. More precisely, as the tax judiciary has to handle various tax disputes among the tax payers and their own administration so this can give them more chances to not only enhance their job description and specification but also give them few chances to exploit there position.

Hence as we all know that the awareness of this context and all the distinct jurisdictions of these tax courts can be shown a limited number of the generalization of findings, so it is difficult to say that whether these full time judiciary tax courts in a other countries, would also behave same or not. However, this background signifies it to be thought-provoking or else unparalleled quasi investigational workroom.\

### 3. Methodology

The tax judiciary reflects a variety of results that are not all financial, though numerous of them are not related to the financial enactment. it give tax jurisdiction to customers and it also fullfills the gaps and the loopholes where there is any incompleteness and any unforeseen trials, it can also make procedures (which are most commonly called laws) are the products of jurisdiction it thus distributes evidence and expedites significant accomplishments, however on the same hand imitating the value rescinding events [32]. Thus in the event of disputes in the tax judiciary, the benches furthermore create financial proceeds. Thus accepting the tax judicial disputes and their links with the tax payers is an sensitive issue that works and also the efficiency of the product can be dominant in the manner to determination of its efficiency and providing the predictable consequences. Thus, it requires an increasing determination on the stake of researchers to enlighten the events of the tax jurisdiction, and its finest form, thus its efficiency is given in a specific traditional form of assets.

Hence in order to deliver vigorous findings, at this stage we have used two different measures to measure the efficiency. According to Voigt the first measure is widely accepted by a large number of researchers in literature by judiciary, so is this judicial delay, if it is calculated on the bases of average number conflicts and disputes arrive in the tax judiciary. Starting from the reporting to its decision day, so this is a difficult yet realistic measure, supplied by the Iraqi Ministry of Economy and Finance [32].

Now the second measure of efficiency score (TE), can be obtained by the help of output oriented DEA technique including bootstrap, as recommended by [28]. The bootstrap is an choice by which it is additionally useful for the stage 2. To create these stages, in this research we have proposed an in depth examination of tax judiciary that had dispute resolve expertise by examining the connection between judges and the disputes either they have been into the payers perspective or the administration perspective. Hence this extra examination has given another test to the “Posnerian hypothesis”.

#### 4. Results

Hence the results of the DEA model has large variety of cases resolved for instance “the number of cases resulting in a sentence or a warrant. The input variables are all the factors which might affect court productivity in this particular context the number of judges and the demand for justice, that is to say, the number of cases pending on January 1st of each year (i.e., the stock of the demand for justice) and number of new incoming cases (i.e., the flux of the demand for justice). Considering the disaggregated demand for justice, we can estimate a more sensitive model by using two distinct variables (i.e., pending and incoming cases) rather than a single aggregated one (e.g. the caseload).

In [5] proposed approach is in line with other studies. According to this approach, the efficiency score of a CTP is defined as its ability to meet the demand for justice i.e., to maximize the number of cases completed taking the available resources into account. It is worth noting that DEA does not require any specified type of distribution [13, 16].

Table 1 presents the descriptive statistics on the output, the inputs, and the efficiency scores computed using DEA. Data pertaining to the number of judges, backlog, and incoming cases, as well as number of cases resolved, are extracted from the annual MEF report on the tax judiciary. Based on the available data, the analysis considers the 103 CTPs over a period of 3 years (2016, 2017, and 2018). The data are normalized through a logarithmic transformation.

**Table 1.** Descriptive statistics of efficiency scores, input and output: Iraqi Courts (2016-2018)

Type	Variable	Obs	Mean	SD	Min	Max
Input	Judges	309	3.006785	0.674930	1.609438	5.521461
	No. of Disputes cases	309	7.633440	1.235312	4.753590	11.253530
	Solves cases	309	7.329466	0.962457	5.318120	10.412590
	Unsolves cases	309	7.232129	0.968087	5.303305	10.390960
Output	Efficiency scores	309	1.104380	0.071762	1.001323	1.352502

Hence the results of a multiple regression shown in table 2 and 3 focusing on the determinants of judicial efficiency. In both cases, we control for geographical variables that might account for local specificities possibly influencing the final outcome. The first column refers to the macro areas (North West, North East, Center, South, and Islands) and the second column to the regions where the CTPs are located.

Finally, a pooled sample is proposed, adopting a dummy variable to capture the temporal effect, with 2009 being the dropped year against which the model is assessed. The cross-sectional analysis, instead of a panel analysis, is coherent with the approach by [28]. The models proposed in are all statistically significant (F-test) and there are no serious issues of collinearity (mean VIF); additionally, the R-square is extremely high.

The research findings have confirmed that some of our suppositions. Which provides evidence that the backlog is clearly one of the main determinants of judicial delay in the decisions of conflicts. Moreover, this delay can be reduced by increasing the number of sections, which represent the internal production lines; this is fairly logical, since overall productive capacity increases. Hence the two variables are obviously not present as they are both DEA inputs.

Yet, this methodological difference does not affect the main and most important result: in the case of both measures, we observe that a CTP can boost its efficiency by increasing the number of cases decided by a judge. Hence, as observed in many different judicial systems and jurisdictions, also in the case of the Iraqi tax courts, the main productivity element is indeed the judge. Whether measured roughly as the duration of the procedure to solve a dispute or in a more sophisticated way as an index weighting inputs

and output, judicial efficiency always depends on actual judicial-making effort proxies by the number of cases individually managed (and not, of course, by the time spent on the bench); this is true across all countries, despite possible socio-economic differences. The findings are thus significant and robust. It is worth noting that in both cases the relation is negative because an increase in the average number of cases managed by a judge decreases the delay and increases conflicts.

Which is the one directly relating to the time dimension, lead to an additional remark, which seems intriguing though preliminary: if the duration of dispute resolution is more specifically considered, fostering overall judicial efficiency does not simply equate to reducing delay across the board, but instead depends on individually fine-tuning each of the stages which make up the production process.

While this is true for most of the stages, more significant gains can be achieved in terms of speeding up the whole procedure by exercising greater care (once more, the proxy here is time) in the preparation and forwarding of the file to the CTP president. So, thorough preparation of every case might marginally speed up the subsequent phases. The second phase and the third phase, more directly relying upon the judges' work, do not yield any significant coefficients. Hence, there is no clear evidence that judges can boost court productivity by simply speeding up case resolution. Rather, and quite straightforwardly, they should increase the number of cases individually decided. It is not a matter of doing better what they are already doing, it is a matter of doing more.

**Table 4.** Multiple regression model

	Variables	(1)	(2)
Standard errors in parentheses ***p <0.01; **p <0.05; *p <0.1	Backlog	0.695*** (0.0327)	0.693*** (0.0331)
	No of Disputes	- 0.663*** (0.0422)	- 0.622*** (0.0426)
	Registered cases	0.0158 (0.0582)	0.0396 (0.0585)
	Average cases per judge	- 0.544*** (0.0548)	- 0.501*** (0.0543)
	Average number of hearing per judge	0.00136** (0.000574)	0.00117** (0.000529)
	Average number of disputes solved	- 0.000240 (0.000212)	- 0.000241 (0.000213)
	Average number of disputes pending	0.000484 (0.000727)	0.000789 (0.000684)
	Average number of time taken for each case	0.000192 (0.00765)	0.00103 (0.00812)
	2016	(0.0420)	(0.0383)
	2017	(0.0436)	(0.0400)

	2018	(0.0435)	(0.0392)
	Constant	4.379*** (0.259)	4.173*** (0.260)
	F test	58.86***	36.70***
	Observations	309	309
	<u>R-square</u>	<u>0.737</u>	<u>0.798</u>

**Table 5. OLS regression model**

	Variables	(1)	(2)
<u>Standard errors in parentheses</u> ***p <0.01; **p <0.05; *p <0.1	Backlog	-0.00576 (0.0134)	0.0175 (0.0142)
	No of Disputes	-0.0324*** (0.00997)	- 0.0348*** (0.0119)
	Registered cases	- 0.000103 (0.000133)	- 0.000134 (0.000129)
	Average cases per judge	- 0.000113	- 0.000123
	Average number of hearing per judge	0.000387** (0.000163)	0.000303* (0.000165)
	Average number of disputes solved	- 0.000407 (0.00181)	0.00287 (0.00202)
	Average number of disputes pending	- 0.000234	
	Average number of time taken for each case	- 2.43e - 05 (4.87e - 05)	4.72e - 05 (5.04e - 05)
	2016	- 0.0156 (0.00993)	- 0.0191** (0.00950)
	2017	- 0.0136 (0.0102)	- 0.0164* (0.00986)
	2018	- 0.0157 (0.00997)	- 0.0136 (0.0102)
	Constant	1.289*** (0.0579)	1.196*** (0.0599)
	F test	3.04	3.32

	Prob>F	0.000	0.000
	Observations	309	309
	R-square	0.110	0.249

## 5. Discussion & Conclusion

Adjudication is a crucial activity for society. Although it supplies a complex set of outcomes, from an efficiency perspective its workings can (and should) be investigated by adopting the usual tools of economic analysis. The paper does exactly that, by providing an empirical investigation of the Iraqi tax judiciary. In particular, adopting both judicial delay and the DEA approach, we compare the efficiency measures of tax courts and the determinants affecting their performance. Furthermore, As the Iraqi tax judiciary relies on the non-exclusive commitment of judges, who can also concurrently practice another profession, we test whether judges behave economically, by maximizing their utility (as far as income is concerned), as a stream of literature suggests they do.

Our findings show that judges do indeed act as profit maximizers and, because of this, outcomes can greatly vary depending on external opportunities to make money, which in turn represents the opportunity cost for the judicial activity. In order to be efficient, a court essentially needs to boost its judges' productivity and, when other external economic opportunities exist, this means that judges face a trade-off between increasing the court's performance or their private income".

Therefore, an operational strategy needs to endorse tax judiciary efficiency also not only they simply depend on growing the quantity of tax judges and the conflicts they have faces. Hence the results and findings of this research had indicated that for the order to be efficient and effective, there should be an effective a policy that compromises all the factors either they are from the payers perspective or from the administration perspective.

A general perception, shared with certain assistance from business institute, influence there provisions the venture of extra convincing strategies. Nonetheless these thought-provoking outcomes, there are some limits to the examination in this

research. Firstly, as due to the bad condition in Iraq the data was one of the biggest constraints as after war crisis in Iraq most of the legal set has been under deep depression and there are variety of barrier. Thus this was one of the major limitations in this study. So the research has been constrained by the availability of data.

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