Mundo Fesc, 11 (21) , 233-245, Enero-Junio 2021, ISSN 2216-0353 (impreso) - 2216-0388 (Online)

Less evasion means more production? The effect of the consumption tax on the economic performance of the restaurant and bars subsector in Colombia

¿Evadir menos mientras se produce más? Efecto del impuesto al consumo en el desempeño económico de restaurantes y bares en Colombia

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Recibido: Julio 19 de 2020 Aceptado: Diciembre 20 de 2020.

Forma de citar: J.D. Cañizares-Osorio, J. de Jesús Cañizares-Arévalo, M. Cárdenas-García, ."Less evasion means more production? The effect of the consumption tax on the economic performance of the restaurant and bars subsector in Colombia", *Mundo Fesc* vol. 11, no. 21, pp. 233-245, 2021

Abstract:

For fiscal policy makers, it is essential to have empirical evidence to support and inform ex ante the decisions to be made and the policies to be proposed in tax matters. That is why there are numerous empirical studies that have shown various effects of fiscal shocks on macroeconomic variables such as employment, wages, investment, and income. This article develops a conclusive analysis of the multivariate effect that a Colombian tax regulation had on the economic subsector of restaurants, catering and bars, starting with the change in the value added tax VAT (16%), which allows the deduction of the tax paid for intermediate consumption, for the consumption tax (8%) which, although has a lower rate, does not allow this deduction. The potential tax paid with both taxes was estimated, seeking to know if the regulation meant a reduction in the burden and, subsequently, making use of a discontinuous regression model that compares this subsector in question with other similar subsectors present in DANE's annual services survey, a positive effect of this regulation on the variables of interest was found. For example, this tax change meant an increase of 23% in the average nominal production of the companies in the sector when compared with other sectors that were not covered by this reform.

Keywords: Fiscal Policy, Regulation, Taxation, Tax deduction, Tax evasion.

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Resumen:
Para los hacedores de política fiscal es imprescindible contar con evidencia empírica expost que soporte e informe de manera exante las decisiones a tomar y las políticas a plantear en materia impositiva. Es por ello por lo que existen numerosos estudios empíricos que han mostrado diversos efectos de choques fiscales sobre variables macroeconómicas como el empleo, los salarios, la inversión y los ingresos. El presente artículo busca llevar a cabo un análisis concluyente sobre el efecto multivariable que tuvo una reglamentación tributaria colombiana sobre el subsector económico de restaurantes catering y bares, a partir del cambio del impuesto al valor agregado IVA (16%), que permite deducir el impuesto pagado por consumo intermedio, por el impuesto al consumo (8%) que, aunque tiene una menor tasa, no permite esta deducción. Se estimó el impuesto potencial pagado con ambos tributos, buscando conocer si la reglamentación significó una reducción en la carga y, posteriormente, haciendo uso de un modelo de regresión discontinua que compara este subsector en cuestión con otros subsectores similares presentes en la encuesta anual de servicios del DANE, se encontró un efecto positivo de esta reglamentación sobre las variables de interés, por ejemplo, significó un incremento de 23% en la producción nominal promedio de las empresas del sector al compararse con otros sectores que no fueron cobijados por esta reforma.

Palabras clave: Política fiscal, Regulación, Tributación, Deducción de impuestos, Evasión de Impuestos.

Introduction

The services sector moves the Colombian economy. Currently, about 68% of the Gross Domestic Product (GDP) [1] in the country is made by this sector and its growth has been much higher than that presented by the industry and the agricultural sector. Financial services, commerce and tourism, among others, have marked the country's economic growth in recent years. This change has occurred especially since the economic opening in the 90's, where agriculture and industry have lost more and more importance.

In this sector, an important contributor is the subsector of restaurants, catering and bars, related to food services. This represents, within the services, about 5% of its production and approximately 4% of total employment. In addition, it is a growing sector. Since 2012, the sector's operating revenues have grown, on average, at a rate of 7.9% per year in nominal terms and the number of employed personnel has grown at an average of 4.6% per year [2].

In 2012, with the tax reform [3] a new form of indirect tax was implemented, the National Consumption Tax (INC). The idea arose after the then director of the Department of National Taxes and Customs (DIAN according to its initials in spanish) Juan Ricardo Ortega López, after eating at a restaurant, was asked whether or not he wanted to pay with a bill, since the cost of the meal depended on it. This event allowed him, to clearly evidence the problem of evasion that existed in this sector. The measure that was used, then, was to create in the reform the INC for this subsector of food services and some other sectors of the economy.

The INC consists of a sales tax, very similar to the Value Added Tax (VAT), which has a differential rate of 8% (vs. 16% at the time of the VAT). However, despite having a lower rate, purchases of raw materials are not allowed to be deducted from the taxable base of the tax, as the VAT does. The rationale for this tax lies in the fact that a lower rate could considerably reduce the high level of evasion in these sectors and, from the tax point of view, that the consumption of the final good or service is finally taxed and not the added value of it.

The main sector affected by this policy was the restaurant, bar and catering sector; and therefore, this research aims to study

the impact of the structural shock of tax change on the behavior, structure and performance of the companies that make up this sector. In order to study this impact, the indexes of concentration, production and employment before and after the shock are compared, in addition to analyzing, through a discontinuous regression model, the effect of this measure on sales, employment and production, comparing the results of the food services subsector with some homogeneous sectors found through statistical methodologies. In addition to this, it is estimated what would be the average potential tax on sales that the businesses affected by the policy would pay, taking the case of the consumption tax and the hypothetical case that they would continue to pay VAT.

The objective of the study is, then, to study the economic impact of the consumption tax beyond its main objective which was initially to reduce evasion. Thus, it will be possible to conclude in a certain way how much tax burden is currently generated by the sales tax in the service sector to give an indication of the efficiency or productivity of this tax.

Literature Review

Mertens and Ravn [4] found important positive responses in production given a change in future tax expectations by economic agents. Their work is based on quantifying the effect of given tax changes, in particular sectors of the US economy, on the aggregate national production. Using a model that incorporates adaptive expectations by agents on the decisions of fiscal policy makers, they find that the impact of a tax reduction can lead to growth of up to 1.5% of aggregate production. This is due to the use of a stochastic dynamic general equilibrium (DSGE) model.

Romer and Romer [5], constructing measures on tax changes, and controlling aggregate production by such measures, found significant negative effects of tax rate increases, more specifically of payroll taxes and tax bills, on production. Their model, unlike the one developed by [4], is based on the assumption that there is no anticipated effect that may be generated by agents' expectations about changes in taxes in the future; that is, production depends only on changes in tax levels, production lags and other commonly used control variables. Their results conclude that there is a negative relationship between tax increases and the level of production. They find that increases in the volume of taxes corresponding to 1% of GDP can generate falls in the level of aggregate production of close to 3%.

Favero and Gaviazzi [6], proceeded to take the model proposed by [5], on which they made both structural and specification changes, arguing that the study could not be interpreted properly as the representation of a moving average, but that it should adopt a VAR structure, (better understood as that of a model of self-regressive vectors). In that sense, and making the mentioned restructuring, the authors find that tax shocks, estimated with their values in levels, of a similar size to the one proposed by [5] lead to reductions in the size of the aggregate production close to 0.5%.

Perotti [7], recreates a work similar to those already exposed in his field, that is to say, it is based on the work of [5], and making an extension as for the data base, (taking into account a greater volume of information of tax character on the different sectors and agents of the American economy), as well as it includes as a premise to control the behavior of the output in his model, that, although it is theoretically, the discretionary component that the taxes possess should have different implications on the aggregate income that the one that has its endogenous

component. This means that taxes have little explained and justified characteristics in their disaggregated form that, in theory, should affect output differently from their intentionally defined characteristics. Based on the above modifications, Perotti uses a VAR model, which allows for the estimation of the different impacts that the different components of taxes have on aggregate income.

When comparing his results with those of two of the works already mentioned, [7] found that the response of income to tax shocks, under the specification of his model, is lower than that estimated by [5], but much higher than that of [6]. In this sense, Perotti's results conclude that an increase in the volume of taxes equivalent to 1% of the product leads to reductions of 1.3% in aggregate income. Perotti also finds that, using an adequate database, that is, one that tracks the start dates and time path of changes in each item of each tax, leads to not finding a significant effect in the differentiation between the effect of a prepaid tax and one not prepaid by the agents.

In a paper prepared to analyze the effects generated by changes in anti-evasion policies, state fiscal intervention, and business behavior in a competitive environment [8], rely on a sample of Ecuadorian companies that were informed about discrepancies in their profit statements. The information collection system was categorized as a third way system; a third way system refers to the ability to verify taxpayer reports against other sources, i.e., to contrast the information provided.

The study implicitly focused on the formulation of an optimal tax information request and management policy, that is, one that would reduce evasion by businesses. Its results suggest that third party systems and traditional collection methods can in fact be complementary to each other. Despite the fact that the growth of the audit and compliance capacity of developing country governments remains crucial to the effective collection of taxes from small and medium enterprises. Over time, third party systems can become more effective as the capacity of the tax authority and the scope of transactions increase.

In their thesis work, Asuad and Salazar [9], conduct a qualitative analysis that incorporates a situational examination of SMEs and their environment in Colombia in light of the effect of the tax burdens they "suffer". Among their main conclusions, they state that the effort to formalize the workers or the company itself to become a formal legal entity, is counterproductive in the face of the individual interest of maximizing short-term benefits for the companies, a situation that linked to the different dynamics that shape the markets and regulations in Colombia, make, according to Asuad and Salazar, to create and sustain a SME is "an act of faith" in the country, under the tax system that surrounds them.

In another more quantitative-descriptive analysis [10] evaluate the tax burden in Colombia from a relative perspective, taking an international perspective, in order to obtain comparative conclusions in terms of relative competitiveness. In their work, Cárdenas et.al, make recommendations on the management of investment taxes in the country, which in their opinion should be reduced in certain aspects; they also evaluate the impact that taxes have on production and informality in the Colombian labor market, finding negative and positive effects respectively. A fundamental contribution of this work is the inclusion and conceptualization of "effective marginal rates", which discriminate by economic sector the effect that a tax has on different interest variables.

Data

In order to study at the micro level the effect of this structural change, a level of disaggregation by companies is necessary. This is why the Annual Services Survey (EAS) was used, which collects data from approximately 6,800 service companies in the country. The year 2013 was taken to collect the effect after the establishment of the tax and to be able to make the evaluation. This survey collects variables of production, income, employed personnel, intermediate consumption; value added, labor productivity, total productivity, and employee remuneration, among others.

The survey has data available from 2006 to 2015 and will be taken mainly in 2013, one year after the reform. However, for a descriptive analysis, every year will be taken into account to observe the evolution.

Baseline Balancing

Balancing covariates in an experiment provides a basis for causal inference by improving the credibility of asymptotic claims that groups (treated and controls) are equal, i.e., it provides a theoretical basis for attributing clearly measured effects to the intervention and not to possible effects or innate characteristics of the enterprise. In other words, a correct balancing increases the power and statistical precision and, in addition, the validity and credibility of the impact found. It basically consists of demonstrating, by means of a simple OLS regression, that there is no effect of being or not being a selected enterprise for the law on each covariate. In our case, the baseline characteristics (covariates) are well balanced in the sample. This is documented in Table I.

Table I. Balancing Covariates

Covariable**	Controls Average	Coeficient	P – value***
Total income caused in the previous year	19.744.467,00	-17.667.916,0	(>0,05)
Total costs and expenses caused in the previous year	9.498.455,40	-8.757.886,5	(>0,05)
Staff paid in the previous year (2012)	324,80	39,86	(>0,05)
Gross production in the previous year	19.120.019,00	-15.997.830,0	(>0,05)
Total income from services rendered in the previous year (2012)	18.840.081,00	-15.799.997,0	(>0,05)
Costs and expenses related to providing the service in the previous year	3.131.811,00	479.788,6	(>0,05)
Social benefits of permanent staff	1.170.863,30	-757.677,2	(>0,05)
Wages and salaries of employed personnel	4.114.377,80	-761.730,8	(>0,05)
Obs	1412		

Notes:
* The values expressed in thousands of COP$ are at 2008 prices.
** each row is equivalent to a regression of the control variable with respect to the discontinuous one that indicates if the company belongs to the law. The standard errors (in parentheses) are clustered at the level of the category of the company. All regressions control for fixed effects of year of creation of the company. Those called "previous year" refer to the year 2012.
*** the p-value tells us if there are significant differences in each variable between the treatment and control group, ideally not significant to meet the assumption of counterfactual.

Methodology

The methodological problem consists in establishing the difference between the outcome variable of the firm in the presence of the law and the outcome variable of the same firm in the absence of the law. This will be the effect. The fundamental exercise lies then in knowing the difference between the outcome variable of the firm and that which would have been obtained in the hypothetical case of the law not existing. Clearly, both results cannot be observed for the same firme at the same time, since the second is hypothetical, that is, it is not observable. The latter will be our counterfactual.

The standard methodology for formalizing

the empirical exercise is based on the potential outcome model or Roy model [11] - Rubin [12]. First, we define the treatment variable asD_i. In this, case the treatment is binary (The firm behaves under the presence of the law or not), then D_i=1 if the firm is treated and 0 otherwise. The result variables or outcomes are defined as Y_i (D_i) for each firm i= 1,… N, and N denotes the total number of firms. Basically, Y_i (1) will be the outcome variable if the firm "i" enforces the law and Y_i (0) if the firm "i" do not have to enforce it. The treatment effect (or the impact of the law) for each firm "i" can be written as:

$$\pi_i = Y_i(1) - Y_i(0) \qquad (1)$$

Note that equation 1 refers to a single moment in time, therefore, in this theoretical approach we will only focus on comparing firms that were part of the law in the same time period with others that serve as counterfactuals and were not part of the law in the same time period.

Previously it was mentioned that only one of the potential results can be observed. Formally, it means that there is only evidence of Y_i (1) if D_i=1 and Y_i (0) if D_i=0, for instance, the observed result can be written as:

$$Y_i = D_i Y_i(1) + (1 - D_i) Y_i(0) = \begin{cases} Y_i(1) \; si \; D_i = 1 \\ Y_i(0) \; si \; D_i = 0 \end{cases} \qquad (2)$$

Because each of the results in equation 2 is not observable for every firm, it is not possible to estimate the individual treatment effect π_i. The analysis will focus on the average impact of the law on a given subset (our policy interest is by sector). That is, we will not be able to say concretely what would have happened with each of the firms individually, but we will be able to say what would have happened on average. The representation of the result variable based on the linear regression model is given by:

$$Y_i = \beta_0 + \pi_i D_i + u_i$$

Where $\pi_i = Y_i(1) - Y_i(0)$ y $Y_i(0) = E[Y_i(0)] + u_i = \beta_0 + u_i$

The average treatment effect is interpreted as the average change in each outcome variable when a randomly selected firm randomly switches from participating to non-participating in the law.

This specific policy model provides a source of treatment variation that can be exploited to estimate the effect under relatively weak assumptions, i.e., a natural experiment or non-experimental design is generated. In this specific case, there is a discontinuous change in the probability of taking advantage of the law or not, since the policy was focused on a particular group of the enterprise population based on a targeting instrument that is not discontinuous (a category to which the enterprise belongs, but which arises from a continuous instrument that is the avoidance figure). In this case, we will call the targeting variable Z.

For each firm i we observe the treatment indicator (Di), an outcome variable vector (Yi), a series of observable characteristics (control variables) that do not depend directly on the treatment, but affect the outcome variable (Xi) and an observable variable (Zi) which is a focus variable that determines eligibility for the law, in this case, the category to which the firm belongs.

Intuitively, the DR estimator is based on the assumption that firms just left of the threshold should be similar to the those just right of the threshold, except that the former participate in the law and the latter do not.Therefore the latter could be a valid counterfactual of the former. If this threshold is in a certain way arbitrary, then they can be compared with each other to determine the effect of the law.

This type of design generally arises from administrative decisions such that the incentives for firms to avail themselves or not of a certain law are limited by categorically clear restrictions, therefore, it is a clear discontinuous regression, since it occurs in a deterministic manner. Let us assume without loss of generality that the treated firms are all those with values of $\bar{Z}$ below the threshold (i.e., they do not practice as much evasion as those belonging to section I2) and the untreated ones are those that are not in that category:

$$D_i(Z_i) = I[Z_i \leq \bar{Z}]$$

Where I [*] = 1 if the condition * is satisfied and zero otherwise.

That means that the probability of participation is discontinuous at the point of going from 1 to be deterministically equal to 0. Since participation is assumed to be a deterministic function of $\bar{Z}$, then we are assuming that the firms do not contribute to the decision to participate or not and, furthermore, cannot adjust the value of $\bar{Z}$ in response to the eligibility criteria of the law ($\bar{Z}$ is not manipulable). However, the standard conditions of local continuity will not be sufficient to ensure causality, since the targeting instrument $\bar{Z}$ a categorical variable, however, is in principle determined by the avoidance figure, however, this is not observable. The effect of the law (in a scenario of non-compliance with an assumption) may be expressed as follows:

$$\pi(\bar{Z}) = \lim_{z \uparrow \bar{Z}} E[Y_i|Z_i = z] - \lim_{z \downarrow \bar{Z}} E[Y_i|Z_i = z]$$

And the equation that would be estimated for each variable of vector Yi would be (using simple regression)

$$Y_i = m(Z_i) + \beta_i D_i + e_i$$

Where $e_i = Y_i - E[Y_i | D_i, Z_i]$ y $m(Z) = E[u_i | Z] + (E[\pi_i | Z] - E[\pi_i | \bar{Z}]) D_i$

However, it is necessary to cluster the standard errors by category. If we use the usual expression of the standard errors, we would be basing the estimation on the assumption of independence of the error term through the observations, that is, we would be assuming that the companies are unrelated to each other. Our unit of observation is companies that belong to certain categories and that, in addition, their treatment was assigned on this basis. Additionally, fixed effects of year of enterprise creation were added to the realization of each individual regression. Finally, the results will be based on a regression analysis that is expressed as follows:

$$Y_{ij} = \propto D_i + X_i\beta + SC_j + e_{ij}$$

Where Y_{ij} is the outcome variable for company i in section or category j; D_i is the variable that indicates treatment, taking the value of 1 if the firm belongs to I2, 0 otherwise; and SC_j are the effects of the categories. X_i i is a vector of the characteristics of the companies in the baseline, these are taken as controls and are reported in Table I. The estimates we will present will be a weighted average ($\propto$) of the effects between treaties and controls across the different enterprise categories.

General results and the Regression discontinuity design

The Evolution of Sales

Prior to the model, some descriptive results were observed to account for the performance of the Restaurant, Bar and Catering sector and its comparison with other service sectors. Graph 1 shows the evolution of the running variation of the nominal operating revenues of some service sub-sectors from

2008 to 2017. After the reform in 2012, a general decrease in growth rates can be observed in all sectors, which is mainly explained by the economic cycle, since it has clearly increased from 2015 to date, coinciding with the low economic growth rates in the country.

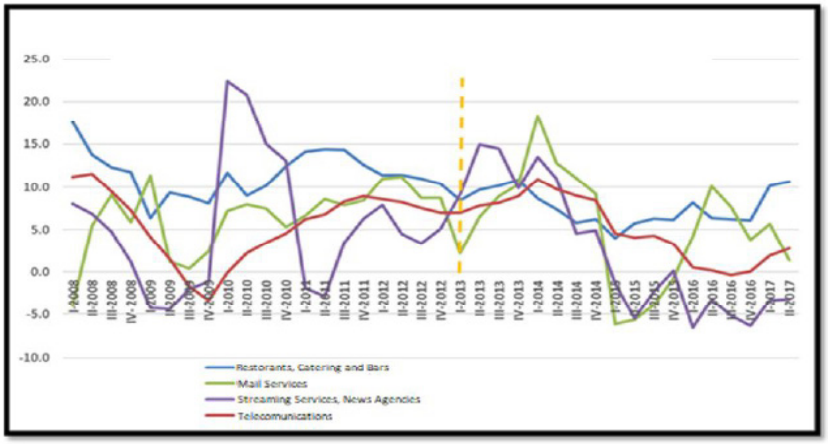

Figure 1: Operational Earnings from the Services Sector

Source: Own elaboration with data from [13].

Therefore, if we look at the average growths in the period 2008-2012, compared to 2013-2017, as shown in Figure 2, we can see a clear fall in all of them. In spite of this, the Restaurants, Bars and Catering sub-sector has been one of the few that has managed to continue with average growth rates above 5% throughout the year, that is, it has not been so strongly affected by the cyclical shock.

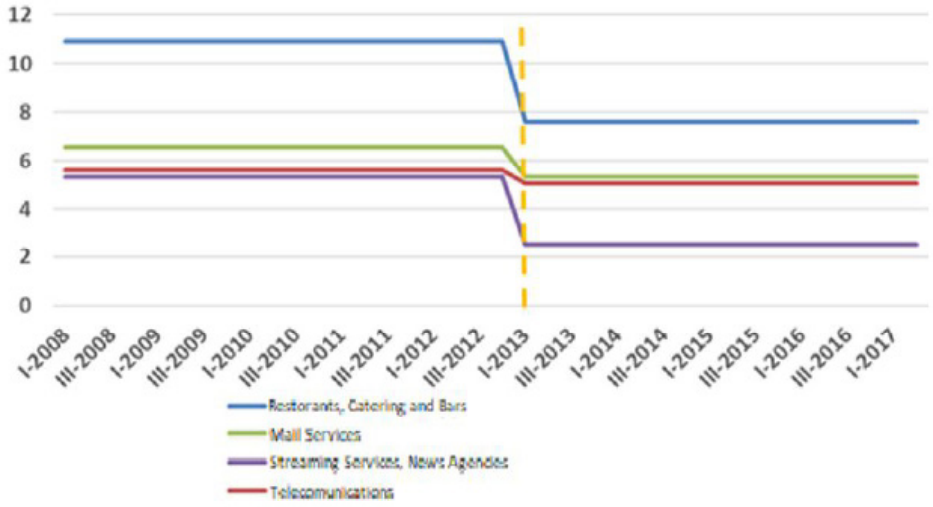

Figure 2: Average growth of earning in service sectors

Source: Own elaboration with data from [13]

The Evolution in Market Concentration

Having data at the company level, it was possible to make an analysis of the concentration

indexes in the subsector of Restaurants, Bars and Catering. Figure 3 shows the market concentration analyzed in two different concentration indices: the Herfindahl-Hirschman index and the combined market share of the 10 largest companies in the sector. From 2013, when the new tax regulation came into force, both measures of concentration have permanently fallen, i.e. the market has become more competitive. In addition, there is a low level of concentration in general (32.19%) because, for example, in the banking sector in 2014, the 10 largest banks accounted for 89% of the market share in terms of assets.

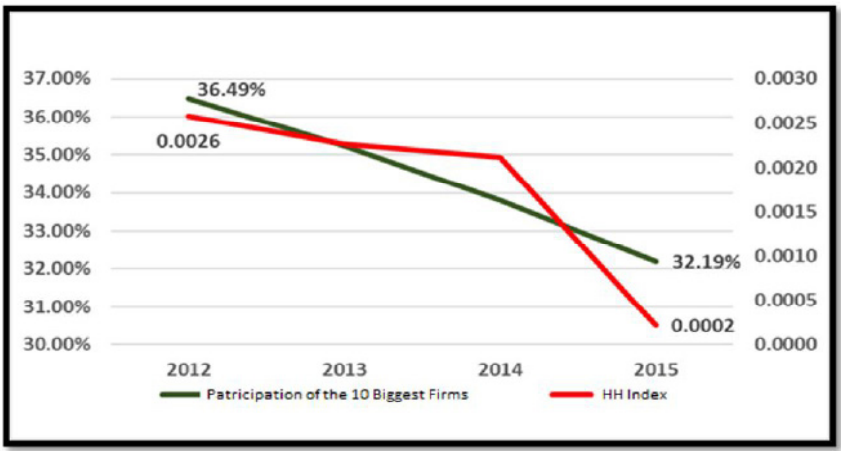

Figure 3: Concentration of the Sector after the Tax Reform

Source: Own elaboration with data from [14]

Average Potential Payment of the Sales Tax

Before making an evaluation of the effect of the shock with the tax reform, it is necessary to make an estimate of the payments that, on average, companies in the sector would make for the concept of sales tax. After 2012, companies in the food service sub-sector stopped paying VAT and began paying INC. With this change, the rate paid was reduced by half, but the taxable base was expanded, since it would no longer be possible to deduct the VAT paid on intermediate consumption purchases made. Therefore, the average tax payment of companies with consumption tax (after 2012) was estimated, and the average tax payment if they had continued to pay VAT after the reform. This, to see if it was a measure that reduced or increased their tax burden, and to shed light on what should be the effect on sales, employment and production. The estimate was made as follows:

$$VAT = Sales * 16\% - Intermediate\ Consumption\ Taxed * 16\%$$

In other words, companies pay VAT on their sales multiplied by 16%, and deduct the goods they buy that are taxed with VAT. Note that "taxed intermediate consumption" appears because not all goods purchased are included in the base. In fact, according to data from the DIAN and estimates from the Commission of Experts for Tax Equity and Competitiveness [15], in 2013 only 45% of goods in the country were taxed with VAT. Therefore, it was assumed that the intermediate consumption taxed was estimated as follows:

$$Intermediate\ Consumption\ Taxed = Intermediate\ Consumption * 45\%$$

This assumption does not take into account that probably less than 45% of the restaurants' intermediate consumption is not taxed, since a large part of their purchases

correspond to food that is considered a basic need and is exempt from VAT; however, the estimate was made under this stricter assumption.

Now, to estimate the consumption tax, we simply multiplied the value of the operational income by 8%:

$$Consumption\ tax = Sales * 8\%$$

Figure 4 shows, from 2006 to 2012, that the subsector of Restaurants, Catering and Bars always paid VAT according to the estimate. As of 2013, companies began to pay consumption tax and it was estimated that, if they had continued to pay VAT, they would currently have a higher tax burden than that established in the reform. On average, companies now have to pay 29% less sales tax according to the estimate.

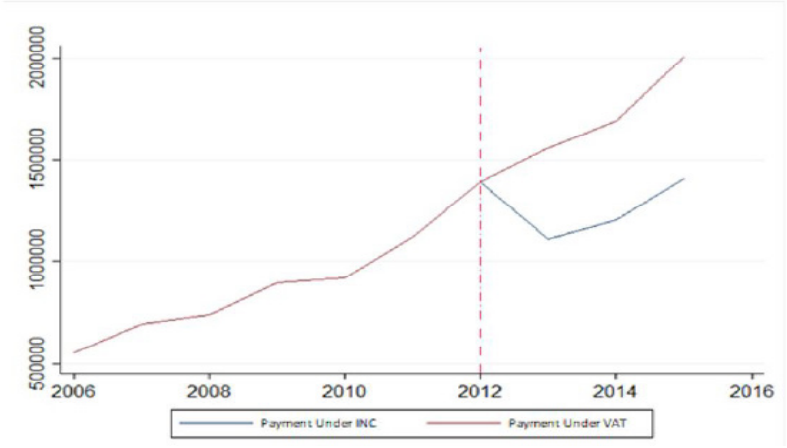

Figure 4: Potential payment, VAT versus consumption tax.

Source: Own elaboration with data from [14]

Discontinuous Regression Model

In this section we present the average effects for the business population. We will focus on the following outcome variables which are shown in summary form in Table II:

Income caused in the year. - We find that the revenue caused in 2013 is about $5 billion (thousands of millions of COP) more for those companies that were assigned to the law, which corresponds to a relative increase over the average of 26.03% and is significant at 5%, controlling, among other things, for the revenue of the previous year (2012).

Costs and expenses caused during the year. - The increase in costs and expenses is probably driven by the increase in revenues mentioned above, however, the relative effect on costs and expenses (22.40%) is less than that of revenues (26.03%), which could give light to an increase in profitability with respect to non-participants in the law. However, this effect is not significant.

Total staff employed. - According to Table 2, on average the controls have about 335 employees, while the treated companies acquired an average of 7 more workers a year later (controlling for the workers of the previous period). This indicates a relative increase of 2.17%.

Gross production. - Gross production, which is highly correlated to sales revenue, had a significant positive effect of 23.11%. Treated companies, on average, produced 4.8 billion pesos more than untreated companies.

Intermediate consumption. - As would be expected, intermediate consumption (with a significance of 10%) increased, because it is clearly necessary to consume more raw materials to produce and sell more. However, it should be noted that its increase was less than the increase in sales and production; this makes a lot of sense when analyzing that the consumption tax does not allow for the deduction of VAT paid on purchases of raw materials for production, and therefore reduces the incentives to carry out intermediate consumption.

Value added. - In the face of an increase in production, and a lesser increase in intermediate consumption, the effect on value added in the treated companies is positive. With a significance of 1%, very significant, the companies in the Restaurant, Catering and Bar sector generated 28.2% more value added than similar companies that did not start paying consumption tax.

Table II. General Results

Outcomes [2]	Controls Average	Coeficient	Standard Error[3]	Relative Effect
Total income caused in the year	21.409.786	5.572.007,300	(2.359.703,90)**	**26,03%**
Total costs and expenses caused during the year	10.574.141,0	2.369.001,800	(1.479.507,10)	**22,40%**
Total staff employed	335,30	7,28	(3,573)**	**2,17%**
Intermediate consumption	9.120.748,2	1.545.475,70	(876.885,3)*	**16,94%**
Total income from services rendered	20.266.374	4.682.724,800	(2.103.408)**	**23,11%**
Added value	11.576.484	3.264.600,60	(995.229,5)***	**28,20%**
Gross production	20.813.612,00	4.810.075,40	(1.809.272,00)***	**23,11%**

Notes: [1] The values expressed in COP$ are at 2008 prices.
[2] Each row is equivalent to a regression of the result variable with respect to the discontinuous one that indicates if the company belongs to the law (controlled by the covariates in Table 1). The standard errors (in parentheses) are clustered at the level of the company's category. All regressions control for fixed effects of year of creation of the company. **They were made for the year 2013**
[3] the level of significance is indicated by: 1% significance***, 5% significance**, 10% significance*

Conclusions and final observations

It can be concluded that a positive and significant effect of the Excise Tax legislation was found on production, sales, employment, value added, among others. This, added to the fact that it was estimated that the legislation effectively decreased the average tax paid by companies by 29%, shows, as [7] and [16], that the tax elasticity of the efficiency or product is negative, that is, when faced with a higher tax burden or a higher tax rate, the amounts sold in a market are reduced. Therefore, it can be concluded that, beyond the main objective of the reform, which was to reduce evasion, the government ended up adopting a measure that, in partial balance, reduced the loss of efficiency and increased the number of services sold and the number of people employed.

According to studies by [16] [17] [18] [19] [20]; high levels of tax burden or higher tax rates generate greater evasion. This study found that the measure of imposing the Consumption Tax for Restaurants, Catering and Bars, reduced the tax burden that these companies had when they paid VAT.

The main objective of the policy was to reduce evasion in this sector, and therefore, a priori, it could be said that by reducing effective tax rates, the measure should prove effective according to the empirical

results referenced. Furthermore, the fact that this had a positive effect on sales and value added, unlike similar companies in other sectors, shows a possible increase in the tax base and, therefore, a potential reduction in evasion. It would be important to extend this study to an analysis of evasion, in order to observe whether the lower tax rates generated only an effect on companies' costs and, thus, the prices perceived by individuals, or whether there was also a reduction in evasion. This would be possible with figures from the collection of the consumption tax and the VAT in this sector and the figures of the potential tax estimated in this study.

Much of the reason that the Excise Tax measure was positive on the effective tax burden of companies is that approximately 50% of goods in Colombia are not taxed with sales tax. For this reason, the deduction that companies that pay VAT on intermediate consumption goods they purchase can make is often not as high. While it is true that currently with the tax reform [21] the VAT rate was increased to 19% and the consumption tax remained at 8%, widening even more the rate differential, it is possible that by expanding the VAT taxable base to almost 100% of the goods, the effect of the consumption tax on production and efficiency would be much lower or even negative.

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