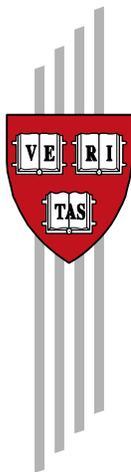


Tax Avoidance in Buenos Aires: The Case of Ingresos Brutos

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Abstract

This study presents evidence of tax avoidance in Buenos Aires, Argentina. I exploit a break in the tax scheme of the most controversial tax, Ingresos Brutos (gross income), between the city and the greater area, which are otherwise identical law and regulation-wise for the studied population. When possible, workers would rather travel longer distances to their jobs than face the tax burden. Given that this type of avoidance is costly, results suggest that Ingresos Brutos might be acting as a binding constraint to growth for businesses.

Keywords: Taxes, Tax Avoidance, Gross Income, Binding Constraints

JEL Classification: H2, K2

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1 Introduction

Taxes shape decision-making, both at the individual and corporate level. The extensive literature on taxation and economic incentives shows how changes in tax structures directly affect returns, compensation, risk, firm value and (personal) wealth, and thus most financial and corporate decisions; see Graham (2003) for a review. The taxed activities therefore get discouraged and agents might try to overcome this constraint. There is empirical evidence that high-tax-rate firms use policies, especially debt, to obtain tax benefits.¹ In addition, tax evasion and avoidance have become common corporate strategies, especially for firms operating in precarious or constrained financial markets, often times involving very sophisticated schemes.² The latter is the case in Buenos Aires, Argentina, where geography and political economy have combined to provide a rare arbitrage opportunity. When observing two different tax schemes at each side of the Buenos Aires city border, self-employed workers decide to move (their businesses) to minimize the tax burden.

Taxes have always been a major concern for businesses in Argentina. According to the World Bank Enterprise Surveys, in the year 2017 over 36% of the firms in the country, three times more than the Latin American average, chose Tax Rates as their biggest business obstacle, and almost 80% of them identify taxes as a major constraint.³ For the subset of firms in the City of Buenos Aires, these numbers are even larger. The World Bank Doing Business Indicators also report taxes as the least friendly factor in doing business in Argentina. Nominal and effective rates are much higher than the region's median, and total taxes and contributions (i.e. social security) are estimated to exceed 100% of the profits. Half of this burden is attributable to municipal taxes, led by the Gross Income tax (in Spanish, and henceforth, *Ingresos Brutos*).

¹Graham (2003) discusses several approaches to modeling the tax benefits of debt and presents evidence of these being larger than associated costs (i.e. financial distress).

²see Slemrod (2004), Desai and Dharmapala (2006), and Cai and Liu (2009) for the determinants of tax avoidance.

³Also much greater than the 37% Latin American average and the 31% world average.

Ingresos Brutos emerged in 1948 to simplify and modernize the tax system,⁴ but rapidly evolved into a policy instrument: a response to the Argentine federal government dictating and changing the revenues from national tax collection that each province would get. It is today the main source of income for the provinces and the City of Buenos Aires (henceforth City), an autonomous municipality similar to a federal district. It accounts for over 70% of tax revenues in both the City and the Province of Buenos Aires (henceforth Province), is quite invisible to the final consumer (as opposed to a sales tax), and easy to collect. *Ingresos Brutos* is, however, like gross income tax anywhere else, very unpopular for being a cascade tax, regressive, and not indexed for inflation. It is also non-neutral and distorts economic incentives, like promoting vertical integration for fiscal motives.

In addition, tax rates are, on average, high: the general rate is 3% in both the City and Province but can go up to 8% (they vary by industry, firm size and district) and are shown to increase significantly with the cascading. Falcone and Puig (Forthcoming) calculate, for retail and wholesale trade, a cascade effect of over 6.5%, making the total tax rates close to 12%. There are several exemptions, one of which makes for an interesting experiment. Self-employed workers in liberal professions that hold a college degree⁵ are exempt from *Ingresos Brutos* in the City, though not in the Province.

2 Data and Methodology

Figure 1 shows the map the Greater Buenos Aires area, that comprises the City, labeled as Buenos Aires, and the *Conurbano* (represented by all of the cities marked as blue dots).⁶ Note that the City is surrounded by the Rio de la Plata and the Province, and there are no barriers with the latter. In other words, the City and any individual municipality in the *Conurbano* are virtually identical (same context, legal framework, people, etc.) except

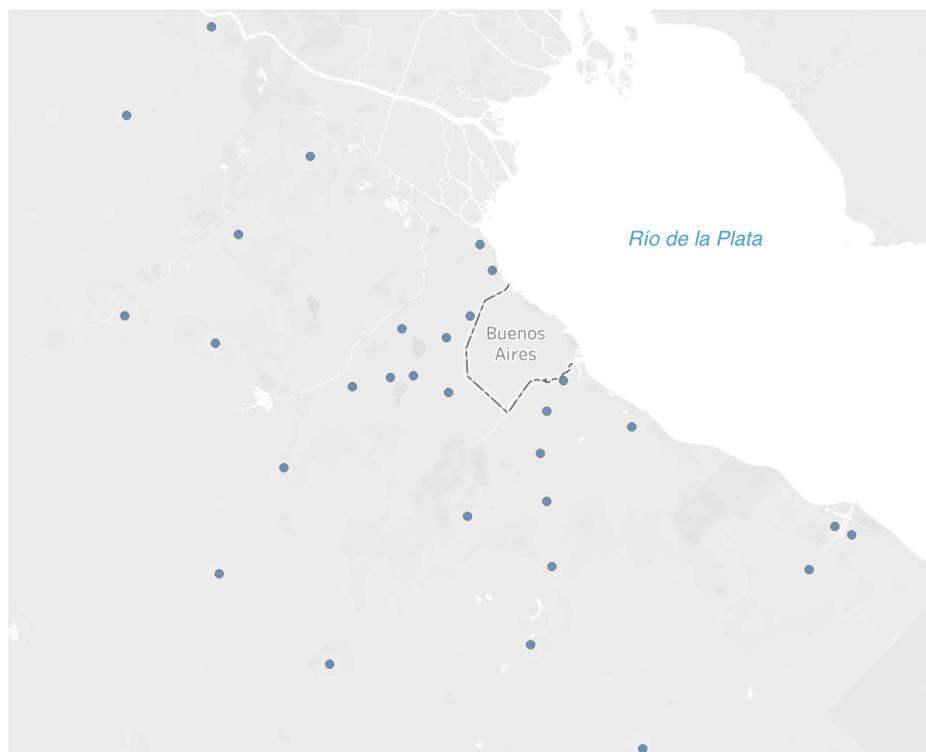
⁴See Porto, Garriga, and Rosales (2017) for a brief history of this tax and potential alternatives to it.

⁵The requisite is to have completed higher education studies of at least 4 years. I will refer to workers with a 4+ year higher education degree as professionals.

⁶While the *Conurbano* is only a part of the Province geographically, it houses almost the entire population of the Province and 25% of the country's population.

for the *Ingresos Brutos* fiscal arrangement. This is quite unique. Most of the empirical literature on tax avoidance across borders (mostly for US states and EU countries)⁷ deals with different legal and economic contexts on each side.

Figure 1: Map of City and *Conurbano*



Are agents exploiting this geographic proximity to bypass *Ingresos Brutos*? If this was the case, we would observe that self-employed professionals that live in the Province choose to work in the City in order to avoid the tax. But we shouldn't see the opposite effect (from City to Province), or that everybody goes to the City to work since, for instance, it is a more attractive market. In other words, avoidance of *Ingresos Brutos* would imply, *ceteris paribus*, a higher likelihood that qualifying professionals that live in the Province cross the (open) border to the City to work; i.e. don't work where they live. Note that self-employed people can choose where to establish their businesses, which usually consist of a solo or small

⁷See Saba, Beard, Ekelund, and Ressler (1995), Beard, Gant, and Saba (1997), Yurekli and Zhang (2000), Emery, White, Gilpin, and Pierce (2002), Lovenheim (2008), DeCicca, Kenkel, and Liu (2013).

practice. Therefore, incentives need to be really strong in order to prefer to commute to work in an area with very heavy traffic like Buenos Aires.

Using data from Encuesta Permanente de Hogares (EPH),⁸ a national survey on individual demographic and employment characteristics, from 2011 to 2018, I estimate the probability of crossing the border to go to work. The dataset consists of all self-employed workers, professional or not, residing in the City and *Conurbano*. Table 1 summarizes the main descriptive statistics for 2017, as a quarterly average. In both regions, about a quarter of all employed workers are self-employed. *Conurbano* has a greater number of self-employed than the City (almost 3 times), but a similar number of professionals self-employed. This is because the City of Buenos Aires is much richer and has overall a greater share of university graduates. In addition, only a small percentage of those cross the border.

Table 1: Basic Descriptives

	City total	% of self-employed	Conurbano total	% of self-employed
Self-employed (2017)	274,552	100%	1,029,559	100%
Professional self-employed (2017)	124,341	45.29%	126,280	12.27%
Professional self-employed that cross border (2017)	5153	1.88%	9546	0.93%

I estimate the following linear probability model:

$$P(\text{cross} = 1) = \beta_0 + \beta_1 \text{livesCONU} + \beta_2 \text{prof} + \beta_3 \text{prof} \times \text{livesCONU} + \text{controls} + u \quad (1)$$

The dependent variable is a dummy that equals 1 if the worker commutes (crosses the border) to go to work and 0 otherwise. The variable *livesCONU* is a dummy that indicates

⁸Performed quarterly by INDEC, the national statistics agency.

whether the worker lives in *Conurbano* (=1) or City (=0), while *prof* is a dummy for professional (has college degree). The variable of interest is $prof * livesCONU$, the interaction of the other two, which captures the likelihood of commuting for professionals that live in *Conurbano* (and would have to pay *Ingresos Brutos* if they worked there). The controls are income level, the interaction of income with professional, gender (dummy=1 for male), and year dummies.

3 Results

Table 2 summarizes the results, with column (1) as the baseline specification, (2)-(6) are alternative specifications and robustness checks. Living in *Conurbano* is associated with a reduction of about 4% in the probability of working in the City. This may be due to the fact that *Conurbano* covers a very vast area, so distances to the City could be quite large from the outer districts.⁹ Being a professional is negatively correlated with commuting to work, which makes sense since there is no need for self-employed professionals to work far from where they live. Interestingly, for professionals that live in *Conurbano* the likelihood of crossing the border to work is 9% greater. These results are robust to the addition of controls (though magnitudes slightly decrease), like year and quarter dummies. Income is positively associated to crossing the border, but not for professionals. Finally, it is more likely for men to commute to work.

These results imply that self-employed workers with college degree that live in *Conurbano*, those that face different tax schemes, are more likely to work in Buenos Aires City. This holds after controlling for the fact that professionals are less likely to commute, and that people who reside in *Conurbano* are less likely to commute to work. Column (6) presents the Probit estimation of the model. The estimates are all statistically significant and provide robustness to the previous results. The marginal effect of border crossing for *Conurbano* professionals is 7.5%. Since all factors that might incentivize *Conurbano* residents to move their businesses to the City, like it being a more attractive market in general, have been

⁹Additionally, the south and west districts are not well connected to the city.

Table 2: Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)
	LPM					Probit
	cruza	cruza	cruza	cruza	cruza	cruza
livesCONU	-0.039*** (0.00014)	-0.036*** (0.00014)	-0.034*** (0.00014)	-0.033*** (0.00014)	-0.034*** (0.00014)	-0.25*** (0.00087)
prof	-0.019*** (0.00019)	-0.027*** (0.00019)	-0.016*** (0.00021)	-0.015*** (0.00021)	-0.011*** (0.00021)	-0.051*** (0.0013)
prof×livesCONU	0.088*** (0.00026)	0.088*** (0.00026)	0.085*** (0.00026)	0.085*** (0.00026)	0.087*** (0.00026)	0.56*** (0.0015)
income		0.019*** (0.000069)	0.026*** (0.000098)	0.029*** (0.00010)	0.027*** (0.000100)	0.15*** (0.00045)
prof×income			-0.013*** (0.00014)	-0.015*** (0.00014)	-0.014*** (0.00014)	-0.094*** (0.00057)
male					0.034*** (0.000086)	0.27*** (0.00072)
year effects	No	No	No	Yes	Yes	Yes
quarter effects	No	No	No	Yes	Yes	Yes
<i>N</i>	36448803	36448803	36448803	36448803	36448803	36448803
<i>R</i> ²	0.008	0.012	0.012	0.014	0.018	

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

accounted for, the only possible driver is the difference in *Ingresos Brutos*.

Unless, however, the City of Buenos Aires is differentially attractive for professionals (i.e. more attractive for this subgroup than for other workers), which seems plausible. The counterfactual specification in Table 3, by using the larger sample of all workers, not just self-employed, captures this effect. As expected, all professionals from *Conurbano*, self-employed or not, are more likely to commute to the City for work. This coefficient, however, is smaller than that for self-employed professionals only (who have a tax advantage). The difference in the two can be therefore attributed to the effect of *Ingresos Brutos*. The Probit estimation is also in line with these results.

4 Conclusions

There is evidence of tax avoidance in Buenos Aires. Whenever possible, workers would rather travel longer distances to their jobs than face the tax burden from *Ingresos Brutos*. The fact that agents are willing to undergo costly avoidance might be indicative of prohibitively high taxes. In fact, the distortive effects of a gross income tax are not unknown, which is why they are rarely used by countries.

Are taxes hindering economic activity in Buenos Aires? Tax avoidance occurs because agents maximize their expected profits, and is not necessarily an indication of suboptimal tax rates. They do, however, create distortions and shift economic incentives. The Growth Diagnostics, see Hausmann, Rodrik, and Velasco (2005), provides a strategy for answering the question, aimed at identifying the most binding constraints to economic growth by analyzing specific symptoms in the economy. Among other things, in the presence of a binding constraint agents will attempt to bypass it.¹⁰ Thus, the findings above, though not conclusive of taxes as a barrier to growth, should be interpreted as a red flag.

¹⁰See Hausmann, Klinger, and Wagner (2008).

Table 3: Counterfactual

	(1)	(2)
	LPM	Probit
	cruza	cruza
livesCONU	0.11*** (0.000076)	0.45*** (0.00037)
prof	0.033*** (0.00013)	0.16*** (0.00059)
prof×livesCONU	0.051*** (0.00015)	0.12*** (0.00063)
income	0.058*** (0.000066)	0.20*** (0.00021)
prof×income	-0.033*** (0.000088)	-0.12*** (0.00027)
male	0.0053*** (0.000064)	0.023*** (0.00024)
<i>N</i>	161878089	161878089
<i>R</i> ²	0.024	

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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