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Compliance, Social Protection, and Resource Misallocation

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Abstract

Simplified tax regimes reduce both tax rates and compliance costs for small firms. On the one hand, these regimes increase the number of businesses formally registered and have the potential of also expanding the safety net when they subsidize the contributions to social security of workers in micro firms. On the other hand, they likely incentivize tax evasion due to the discontinuities in the tax schedule they introduce, and distort several micro-level margins, distortions which potentially cumulate into lower levels of aggregate productivity and GDP. In this paper, we exploit data from household surveys and administrative records for Peru, Brazil, and Mexico to examine the likely effect of special regimes on tax revenues, social protection, and resource misallocation. We find bunching of firms around the eligibility threshold of various tax regimes in Peru. This can be due to misreporting to tax authorities or to firms limiting their size to enjoy the benefits of the special tax regimes. In Brazil, we document how the introduction of a special tax regime benefiting the self-employed might have generated incentives for workers to register as entrepreneurs. Finally, in Mexico we find suggesting evidence showing how the introduction of a new special tax regime for small businesses in 2014 might have led to an increase in the number of employers contributing to the social security of their employees and in the number of self-employed making voluntary contributions to social protection. In all these instances we do not quantify exact causal effects, but we present instead descriptive evidence undoubtedly helpful to direct future research.

Keywords: Firm size, productivity, labor regulation,tax evasion and avoidance,general fiscal policies

JEL Classification: L11, L51, J8, H26, H30

1. Introduction

Most firms in Latin America and the Caribbean (LAC) are very small. For example, between 80% and 90% of manufacturing firms in the region employ less than 10 workers, and this fraction is even higher in other sectors (Pages, 2010). In Mexico a remarkable 43% of establishments employ only one worker, and 88% employ less than five (Busso, Levy, and Torres, 2018). Collecting taxes from such a large mass of micro firms is operationally costly and, in addition, the payoff in tax revenues is potentially small. Governments in the region then usually focus their efforts on monitoring large firms, and resort to simplified tax regimes (STR) to incentivize the voluntary compliance of smaller firms.

Simplified regimes reduce both tax rates and compliance costs for firms of sizes below a threshold in particular sectors or economic activities. They usually combine income and sales taxes in a single tax, and in some cases, they also subsidize the social protection of the business owners or their employees.[1] Although they are widely used in LAC, the have been largely overlooked by the literature.

The goal of this paper is to provide a thorough description of the main features of special tax regimes in LAC as well as to provide quantitative evidence of some of the distortions that might arise as a consequence of these policies by combining various sources of information, including administrative records reported to tax authorities. In Table 1 we briefly describe the scope of some of the most prominent special tax regimes in the region. In the Appendix we present with more detail the discounts offered by these simplified regimes relative to the statutory tax burden that owners of small businesses face in the general regime.

By reviewing the regulation, we find that size in most of these regimes is measured in revenues, sometimes with requirements also on the number of employees. In general they offer income tax and federal sales tax discounts only, since labor regulations and contributions to social security are usually administered by separate government departments. Only Argentina, Brazil, and Uruguay group all federal taxes and the social security contributions of the business owner in a single fee, but employers are still required to contribute to the social security of their employees. Mexico and Ecuador do offer discounts in the social security contributions of the firm's wage workers, and Mexico extends this benefit to the social security contributions of the business owner as well.

[1] In this document we use the terms entrepreneur, business owner, self-employed, and own-account worker interchangeably.

Table 1: Special tax regimes in selected LAC countries.

Country	Special regime	Income taxes	Sales taxes	Social security taxes of the owner*	Social security taxes of employees	Other labor regulations
Argentina	Independent Worker Promoted (Régimen Trabajador Independiente Promovido)	✓	✓	✓		
	Single tax (Monotributo)	✓	✓	✓		
Brazil	Individual micro-entrepreneur (Microempreendedor individual in Portuguese)	✓	✓	✓		
	Single tax (SIMPLES)	✓	✓			✓
Colombia	Simple alternative minimum tax (Impuesto mínimo alternativo simple in Spanish)	✓				
	Simplified value-added tax		✓			
Costa Rica	Simplified regime	✓	✓			
Ecuador	Simplified tax regime (Régimen Impositivo Simplificado in Spanish)	✓	✓		✓	

* Contributing to social security is mandatory for self-employed workers in all countries but Mexico and Nicaragua.

Table 1 continued.

Country	Special regime	Income taxes	Sales taxes	Social security taxes of the owner*	Social security taxes of employees	Other labor regulations
Mexico	Fiscal Integration Regime (Régimen de Incorporación Fiscal in Spanish)	✓	✓	✓	✓	
Nicaragua	Special regime (Régimen Especial in Spanish)	✓				
	Fixed quota tax (Impuesto de cuota fija in Spanish)	✓	✓			
Peru	Unique Simplified Regime (Régimen Único Simplificado in Spanish)	✓	✓			
	Special Regime for Income Tax (Régimen Especial de Renta in Spanish)	✓				
	Special labor regime (Régimen especial laboral in Spanish)					✓
Uruguay	Single tax (Monotributo)	✓	✓	✓		
	Social single tax (Monotributo Social MIDES in Spanish)	✓	✓	✓		
	Literal E (a special VAT regime)	✓	✓			

* Contributing to social security is mandatory for self-employed workers in all countries but Mexico and Nicaragua.

Simplified regimes lower the barriers to the formalization of micro firms, and lower barriers increase the number of businesses registered (albeit moderately) and broaden the tax base (Bruhn, 2011; Fajnzylber, Maloney, and Montes-Rojas, 2011; Kaplan, Piedra, and Seira, 2011; Monteiro and Assunção, 2012; Galiani, Meléndez, and Ahumada, 2017). Moreover, they have the potential of increasing the social protection of workers in small firms if their design is comprehensive enough.

Special regimes, on the other hand, might also increase incentives for tax evasion. They try to broaden the tax base by encouraging new, though small, contributors to enroll. At the same time, they reduce the tax rate on those small firms already registered, and more interestingly, they potentially incentivize large formal firms close to the regulatory threshold to under-report their true size to the tax authorities to avoid the additional tax burden. If in addition they subsidize the social security contributions of workers in micro firms, the indirect pressure on federal budgets could be significant.

Simplified regimes potentially distort several micro-level margins as well, distortions which likely cumulate into lower levels of aggregate productivity and GDP (Pages, 2010; Restuccia and Rogerson, 2008; Hsieh and Klenow, 2009; Busso, Madrigal, and Pagés, 2013). For example, they could distort firm sizes: to lower their regulatory costs. Also, formal firms that would have been optimally larger now have incentives to not fully exploit their resources to reduce their size, and to forgo opportunities to innovate and grow to remain small. This leads to smaller and less productive firms on average in the economy, which is reflected in turn in a decrease in welfare or total productivity (Guner, Ventura, and Xu, 2008; Garicano, Lelarge, and Van Reenen, 2016; Almunia and Lopez-Rodriguez, 2018). They can also distort occupational choices: would-be wage workers, who presumably are less talented than the average entrepreneur, may now find it optimal to start their firm. The selection of talent into entrepreneurship in the economy becomes less than optimal, which in turn means that wage working talent is also wastefully exploited as these workers are now managed by entrepreneurs of worse quality than before, and this talent misallocation significantly aggravates the losses in GDP (Lopez and Torres-Coronado, 2017). Finally, by restricting access to firms in the least productive activities and only specific organizational structures (e.g. family-owned businesses, unincorporated firms), simplified regimes also potentially misallocate resources across sectors and distort the incentive arrangements within firms, and these type-distortions could also seriously affect total factor productivity (Busso, Fazio, and Levy, 2012; Busso, Levy, and Torres, 2018).

The benefits and costs of special tax tegimes just described are summarized in Table 2 below.

Table 2: Benefits and costs of simplified tax regimes.

Benefits	**Costs**
• Increase the number of businesses registered and broaden the tax base • Increase the social protection of workers in small firms	• Incentivize tax evasion • Misallocate resources

In this document we exploit data from household surveys and administrative records for Peru, Brazil, and Mexico to examine the effects of special regimes on social protection, tax revenues, and resource misallocation. We find bunching of firms around the eligibility threshold of various tax regimes in Peru. This can be due to misreporting to tax authorities or to firms limiting their size to enjoy the benefits of the special tax regimes. In Brazil, we document how the introduction of a special tax regime for the self-employed might have generated incentives for workers to register as entrepreneurs. Finally, in Mexico we find suggesting evidence showing how the introduction of a new special tax regime for small businesses in 2014 might have led to an increase in the number of employers contributing to the social security of their employees and in the number of self-employed making voluntary contributions to social protection.

The rest of the document has the following structure: In Section 2 we describe the discounts offered by simplified regimes in selected countries of the region. In Section 3 we use administrative data for Peru to examine the behavior of formal firms around several regulatory thresholds in the tax code. In Section 4 we argue that the MEI in Brazil successfully increased the social protection of informal micro-business owners, but likely generated some suboptimal reallocation of talent across occupations at the same time. In Section 5 we show that in Mexico the discounts in the RIF coupled with a more stringent enforcement of labor regulations increased tax compliance. In all these instances we do not quantify exact causal effects, but we present instead descriptive evidence undoubtedly helpful to direct future research efforts on the impact of special regimes. We conclude with some policy recommendations in Section 6.

2. Simplified Tax Regimes in Selected LAC Countries

In the Appendix we describe the statutory tax burden faced by small businesses in the general regime in nine countries of the region. We focus on four dimensions: income taxes, sales taxes, labor regulations, and social security contributions of the business owner.[2] The burden of these four regulatory margins combined suggest that full compliance with federal regulations alone may be costly enough for small firms in the region, which may be why some optimally choose to only observe part of them, if at all (Ulyssea, 2017; Samaniego de la Parra, 2017). In some countries, however, complying with state and local regulations may amount to significant additional costs, and these regulations are not usually covered by special regimes, with the exception of Brazil.

We simulate the income tax schedule for a hypothetical small business owner with a 30% markup under both, the general regime and the special tax regime. We simulate the income tax schedule only because, even if the benefits of special regimes are not directly comparable across countries, the magnitude of the income tax discount for the entrepreneur–indifferent between contributing to the special or the general regime–provides enough evidence of the potential effects of special regimes on tax collection and resource misallocation, which we discuss in the following sections. In Table 3 we show the discount for the marginal entrepreneur in each regime (the magnitude of the kink) and how the size threshold—in taxable income—compares to GDP per capita, as an attempt to assess whether the size constraint is potentially binding.

[2]Even though the burden of sales taxes such as the value added tax is ultimately passed along to consumers, their collection requires an adequate management of cash flows and may involve other non-monetary costs as well, both of which may be problematic for small business owners who in general do not keep accounting records, and that is why some regimes in the region usually include these special sales tax provisions.

Table 3: Size requirement and marginal discount of selected special tax regimes.

Country	Special regime	Size threshold in taxable income (US dollars)	Threshold as a fraction of GDP per capita	Income tax discount for the marginal entrepreneur
Argentina	Monotributo	5,561	0.39	92%
Brazil	Simples	259,615	26.43	38%
Colombia	IMAS	272	0.04	97%
Costa Rica	Simplified regime	33,337	2.87	78%
Ecuador	RISE	60,000	9.68	95%
Mexico	RIF	24,420	2.74	100%
Peru	RER	36,713	5.59	77%
Uruguay	Monotributo	4,535	0.28	57%

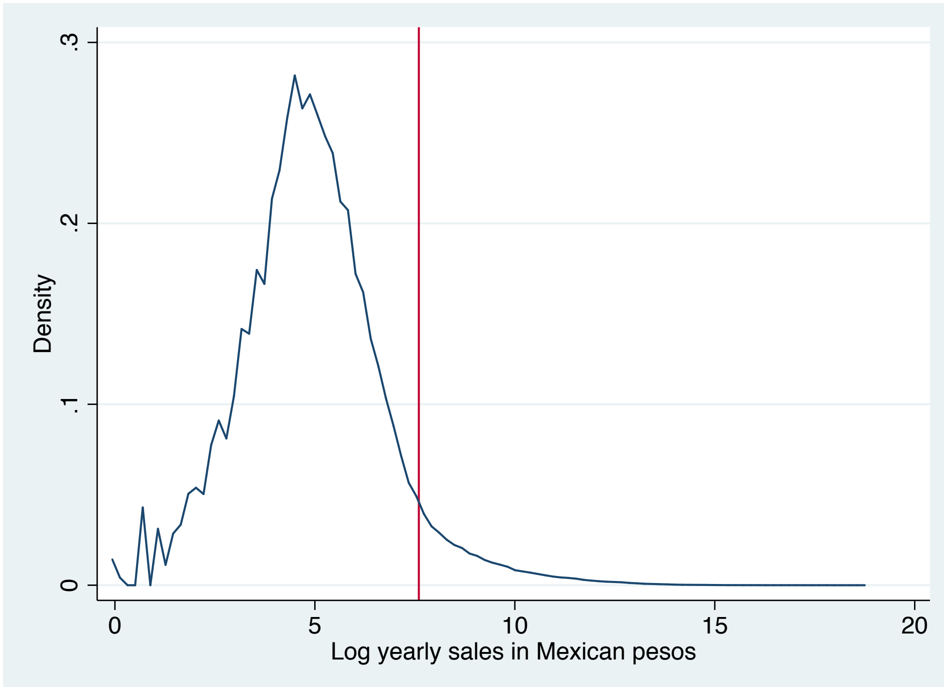
The income tax discount for the marginal entrepreneur is the decrease in income taxes for the entrepreneur indifferent between enrolling in the general regime or enrolling in the simplified regime. Size in each regime is measured in yearly revenues, which we transform into taxable income assuming a 30% markup. See Appendix for details in each case. Data on GDP per capita and exchange rates for 2017 obtained from the World Bank.

Most kinks approximate 100%. The Simples in Brazil has the smallest kink but also the most generous threshold—the size requirement is 26 times the average income. Ecuador, Peru, and Mexico also have size thresholds significantly above GDP per capita. To be precise, the size requirement in the RER in Peru is 4.9 times the median yearly sales of firms in the general regime.[3] In Mexico, the size requirement for the RIF (which is the same threshold as for old-time REPECO [Special Regime for Small Taxpayers; Régimen Especial para Pequeños Contribuyentes in Spanish]) corresponds to the 94th percentile of the entire revenue distribution (which considers both informal and formal establishments) and amounts to 17 times the median yearly sales (see Figure 1).[4]

[3]Source: Own calculations using data from Peru's tax authority SUNAT (Superintendencia Nacional de Aduanas y de Administración Tributaria in Spanish).

[4]Source: Own calculations using data from the Mexican establishment census for 2013. The census considers both informal and formal fixed establishments.

Figure 1: Distribution of yearly sales by formal and informal establishments in Mexico and the RIF/REPECO $2-million threshold.



Source: Mexican establishment census for 2013.

Special regimes in the region then potentially cover a significant portion of the revenue distribution. Only Argentina, Colombia, and Uruguay seem to narrow the selection into their special regimes to the smallest businesses in the size distribution.

3. Special Tax Regimes in Peru: Tax Evasion and Resource Misallocation

Special regimes do not necessarily increase tax revenues and they potentially distort optimal firm sizes and other micro-level margins, which would cumulate into lower levels of total factor productivity (Restuccia and Rogerson, 2008; Hsieh and Klenow, 2009; Busso, Madrigal, and Pagés, 2013).

Special regimes try to broaden the tax base by encouraging new, though small, contributors to enroll. A large fraction of formal businesses do participate in these regimes. In Sao Paulo, for example, 60% of formal establishments in 2012 were enrolled in Simples, and in 2016 only 37% of formal establishments in Peru paid their taxes in the general regime, whereas 25% were enrolled in RER, and a remarkable 38% contributed in the RUS.[5] It is not clear, however, whether these contributors were formal or informal before they entered these programs. Moreover, STR reduce the tax rate on those small firms already registered and the revenue that governments in the region collect from these regimes is still negligible (see table 4 below).

[5]Source: Data from the Relação Anual de Informações Sociais (RAIS) for Brazil and from Peru's tax authority SUNAT.

Table 4: Tax revenues from special regimes in selected LAC countries.

Country	Special regime	Tax revenues as a % of GDP
Argentina	Monotributo	0.03%
Brazil	Simples	0.80%
Costa Rica	Simplified Regime	0.06%
Ecuador	RISE	0.02%
Mexico	RIF	0.03%
Peru	RUS+RER	0.08%
Uruguay	Literal E	0.05%

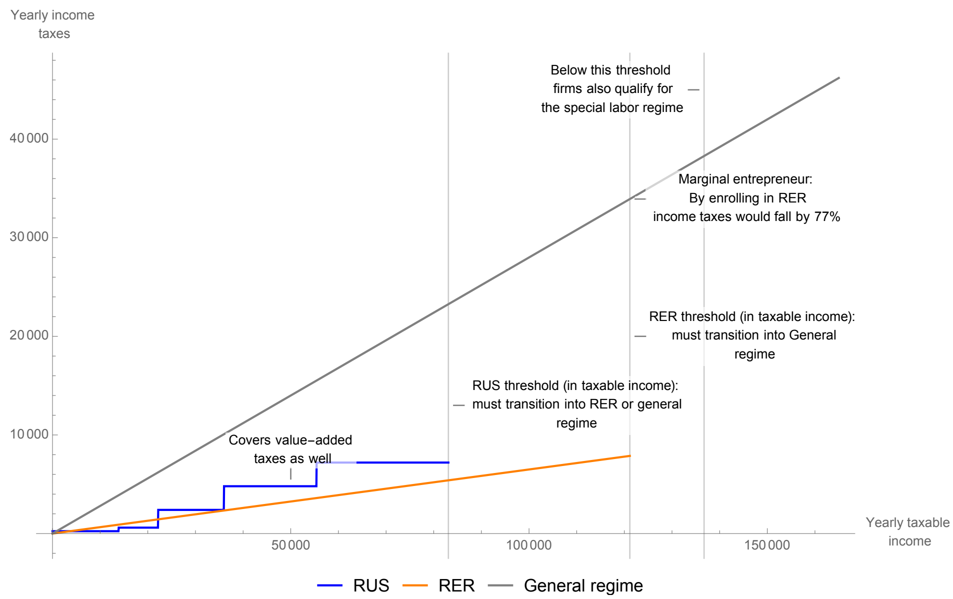
Source: Argentina and Ecuador: data for 2015 from the Inter-American Development Bank (IDB) and Inter-American Center of Tax Administrations (CIAT) Latin America and the Caribbean Fiscal Burden Database; Brazil, Mexico, Peru, and Uruguay: figures for 2016 from the corresponding Ministry of Finance.

In addition, special regimes potentially incentivize large formal firms close to the regulatory threshold to either under-report their true size to the tax authorities, or to actually reduce their size to avoid the additional tax burden. In that case, businesses that would have been optimally larger now have incentives to not fully exploit their resources, and to forego opportunities to innovate and grow, which leads to smaller and less productive firms on average in the economy and lower levels of gross output or total factor productivity (Guner, Ventura, and Xu, 2008; Garicano, Lelarge, and Van Reenen, 2016; Lopez and Torres-Coronado, 2017).

In this section we exploit administrative data kindly provided by Peru's tax authority SUNAT to examine the behavior of formal firms around several regulatory thresholds in the tax code. The descriptive evidence we document suggests that formal firms in Peru try to avoid crossing some size thresholds, yet untangling whether the observed effect is only mis-reporting or actual size distortions requires additional data not available to us at the moment. The data from SUNAT includes assets, profits, costs, number of employees, and revenue, among others, from mandatory annual declarations for the years 2010–2017.

Peru employs two special regimes for the corporate tax, the RUS and the RER (see Appendix for more details). The RUS allows firms with yearly revenues below S$360,000 (soles) (around 91 tax units or UIT) to group both the income and value-added taxes (VAT) in a single fee. The fee varies between S$240 and S$7,200 per month depending on the amount of both monthly revenues. The RER allows businesses with yearly revenues under S$525,000 (around 133 tax units or UIT) and with 10 or fewer employees to pay only 1.5% of revenues instead of the 28% tax on net income. Figure 2 shows the hypothetical income tax schedule for a small retailer in the RUS, the RER, and the general regime (this simulation is also displayed in Figure 31 in the Appendix).

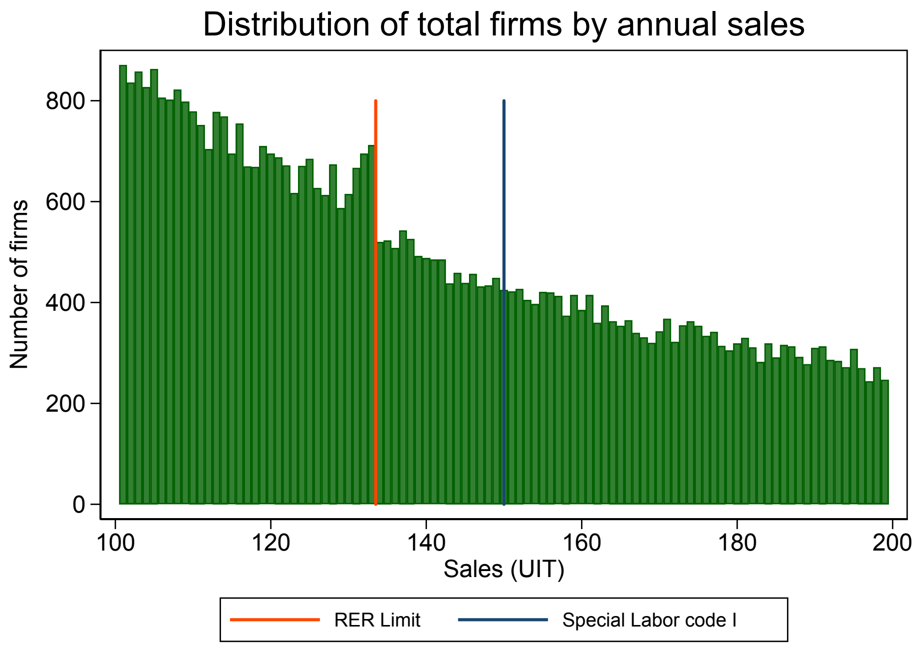
Figure 2: Income taxes paid under the RUS, the RER, and the general regime in Peru for a hypothetical retailer (2016).



Note: amounts in Peruvian Soles. The exercise simulates the income taxes that would be paid by a retailer with a 30% markup.

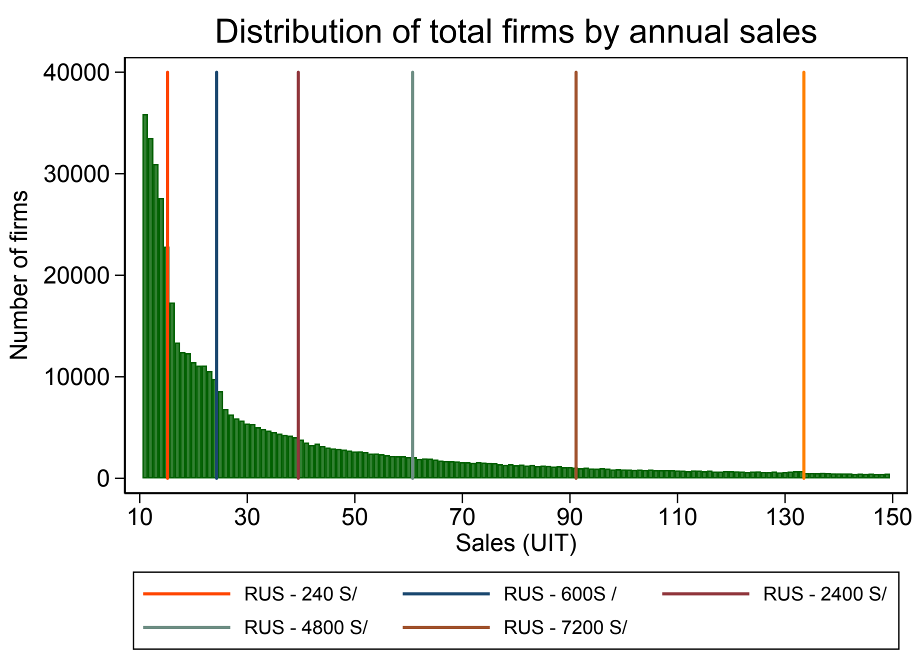
The exercise in Figure 2 suggests that the income tax burden significantly increases once firms cross the RER size limit, but not within the RUS or between the RUS and the RER. Data from administrative records suggests that some formal firms try to avoid leaving the RER to contribute in the general regime, by either mis-reporting their true sales or reducing their size. Figure 3 displays the distribution of firms by the level of yearly revenues reported to SUNAT. This distribution exhibits a clear bunching of firms below the 133-UIT threshold, but a similar bunching does not seem to occur at the several sales thresholds in the RUS or the sales threshold between the RUS and the RER, as we document in Figure 4.

Figure 3: Distribution of formal firms by yearly revenues in Peru: 100 to 200 UIT.



Note: 1 UIT=S$3,950. The threshold for RER is 132.94 UIT. Source: SUNAT (2017) data.

Figure 4: Distribution of formal firms by yearly revenues in Peru: 0 to 150 UIT.



Note: 1 UIT=S$3,950. Source: SUNAT (2017) data. The corresponding annual sales thresholds and annual payments are: (60,000S/.,240S/.),(96,000S/.,600S/.),(156,000S/.,2,400S/.), (240,000S/.,4,800S/.), and (360,000S/.,7,200S/.).

The profit sharing rule in the general regime also seems to incentivize bunching of firms. In Peru firms with 20 or more employees are required to distribute between 5% and 10% of their profits to their employees, so that firms of sizes above the 20-employee threshold have incentives to either under-report their actual profits, under-report their true size, or reduce their number of employees. In Figures 5, 6, and 7, we group firms by their employment size and compute the median of the distribution of personnel costs, sales, and profits that they reported in 2016 to SUNAT. Not surprisingly, we observe larger firms reporting median higher costs, median higher sales, and median higher profits, but in the case of reported sales and specially reported profits, this relationship exhibits a break with a sharp decline at the 20-employees threshold, which suggests that some large firms under-report their profits to reduce the amount that they must distribute to their employees or they under-report or reduce their size to avoid distributing profits at all. In median reported costs, to the contrary, we do not observe such a discontinuous drop at the 20-employee threshold, as reported in Figure 8.

Figure 5: Median personnel costs by number of employees reported by formal firms in Peru.

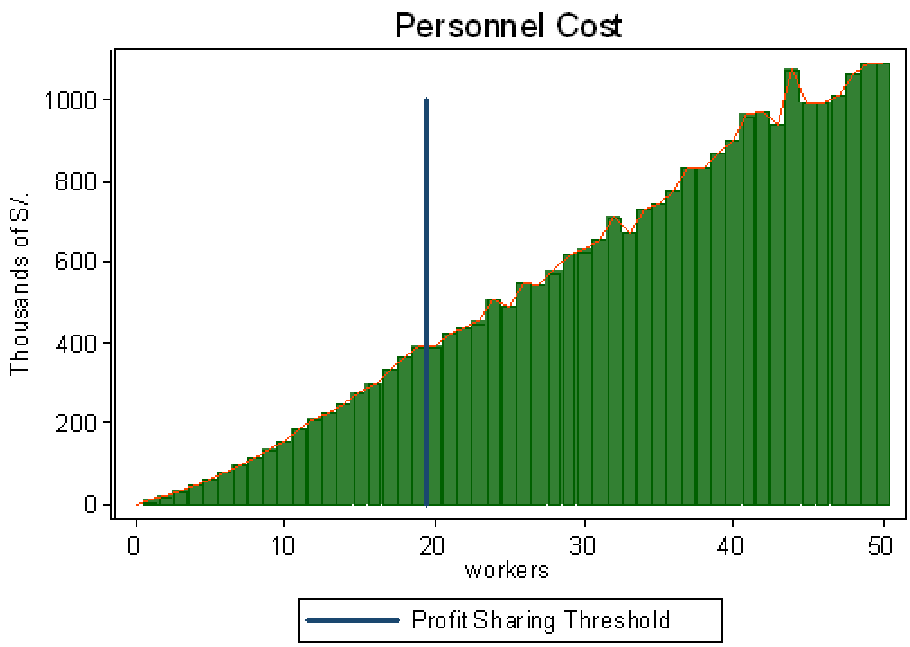


Figure 6: Median revenues by number of employees reported by formal firms in Peru.

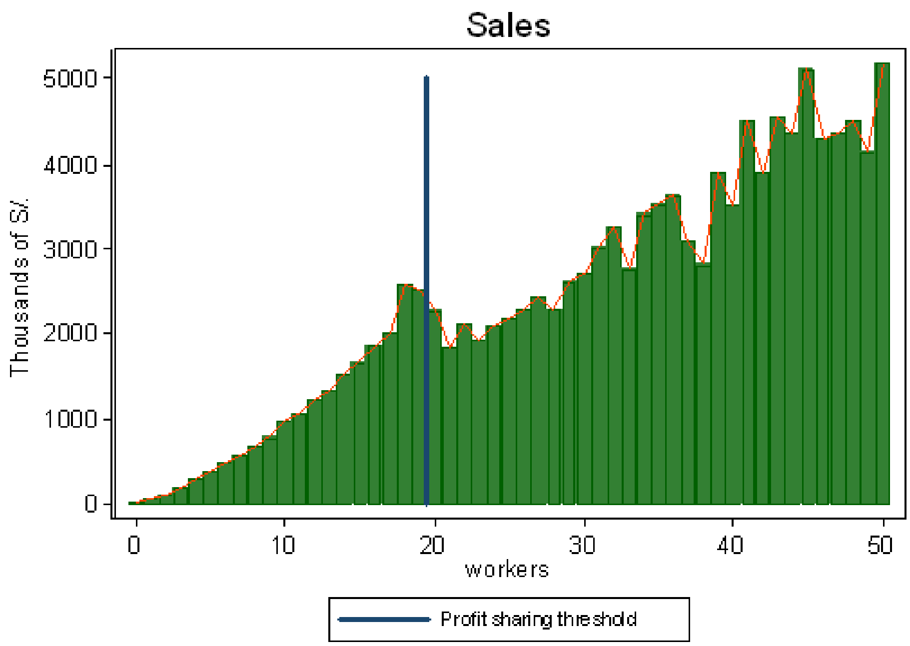


Figure 7: Median profits by number of employees reported by formal firms in Peru.

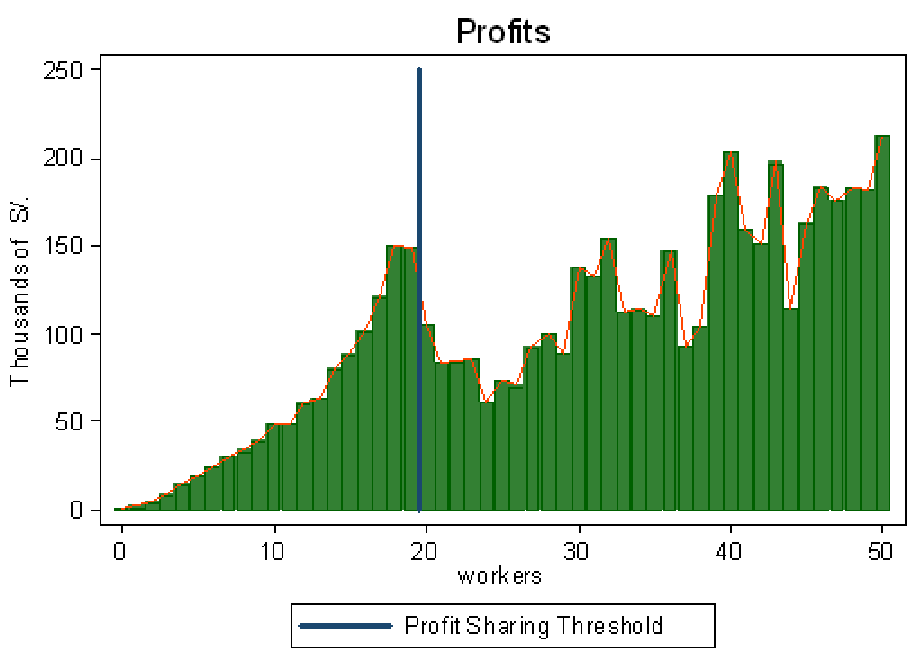
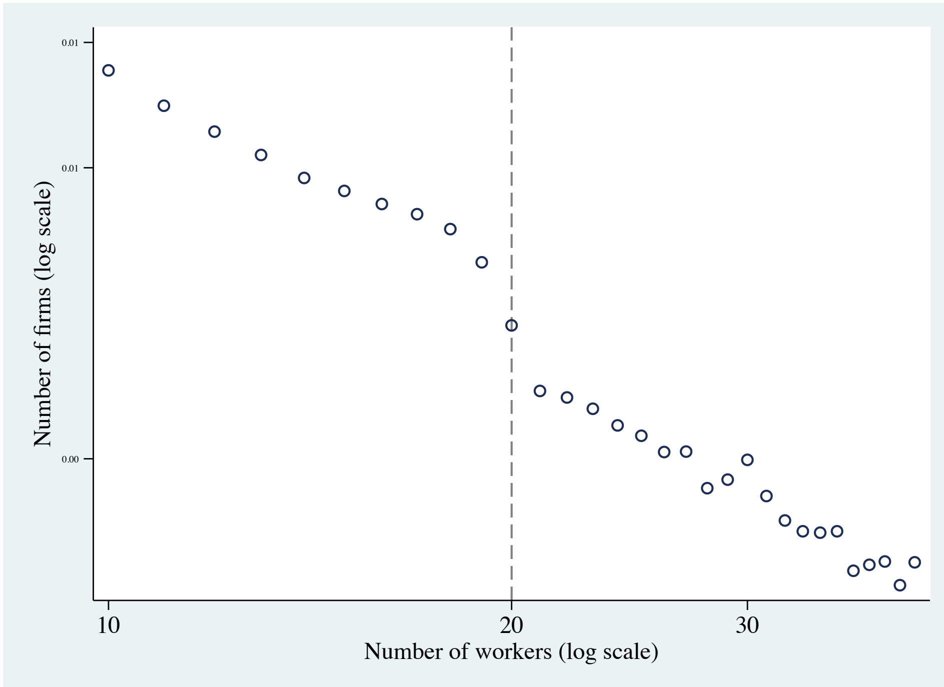


Figure 8: Size distribution of firms according to the number of employees. The profit sharing rule applies for firms with 20 or more workers.



Note: The profit sharing rule applies for firms with twenty or more workers.

Assuming that the behavior in Figure 7 is pure mis-reporting, the estimated loss in tax revenues could be as high as S$68 million.[6] If, however, the bunching stems from size distortions, the effects on the allocation of talent could be large, significantly affecting not only aggregate productivity but also the return to skill (Lopez and Torres-Coronado, 2017).

4. Special Tax Regimes, the Social Protection of Micro-Entrepreneurs, and Talent Misallocation: The MEI in Brazil

The Simples and the MEI in Brazil significantly reduced the regulatory burden for small firms in the formal sector. In this section we show that the MEI in particular has likely increased the social protection of informal micro-business owners by covering the contributions to social security with the fixed fee, but has potentially generated some suboptimal reallocation of talent across occupations at the same time.

Compliance Costs and the Survival of Formal Firms

In Brazil firms in the general regime face a corporate tax rate of 34% (15% as a general income tax and 9% as a social contribution, with an additional 10% on the amount that exceeds R$240,000). They also face several payroll taxes that total between 26.8% and 28.8%, and they must contribute 1.65% of revenues to the PIS (Social Integration Program; Programa de Integração Social in Portuguese) and PASEP (Public

[6]We fit a polynomial to the relationship between median profits and number of employees to smooth out the bunching observed below the 20-employee threshold.

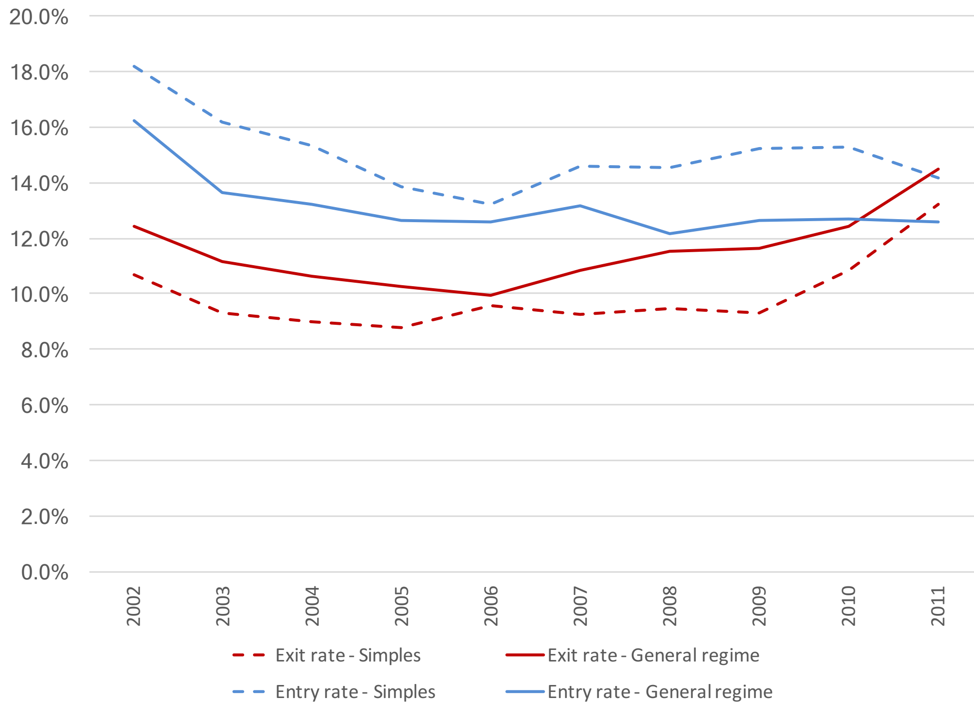
Servants' Patrimony Training Program; Programa de Formação do Patrimônio do Servidor Público in Portuguese) programs to finance the unemployment insurance, and 7.6% of revenues to social security (Contribuição para o Financiamento da Seguridade Social, COFINS) on top of the mandatory payroll contributions to the social security of their employees. In addition, firms must pay a federal sales tax that varies by good from 0% to 365% (Imposto sobre Produtos Industrializados, IPI), and the business owner must contribute 20% of the contribution salary to their social security (the contribution salary is at least one minimum wage and is capped to a certain amount; for example, it was R$5,531.31 in 2017). Businesses also face state and local sales taxes. The state tax varies across states between 17% and 25% (Imposto Sobre Operações Relativas à Circulação de Mercadorias e Serviços de Transporte Interestadual de Intermunicipal e de Comunicações, ICMS), and the municipal tax ranges across municipalities from 2% to 5% (Imposto Sobre Serviços de Qualquer Natureza, ISS), but applies only to service providers.

Simples significantly reduced compliance costs by covering the corporate tax, the PIS/PASEP tax, the COFINS, and the IPI, ICMS, and ISS sales taxes with a single tax on revenues, which lowered the barriers to the formalization of micro-firms and increased the number of registered businesses (Fajnzylber, Maloney, and Montes-Rojas [2011]) and Monteiro and Assunçao [2012] find that registration increased between 6 and 13 percentage points).[7] We argue that the lower compliance costs released small firms already registered from an extremely complex regulatory burden, allowing them to better exploit their resources in order to survive and grow.

We use data from the Relação Anual de Informações Sociais (RAIS, Annual Report on Social Information) for the years 2002 through 2012 to construct a panel of formal firms in São Paulo. We do not have access to the full RAIS, but we do observe establishment and worker identifiers and whether the establishment was in Simples or in the general regime at any point in time. The data shows that firms in Simples enter at higher rates and exit at lower rates relative to firms in the general regime (see Figure 9 below), which suggests that the lower regulatory burden in Simples increases the likelihood of both entry and survival. Note, however, that a firm not observed in RAIS at some point may not have necessarily died but only transitioned into or out of the informal sector.

[7] Piza (2018) argues that the data used in these studies is insufficient to reach such conclusions, and that it seems that the program was not effective when it comes to increasing formality rates in the country.

Figure 9: Year-to-year entry and exit rates for firms in Simples and the general regime in São Paulo, Brazil.



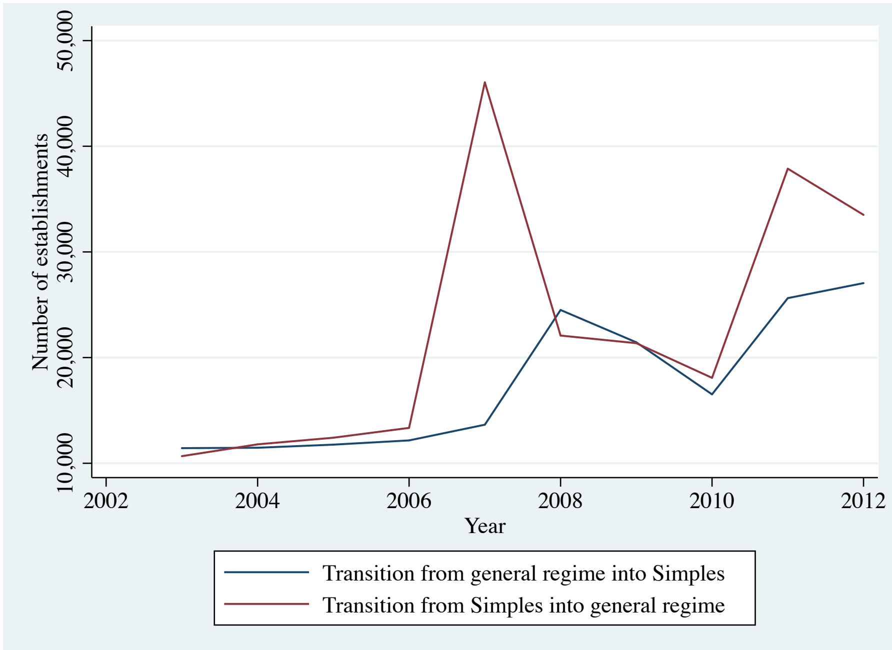
Source: Own calculations using administrative records in Brazil's RAIS.

We follow surviving establishments over time to track the evolution in their size and their transitions into and out of Simples. Figure 10 shows the number of establishments that transitioned into and out of Simples in São Paulo between 2003 and 2012. In Figure 11 we show how size correlates with the transition into and out of this special regime (as a comparison, median size in the data is 3).[8] The figure suggests that firms that transition from the general regime into Simples tend to be smaller than firms that transition out of Simples.

We also examine the potential impact of this transition. More precisely, because we do not observe the age of the establishment, we focus on those that were created between 2002 and 2012, and then track their average size over their short life cycle (0-8 years). We sort establishments into four major groups: those that were not created under Simples and never entered Simples, those that were not created under Simples but transitioned into Simples (controlling for the age at the time of the transition), establishments that were created under Simples and never left, and establishments that were created under Simples and eventually transitioned out of the regime (controlling for the age at the time of the transition). We show how the transition into and out of Simples affects the life cycle of establishments in Figures 12 and 13 below.

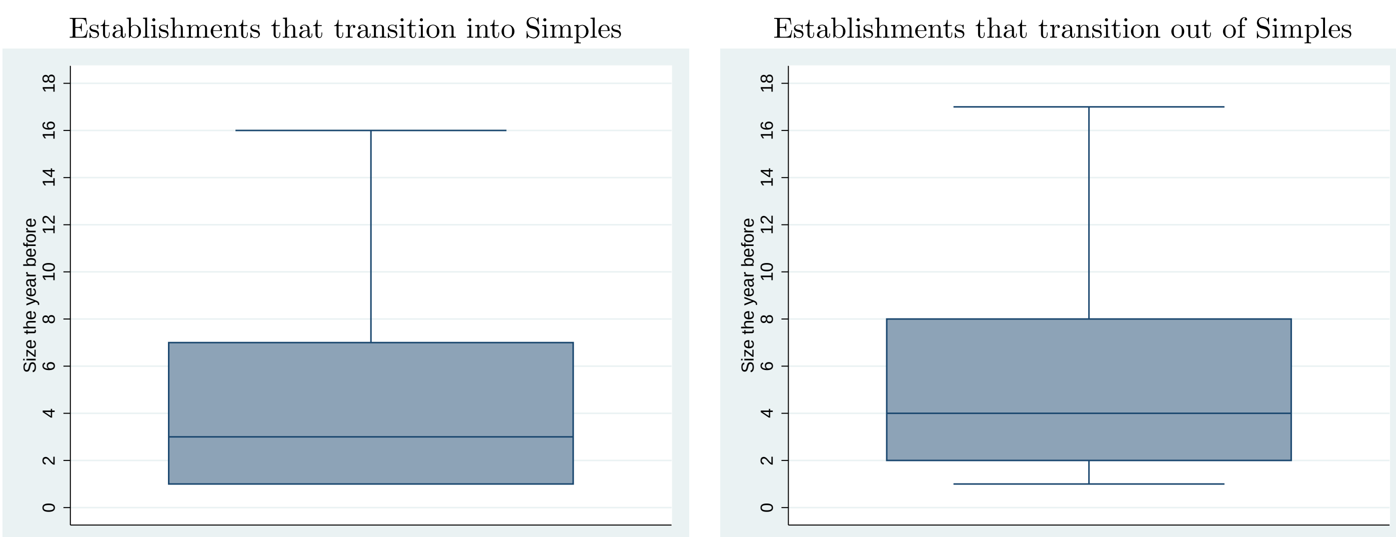
[8]We use size the year before the transition. We use number of employees in a firm as an indicator of size.

Figure 10: Year-to-year between Simples and the general regime in São Paulo, Brazil.



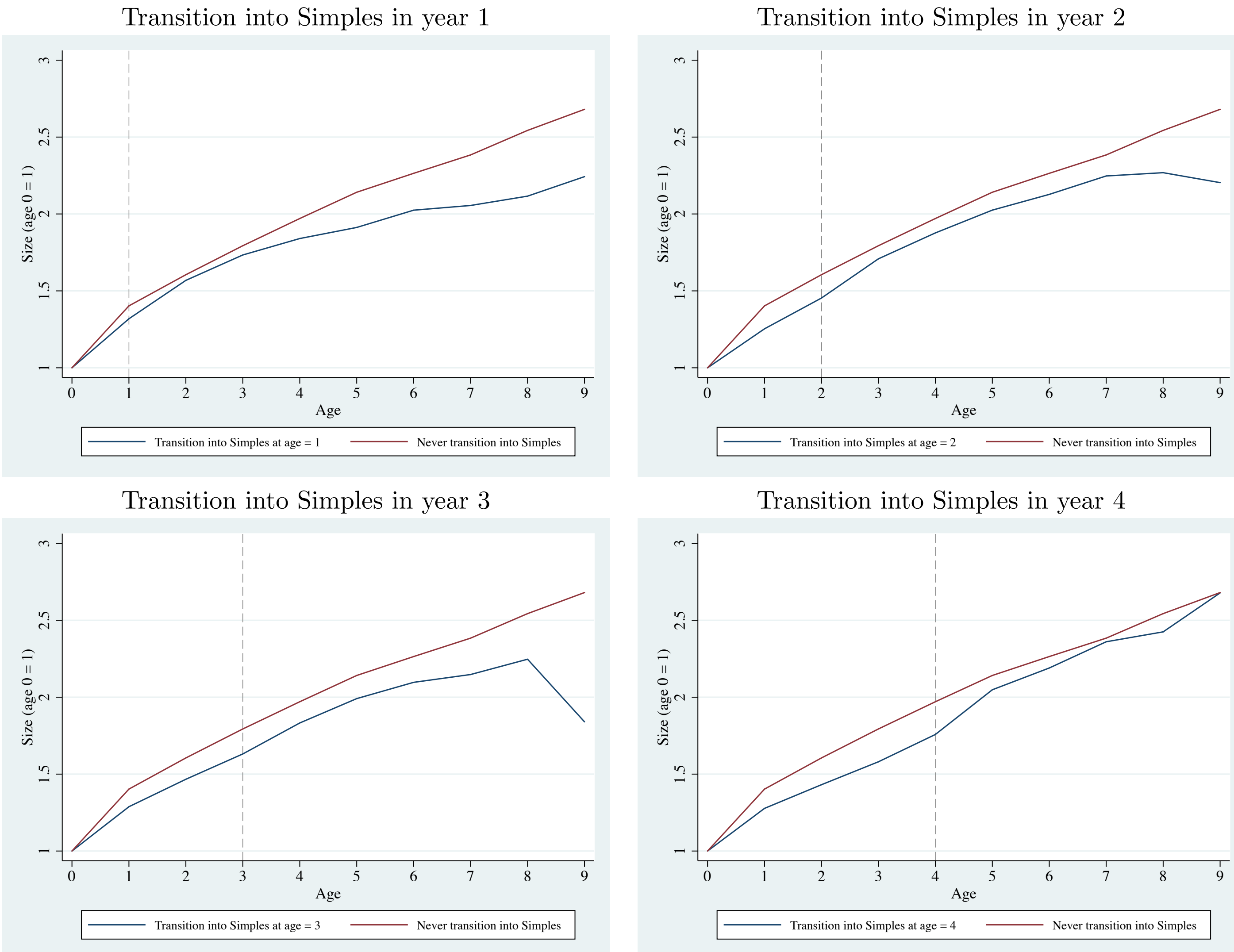
Source: Own calculations using administrative records in Brazil's RAIS.

Figure 11: Size distribution of establishments that transition between Simples and the general regime in São Paulo, Brazil.



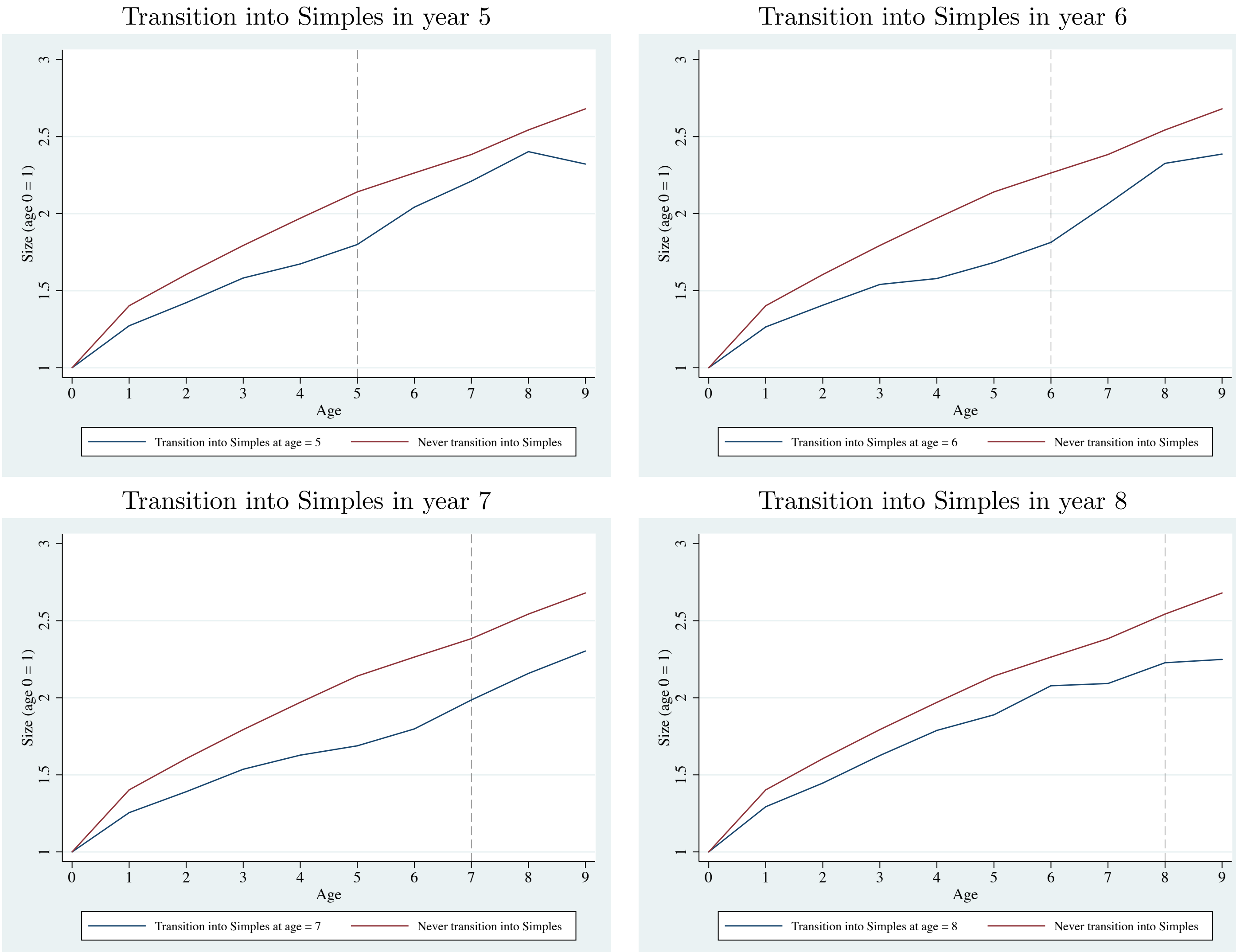
Note: The following statistics are graphed in the boxplots: the minimum, 25th percentile, the median, the 75th percentile, and the maximum.
Source: Own calculations using administrative records in Brazil's RAIS.

Figure 12: Life cycle of establishments that transition into Simples, São Paulo, Brazil.



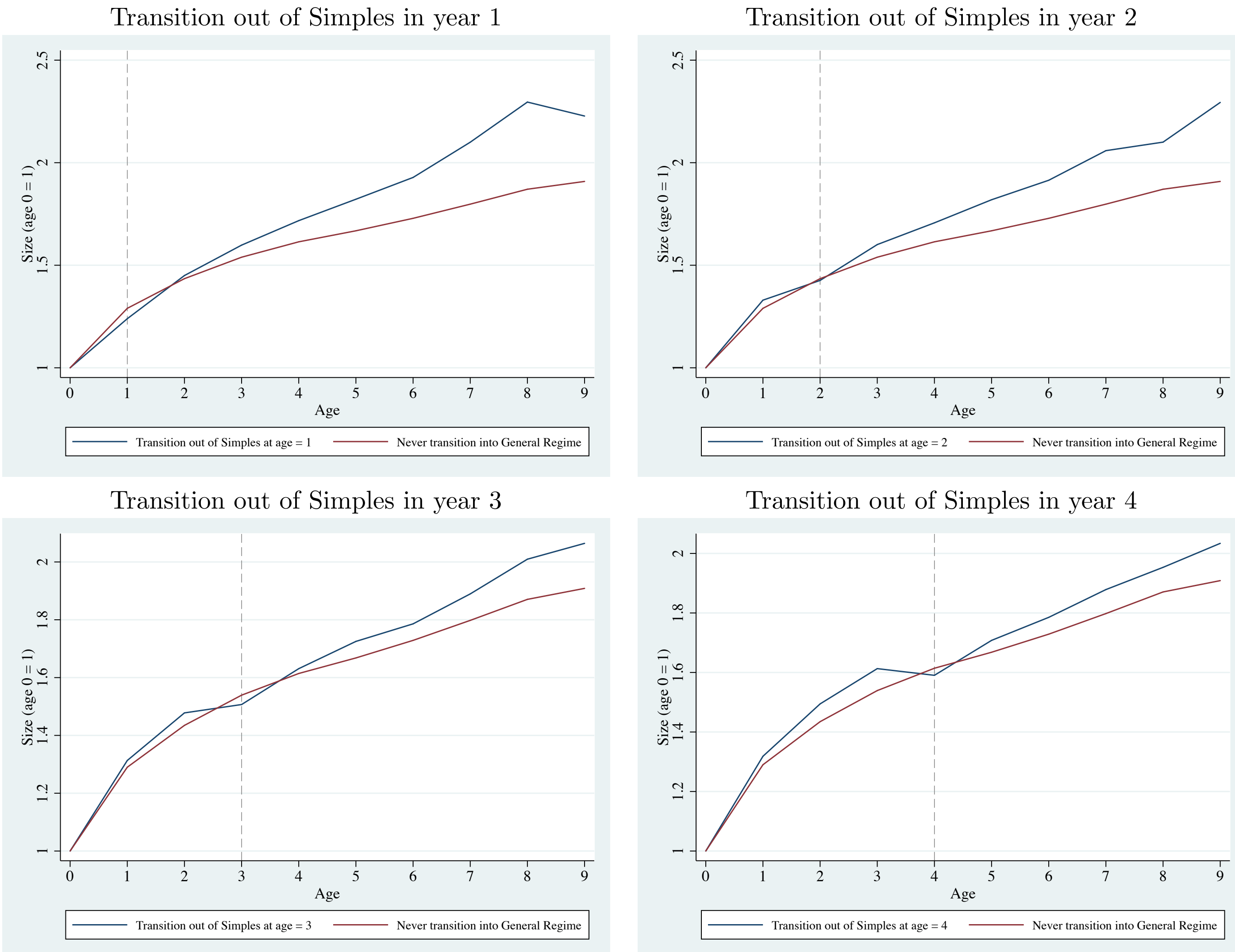
Source: Own calculations using administrative records in Brazil's RAIS.

Figure 12 continued.



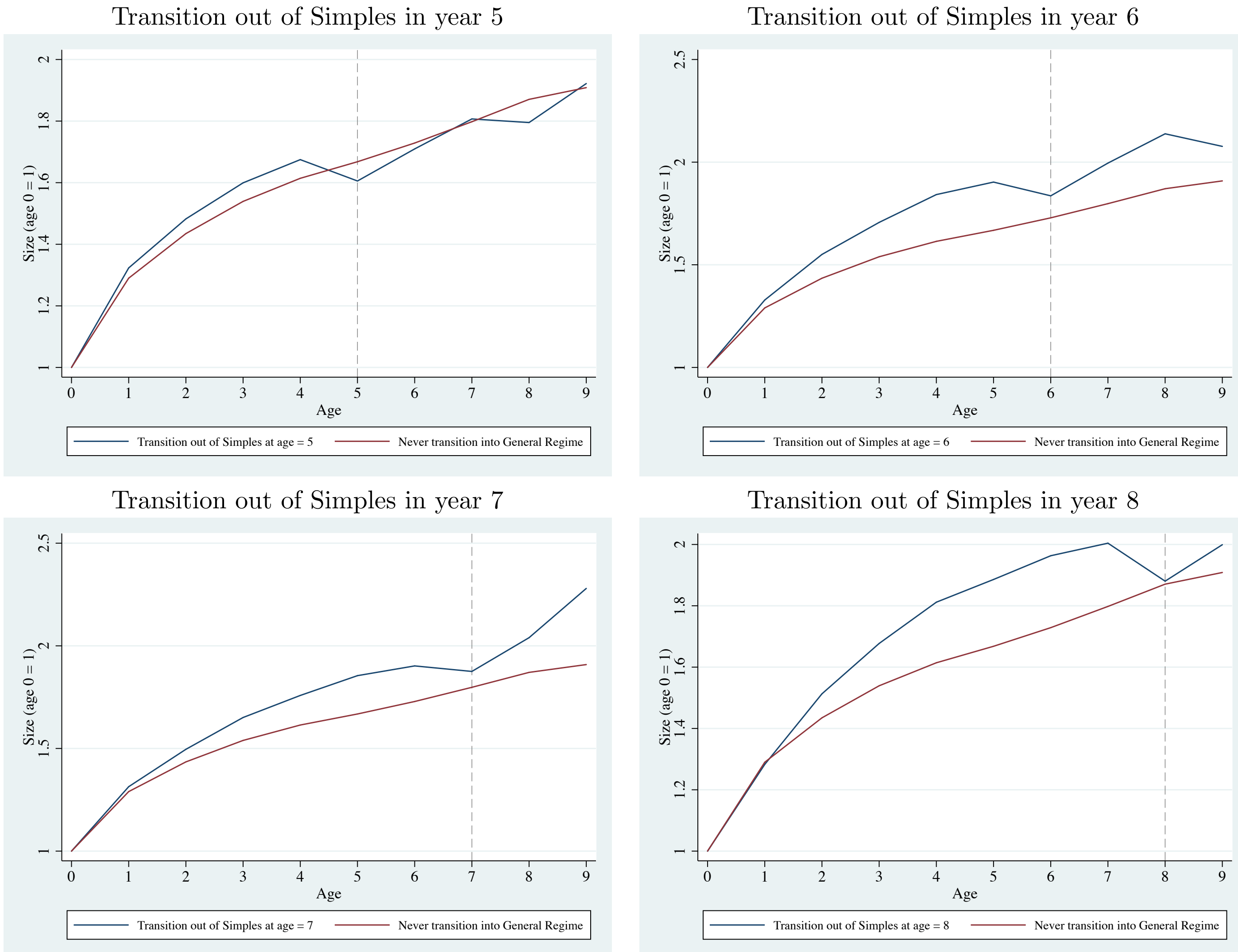
Source: Own calculations using administrative records in Brazil's RAIS.

Figure 13: Life cycle of establishments that transition out of Simples, São Paulo, Brazil.



Source: Own calculations using administrative records in Brazil's RAIS.

Figure 13 continued.



Source: Own calculations using administrative records in Brazil's RAIS.

Simples likely helps plants grow in the short term through lower compliance costs. The analysis in Figure 12 shows that when establishments enter Simples, they grow at faster rates, although they never reach the same size of plants that never entered Simples. The effect, however, is not long lasting and vanishes after 2 or 3 years. Simples also may constrain plants. Figure 13 shows that plants that transition into the general regime after Simples grow more than plants that never left. Note, however, that the life cycle of firms that transition and the life cycle of those that do not differ even before the transition. The life cycle of firms that never left Simples also markedly differs from the life cycle of establishments that never contributed in Simples. The analysis in Figures 12 and 13 may therefore seriously suffer from selection bias, and a more complete econometric analysis may be required to isolate a causal effect.

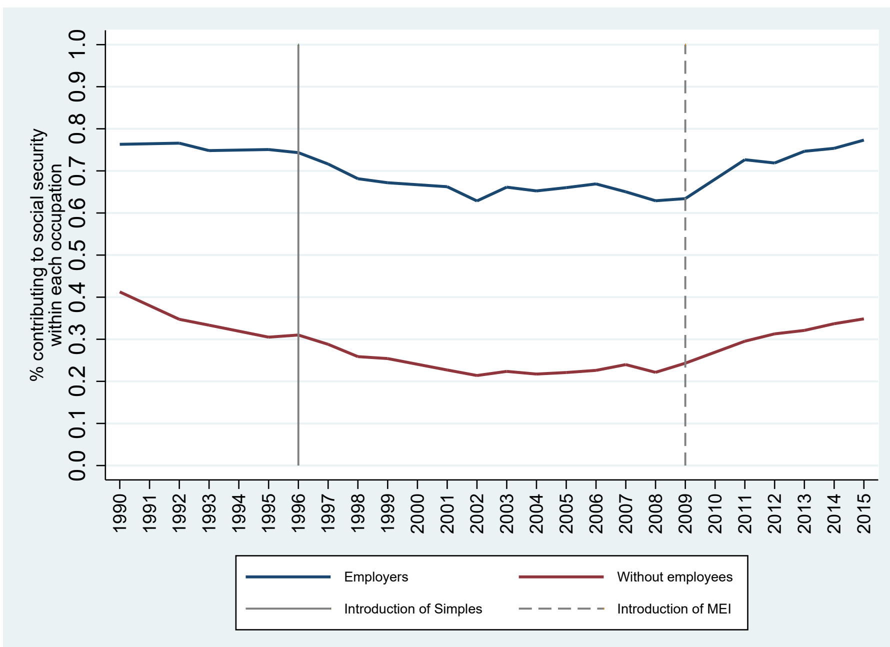
The MEI and the Social Protection of Micro-Entrepreneurs

In 2009 the Brazilian Government implemented MEI, a variant of Simples for firm owners with yearly revenues below R$60,000 and with at most one employee. Owners in this regime pay only a flat tax of

5% of the minimum wage to cover their social security contributions, and are exempt from paying all other federal taxes. To the contrary, business owners in Simples have to pay 11% of the minimum wage as social security contributions in addition to their tax on revenue, and business owners in the general regime pay 20% of the contribution salary to social security in addition to all other federal, state, and local taxes, as we pointed out above.

Figure 14 shows the fraction of urban male entrepreneurs contributing to social security in Brazil from 1990 through 2015 using data from the Pesquisa Nacional por Amostra de Domicílios (PNAD) harmonized by the Inter-American Development Bank. The data suggest that the MEI successfully lowered the costs for the self-employed of contributing to social security. Specifically, the figure shows that after 2009 the fraction of male entrepreneurs covered by social security markedly increased, particularly among employers. This pattern is not observed when Simples was introduced nor among employees (not displayed in the figure), although the fraction of formal employees has been slowly increasing over time in urban areas of Brazil. Rocha, Ulyssea, and Laisa (2018) also find that the introduction of MEI led to an increase in formalization rates from previously informal entrepreneurs. Nevertheless, the effect they find is transitory, which leads the authors to conclude that the welfare consequences of this policy are negative.

Figure 14: Fraction of self-employed workers contributing to social security in Brazil.



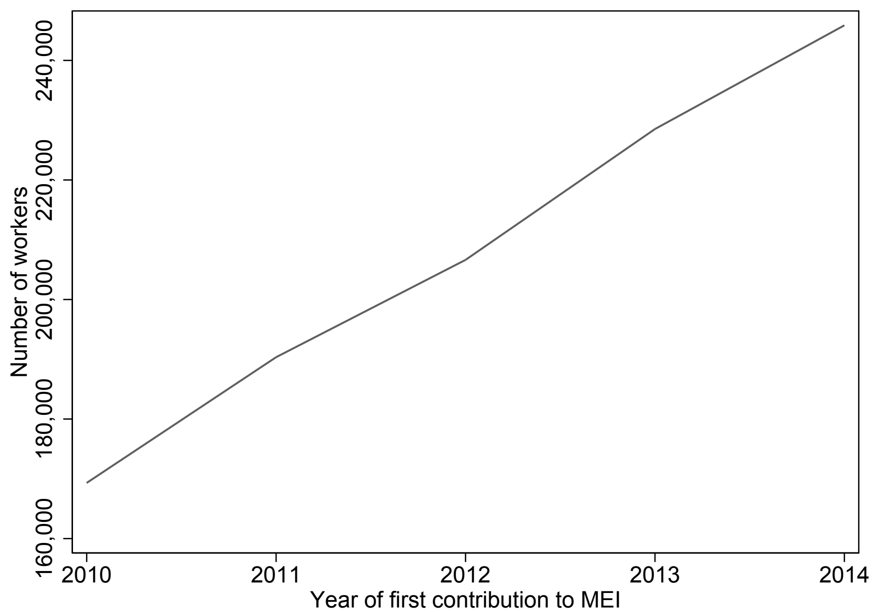
Source: Own calculations using Inter-American Development Bank Harmonized Surveys for Brazil. Data for urban males, ages 25-59. Computations use individual weights.

Using data from administrative records kindly provided by Brazil's Instituto Nacional Do Seguro Social (INSS, National Institute of Social Security) for the years 2005 through 2014, we estimate that the introduction of MEI has attracted slightly over 1 million male informal entrepreneurs into the formal sector (equating formality with social protection), which is consistent with the evidence in Figure 14 above.[9]

[9]The exact estimate is 1,040,692. To avoid issues of labor force participation, we use records on male workers only.

These are male workers who according to INSS records, (i) did not pay social security contributions between 2005 and the year they first contributed to MEI (that is, we do not observe them in INSS records until they first joined MEI, which is why they presumably were informal), (ii) contributed at least once as MEI but did not contribute to any other INSS regime the year that they were formalized, and (iii) did not contribute as employees between 2005 and 2014 (which is why they presumably are entrepreneurs).[10] In Figure 15, we show the flow of these informal entrepreneurs into MEI by year of registration.

Figure 15: Flow of male entrepreneurs who were informal before joining MEI, by year of enrollment.



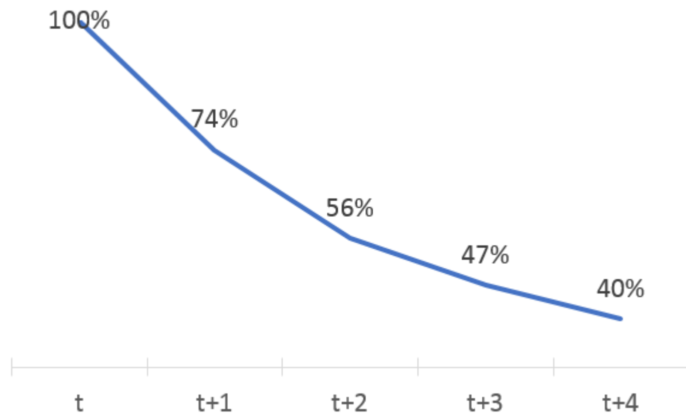
Source: INSS records.

Even if the flow of informal entrepreneurs into MEI has been growing over time, the impact of the program on the social protection of micro-entrepreneurs is nonetheless marginal: the yearly flow into MEI in Figure 15 pales in comparison to the 6.1 million informal male entrepreneurs in urban areas of Brazil.[11] Moreover, the initial registration does not guarantee a long-lasting history of tax compliance. The INSS data shows that only 40% of those who initially register are still contributing to social security as MEI four years later (see Figure 16), and based on estimates for the year-to-year transition between regimes and the informal sector reported in Table 5, it is likely that those entrepreneurs who are not observed contributing to MEI have transitioned back into the informal sector.

[10]In Brazil, both employees and own-account workers are required to contribute to social security. Individuals in general can also make voluntary contributions.

[11]Source: PNAD. Figure for 2015.

Figure 16: Fraction of business owners still contributing to MEI after initial enrollment.



Source: INSS records. t denotes the year of initial enrollment into MEI. The estimate for t+1 considers those who made at least one contribution as MEI the year following the initial registration. The estimate for t+2 considers those who made at least one contribution as MEI in t+1 and t+2, and so on.

Table 5: Year-to-year transitions between social security regimes at the INSS and the informal sector in Brazil.

		INSS regime in t:						
		Informal	Completo	Simples	MEI	Voluntary	Special	Employee
INSS regime in t-1	Informal	81.14	3.84	2.01	3.19	0.71	0	9.11
	Completo	12.92	84.84	0.48	0.23	0.17	0	1.35
	Simples	22.49	0.86	72.32	1.06	0.4	0	2.87
	MEI	25.01	0.79	0.06	73.08	0.02	0	1.04
	Voluntary	22.2	2.41	1.06	0.59	69.12	0.01	4.59
	Special	20.79	4.5	1.68	0.19	1.17	69.42	2.25
	Employee	23.64	1.25	0.3	0.51	0.34	0	73.97

We use data for males only for the period 2010–2014 (after the introduction of MEI). *Completo refers to the regime for business owners in the general tax regime. Special refers to the regime for rural workers. The table reports estimates of the Markov transition probabilities, but the estimates do not significantly differ from transitions computed using two-way tabulations between subsequent years. Source: INSS. records.

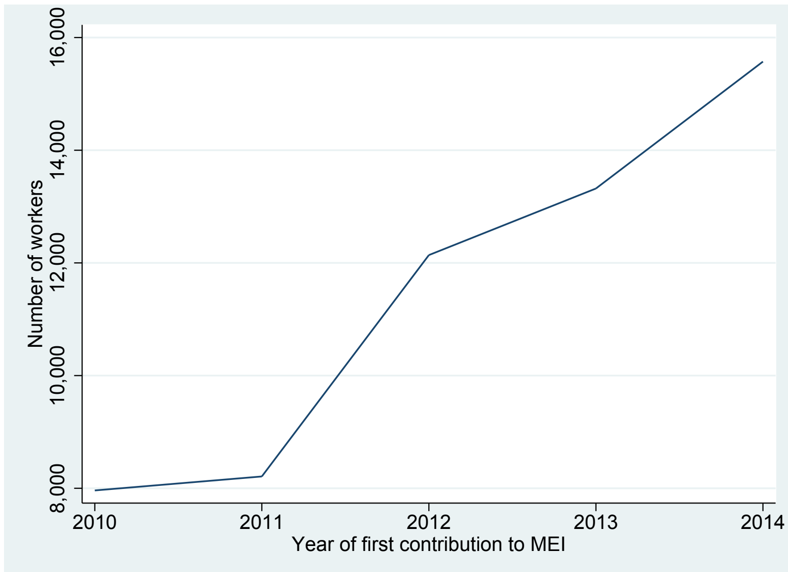
The MEI and Occupational Misallocation

The MEI in Brazil generates incentives for micro-firms (both formal and informal) with revenues in a region above the R$60,000 threshold and/or with more than one employee to reduce their size in order to qualify for the program. In the INSS records, we identify around 57,000 formal male entrepreneurs that transferred from either the general or the Simples regimes into MEI between 2010 and 2014 (see Figure 17 below).[12] These are male workers who (i) did not contribute as employees between 2005 and 2014 (which is why they presumably are entrepreneurs), (ii) contributed at least once as self-employed in other regimes between 2005 and the year that they first contributed to MEI (that is, they were formal entrepreneurs), and (iii) did not contribute to any other INSS regime once they joined MEI. The numbers

[12]The exact estimate is 57,204.

in Figure 17 are negligible relative to the 4.5 million formal male entrepreneurs in Brazil, and presumably not all of these entrepreneurs reduced the size of their firm to transfer into MEI. Still, the data seems to suggest a size effect, minimal but that has been increasing over time.

Figure 17: Flow of formal entrepreneurs into MEI by year of registration.

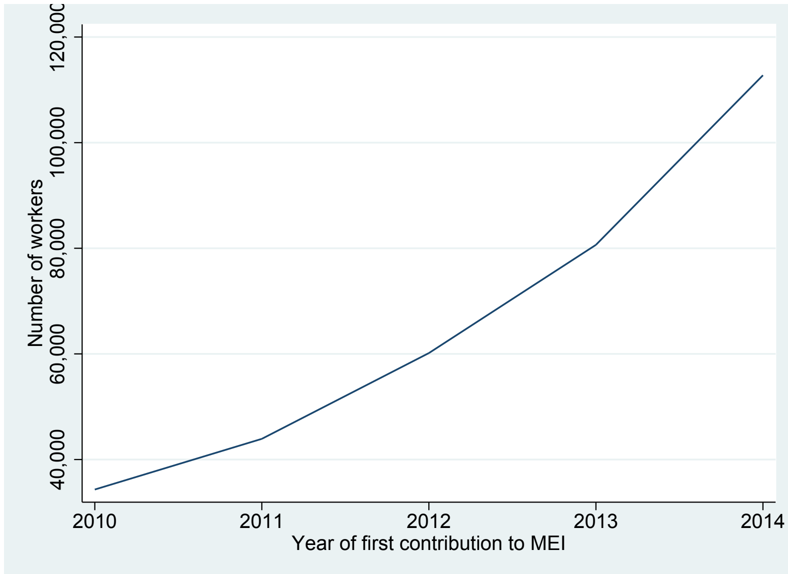


Source: INSS records.

The MEI potentially generates some reallocation of talent across occupations as well. In particular, both formal and informal wage-workers now have incentives to start a small business and join the MEI regime: the formal wage-workers would end up paying lower taxes (the contribution rate for employees is at least 8%), and the informal employees would this way gain access to social security at a relatively low cost (recall that the contribution is 5% of the minimum wage). In the INSS records we identify over 330,000 formal employees who presumably turned entrepreneurs and joined MEI between 2010 and 2014 (see Figure below).[13] These workers (i) paid their contributions as employees at least once before joining MEI (that is, they were formal employees), (ii) did not contribute to any of the other two regimes for the self-employed before joining MEI (presumably meaning that they were not entrepreneurs before joining MEI), and (iii) once they joined MEI, never paid their contributions as employees again. Even if the effect seems trivial, the misallocation of workers across occupations could nonetheless significantly affect total factor productivity or aggregate labor productivity (Hsieh, Hurst, Jones, and Klenow, 2013; McGowan and Andrews, 2015), though quantifying the impact is beyond the scope of this technical note.

[13]The exact number is 331,793.

Figure 18: Formal wage workers who transferred into MEI by year of registration.



Source: INSS records.

5. The RIF in Mexico: Compliance and the Social Protection of Workers in Micro-firms

Mexico introduced RIF in January of 2014 to replace the longtime special regime REPECO. In REPECO, firms paid simply 2% of their annual income and tax collection was done at the subnational level. To the contrary, in RIF firms pay a graduated corporate tax and the tax is collected directly by the federal tax authority SAT (Servicio de Administración Tributaria). Only individuals in retail or that provide services that do not require a college degree, and that in addition receive yearly revenues below $2 million pesos may enroll in RIF.

In the first year of enrollment in RIF, the firm obtains a discount on their corporate tax bill of 100%. This discount decreases by 10 percentage points each successive year. At the end of the 10-year period, the individual must enroll in the general regime. Similarly, in the first year of enrollment, the individual receives a discount of 50% in the mandatory contributions to the social security of their employees (collected not by SAT but by the Instituto Mexicano del Seguro Social [IMSS, Mexican Social Security Institute in English]), and this discount decreases by 10 percentage points every other year. Business owners in Mexico are not required to contribute to their social security, but if they choose to do so, RIF offers the same subsidy: the first year of enrollment the individual receives a discount of 50% on their contributions, and this discount decreases by 10 percentage points every other year.[14]

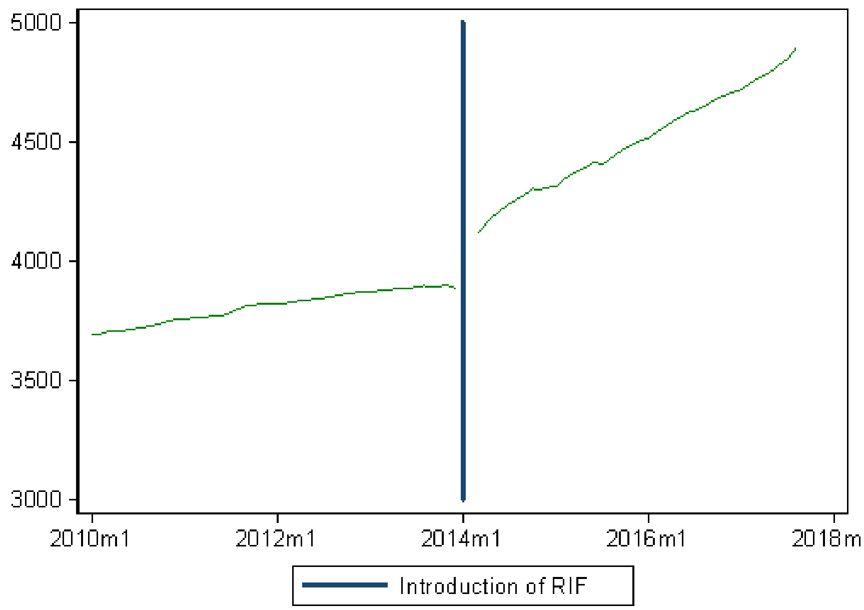
RIF grants also lower rates for excise taxes and for the VAT, but the latter only when selling directly to the final consumer. Instead of the general 16%, the value-added tax rates are 8% for restaurant owners, 2% for retailers, and 6% for those in construction or manufacturing. As in the case of the corporate and social security taxes, the firm receives a discount of 100% on both the excise and the VAT bill, and this

[14]These benefits were granted through another special regime that complements the RIF called the RISS or "Régimen de Incorporación a la Seguridad Social" in Spanish

discount decreases by 10 percentage points each passing year. However, if their yearly revenues are below \$300,000, the discount in the excise and value-added taxes remains at 100%.

Figure 19 suggests that the overall discounts in RIF are more attractive than the benefits in REPECO: RIF attracted more small contributors from the start, and the number of contributors has steadily increased over time at a higher rate than in REPECO. More than 4.5 million business owners were enrolled in RIF at the closing of 2017. Note, however, that in 2017 the discounts in RIF were still 70% for the income and value-added tax rates, and of 40% for contributions to IMSS, and therefore the trend observed in Figure 19 may significantly slow down in a few more years.

Figure 19: Firms enrolled in REPECOS-RIF in Mexico.

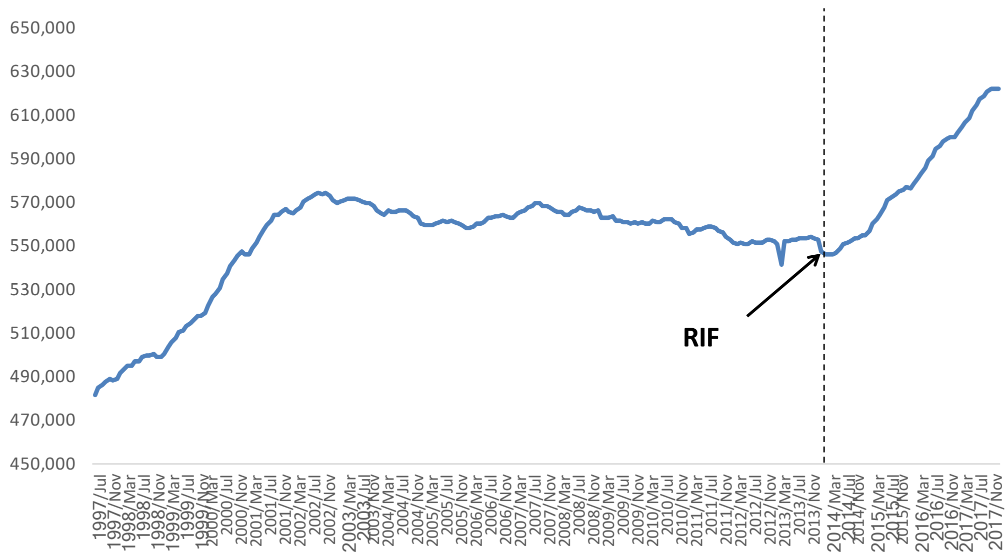


Note: The green line represents the number of firms enrolled in REPECOS-RIF. The y-axis is hundreds of businesses. The x-axis represents the time of the year. For instance 2010m1 is first month of 2010.

Source: Mexico's Secretaría de Hacienda. Publicly available records.

RIF directly subsidizes the social protection of employees in micro-firms. Kaplan and Silva-Porto (2017) document, not surprisingly, that the number of small businesses paying the mandatory contributions to IMSS to insure their employees, which had remained more or less constant since the early 2000s, completely changed course with the introduction of RIF in 2014 and has steadily increased since then (see Figure 20 below, which is extracted from their paper). The number of additional businesses contributing to the social security of their employees is, however, not large enough yet to affect aggregate formality rates, and the fraction of wage workers not covered by social security in Mexico has remained relatively stable at around 45%.

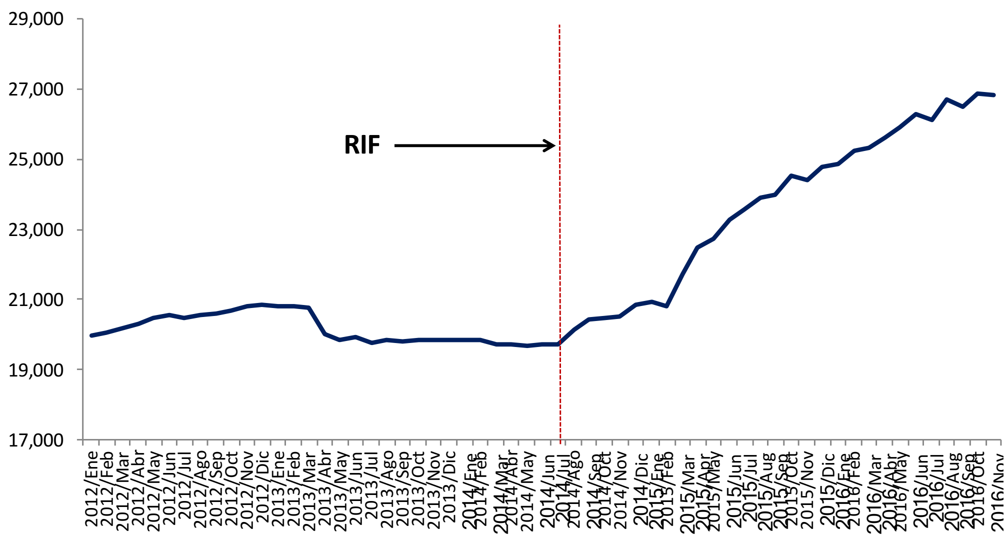
Figure 20: Employers with 5 or fewer employees registered in IMSS.



Note: y-axis represents the number of employers.
Source: taken from Kaplan and Silva-Porto (2017).

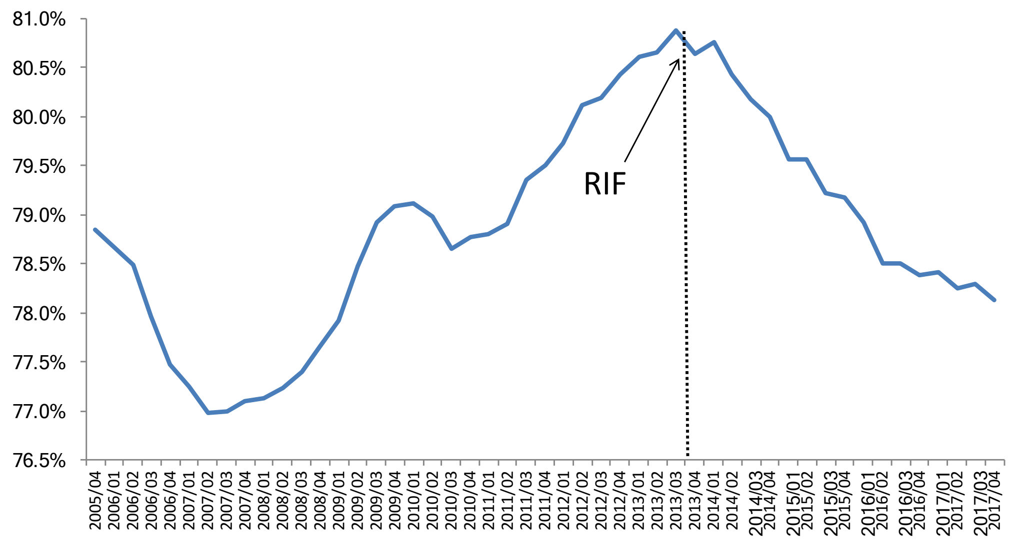
The number of self-employed workers contributing to IMSS has also markedly increased with the subsidy in RIF (see Figure 21), even though self-employed workers are not required to contribute to social security. Notably, in this case the voluntary enrollment of the self-employed has already affected their aggregate informality rate, as documented in Figure 22, also from Kaplan and Silva-Porto (2017).

Figure 21: Self-employed workers voluntarily contributing to IMSS.



Note: y-axis represents number of self-employed workers.
Source: taken from Kaplan and Silva-Porto (2017).

Figure 22: Fraction of self-employed workers not covered by social security.



Note: Moving averages of the past 4 months.
Source: taken from Kaplan and Silva-Porto (2017).

RIF was part of a broader set of policy measures introduced in Mexico to formalize irregular labor relationships since 2013, including a sharp increase in the enforcement of labor regulations. Fiscal and labor authorities have tried to better coordinate their efforts to verify compliance, and both the probability of inspection and the statutory fine in case of infringements markedly increased (Samaniego de la Parra, 2017). Potentially both the carrot–the subsidy to social security contributions–and the stick–more stringent labor regulations–account for the patterns in the data documented in this section, but untangling these effects is beyond the scope of this work.

6. Policy Recommendations and Concluding Remarks

Simplified regimes potentially reduce tax revenues and distort several micro-level margins, especially when they subsidize social security contributions. Large formal firms close to the regulatory threshold will try to either under-report their true size to the tax authorities or reduce their size to avoid the additional tax burden, and the selection of talent into entrepreneurship in the economy will become less than optimal, which in turn means that wage working talent will be wastefully exploited. The evidence from Peru, Brazil, and Mexico that we present suggests governments should instead employ less distortionary mechanisms. The costs of complying with federal, state, and local regulations should be lower, but throughout the entire firm size distribution, and the sudden increases in the regulatory burden at particular thresholds should be substantially smoothed out. Fiscal and labor authorities must better coordinate their efforts to verify compliance, but again, must do so for firms throughout the entire size distribution. Finally, less distortionary mechanisms to expand the safety net to workers in micro firms, such as the one suggested in Bobba, Fabbi, and Levy (2016), where social security benefits are not tied to the employment status of individuals, should be seriously considered.

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Appendix: General and Simplified Regimes in Selected LAC Countries

In this section we briefly describe the statutory tax burden faced by owners of small businesses or self-employed workers in the general regime in nine countries of the region. We examine provisions for four dimensions: income taxes, sales taxes, labor regulations, and social security contributions of the business owner.

Labor regulations are summarized using the cost of salaried labor estimated by Alaimo, Bosch, Gualavisi, and Villa (2017), who compute the payroll tax-equivalent of mandatory provisions such as social security contributions and severance payments.

We then summarize the discounts offered by the most prominent special regimes in each country in these four regulatory margins, and simulate the income tax schedule for a hypothetical small business owner with a 30% markup under both, the general regime and the special tax regime.

Argentina

In Argentina business owners with yearly revenues below $96,000 pesos may enroll in Independiente Promovido and pay only 5% of revenues to cover their social security contributions. These entrepreneurs are exempt from paying all other federal taxes. Those with yearly revenues between $96,000 and $600,000 pesos in retail and $400,000 pesos in services qualify for Monotributo (introduced in 1998) and pay only a fixed fee to cover their income and sales taxes and the social security contributions of the entrepreneur. The size of the fee varies not only with the level of revenues, but also with the physical surface of the business, the amount of energy consumed, the rent expenses, and the number of employees, which may make the program costly to administer. We estimate that at the $400,000 size threshold, a service provider with a 30% markup would reduce his or her income tax burden by 92% if he ore she enrolled in Monotributo.

General regime:

Income tax for business owners or self-employed workers	• Tax rates that increase from 9 to 35% depending on the level of taxable income.
Sales taxes	• Value-added tax of 21% (with special provisions).
Labor regulations	• Cost of hiring salaried labor: 72% -Mandatory social security contributions: 48% -Other provisions: 24%
Social security contributions of the business owner	• Business owners must contribute a fixed amount to their social security, which varies across occupations and revenues (for example, from $919.92 to $4,047.66 in 2016).

Special tax regimes:

- Régimen de Inclusión Social y Promoción del Trabajo Independiente (Independiente Promovido)

Type requirements	• Only for individuals.
Size requirements	• The individual does not employ others. • The business does not operate at a fixed establishment. • Yearly revenues below $96,000 pesos in 2018.
Tax treatment: income and sales taxes	• They are exempt from paying federal taxes.
Labor regulations	• No special provisions.
Social security contributions of the business owner	• A 5% tax on monthly revenues to cover the social security contributions of the business owner.

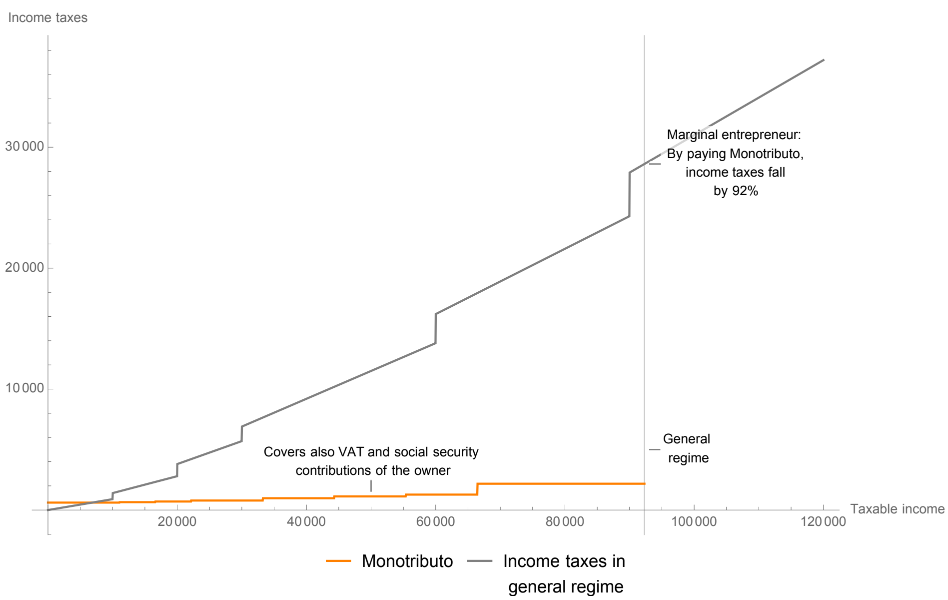
- Monotributo

Type requirements	• Only for individuals or informal partnerships in retail or providing services. • Unit price of the final good below $2,500 pesos. • Cannot import goods from abroad.
Size requirements	• Yearly revenues below $600,000 in retail, but with a minimum number of employees if revenues are above $400,000. • Yearly revenues below $400,000 for service providers.

Tax treatment: income and sales taxes	• A fixed amount to cover the corporate and value-added taxes. • This amount varies between \$615 and \$3,276 per month depending on revenues, the surface of the business, the energy consumed, the rent, and a minimum number of employees.
Labor regulations	• No special provisions. The individual must still contribute to the social security of their employees.
Social security contributions of the business owner	• The fee covers the social security contributions of the business owner.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 23: Income taxes paid under the general regime and the Monotributo in Argentina (2016).



Argentinian Pesos. The exercise simulates the income taxes that would be paid by a service provider with a 30% markup. In the case of the Monotributo, the exercise mantains the location size, the electricity bill, and the rent constant (there are no requirements on the minimum number of employees).

Brazil

Business owners in Brazil with yearly revenues below R$60,000 and with at most one employee may enroll in MEI (Micro-empreendedor individual, introduced in 2009) and pay only a flat tax of 5% of the minimum wage to cover their social security contributions. These entrepreneurs are exempt from paying all other federal taxes. Business owners with yearly revenues between R$60,000 and R$3.6 million qualify for Simples Nacional (introduced in 1996).[15] Entrepreneurs in Simples pay only a single tax on their revenues to cover the federal income tax and the federal, state, and municipal sales taxes, and pay only 11% of the minimum wage to cover their social security contributions. We estimate that at the size threshold of R$3.6 million, income taxes for businesses with a 30% markup would be 38% lower in Simples relative to the general regime.

General regime:

Income tax for business owners or self-employed workers	• Total corporate tax rate of 34%: 15% of statutory tax and 9% as a social contribution. • In addition, 10% on the amount that exceeds R$240,000.
Sales taxes	• Federal sales tax that varies by good from 0% to 365%. • State sales taxes that varies across states between 17% and 25%. • Municipal sales taxes on services with rates that vary across municipalities from 2% to 5%.
Labor regulations	• Cost of hiring salaried labor: 71% -Mandatory social security contributions: 47% -Other provisions: 24%

[15] Regulations issued on 10/27/2016 increased this cap from R$3.6 to R$4.8 million.

Social security contributions of the business owner	• Business owners must contribute to their social security. • The monthly tax amounts to 20% of the contribution salary, which is at least one minimum wage and is capped to a certain amount (R$5,531.31 in 2017).

Special tax regimes:

- Micro-emprendeedor individual (MEI)

Type requirements	• Only individuals may enroll.
Size requirements	• Yearly revenues below R$60,000. • At most 1 employee earning the minimum wage.
Tax treatment: income and sales taxes	• R$6 (or less) to cover the state and municipal taxes. • They are exempt from paying all other federal taxes.
Labor regulations	• No special provisions. The owner must contribute to the social security of their employees.
Social security contributions of the business owner	• 5% of the minimum wage to cover their Social security contributions.

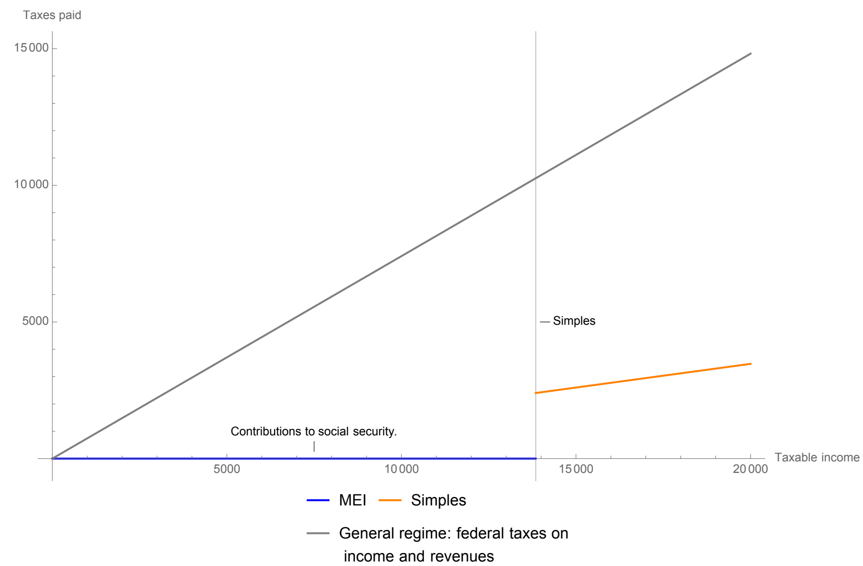
- Simples Nacional

Type requirements	• Only for firms in manufacturing, retail, and services. • Both individuals and legal entities may enroll.

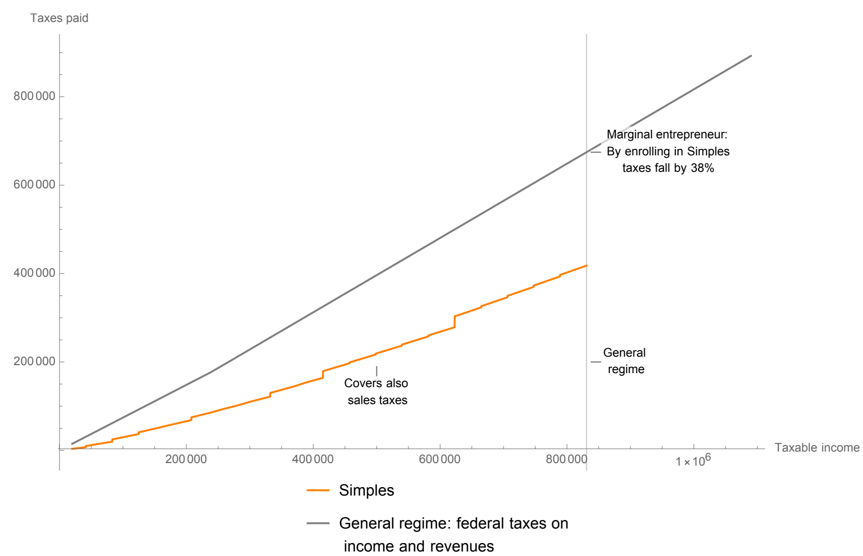
Size requirements	• Yearly revenues below R$3.6 million. • This cap may double if the firm exports abroad.
Tax treatment: income and sales taxes	• A single tax on revenues to cover: the federal corporate, payroll, and sales taxes, and the state and municipal sales taxes. • The tax is progressive, with rates that vary across sectors: from 4% to 11.61% for retailers; from 4.5% to 12.11% for firms in manufacturing; and from 6% to 17.42% for service providers.
Labor regulations	• No special provisions. The owner must contribute to the social security of their employee.
Social security contributions of the business owner	• The business owner is required to contribute to their social security, but only 11% of the minimum wage.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 24: Income and revenue taxes paid under the general regime, the MEI, and the Simples in Brazil (2016). Part 1: Taxable income between R$0 and R$20,000.



Part 2: Taxable income between R$20,000 and R$1,000,000.



Notes: Amounts in Brazilian Reals. The exercise simulates the corporate taxes that would be paid by a retailer with a 30% markup. In the general regime, the estimate includes both the PIS/PASEP of 1.65% of revenues and the COFINS of 7.6% of revenues.

Colombia

Colombia has two separate special regimes, one that grants significantly lower income tax rates, and another one that exempts businesses from collecting the VAT. Businesses with yearly revenues below approximately \$119,000 (pesos) qualify for both; businesses with yearly revenues between \$119,000 and around \$803,000 qualify only for the lower income tax rate. Neither of these regimes offers provisions for the social security contributions of the business owner. We estimate that at the size threshold of \$803,000, the income tax burden for a business with a 30% markup is 97% lower in the special regime relative to the general regime.

General regime:

Income tax for business owners or self-employed workers	• Total tax rate of 33%: 25% of statutory tax and 8% as a social contribution (Income Tax for Equity, Impuesto Sobre la Renta para la Equidad, in Spanish [CREE]). • Firms with 50 or fewer employees and with assets worth less than 5000 times the minimum wage receive a discount of 100% the first two years of operations, 75% in the third, 50% in the fourth, and 25% in the fifth.
Sales taxes	• Value-added tax of 16%.
Labor regulations	• Cost of hiring salaried labor: 53% -Mandatory social security contributions: 35% -Other provisions: 18%
Social security contributions of the business owner	• Self-employed workers are required to contribute to social security.

Special tax regimes:

- Impuesto mínimo alternativo simple (IMAS) for the self-employed

Type requirements	• Only for individuals.
Size requirements	• Yearly taxable income above a threshold that varies by activity but below 27,000 times the tax value unit (UVT, $29.753 in 2016). • Liquid assets below 12,000 times the UVT.
Tax treatment: income taxes	• Lower income tax rate that varies across activities between 0.82% for retailers and 6.4% for providers of financial services.
Labor regulations	• No special provisions.
Social security contributions of the business owner	• No special provisions.

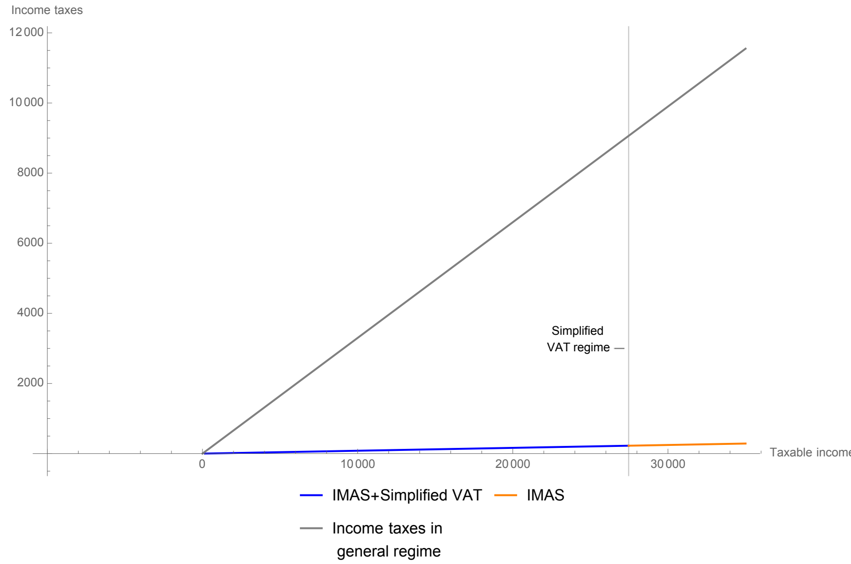
- Simplified VAT regime

Type requirements	• Only for individuals in retail, services, artisans, and those in agriculture. • Do not trade abroad.
Size requirements	• Yearly revenues below 4,000 times the UVT. • With at most one establishment. • The value of individual transactions cannot exceed 3,300 UVT. • Liquid assets below 4,500 times the UVT.

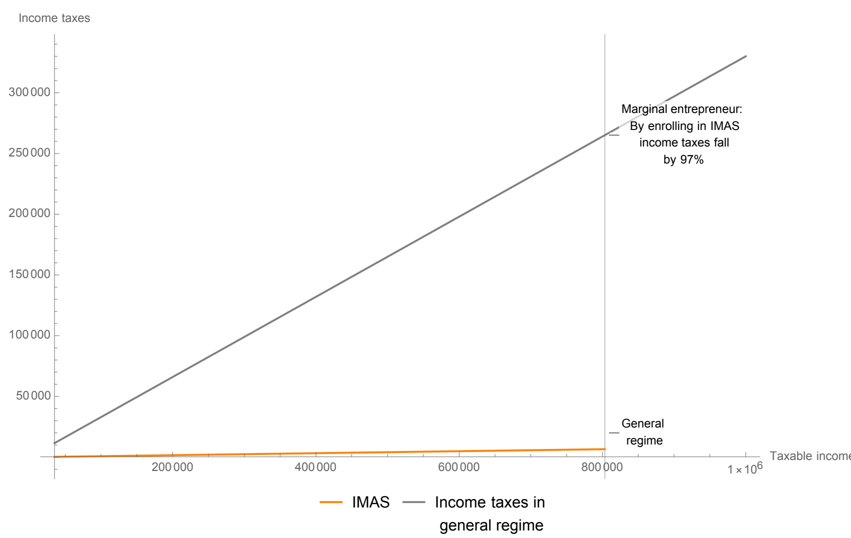
Tax treatment: sales taxes	• Do not collect the VAT. • Do not issue receipts for tax purposes. • Are not required to keep accounting books.
Labor regulations	• No special provisions.
Social security contributions of the business owner	• No special provisions.

Effect of the Special Tax Regime in the income tax schedule:

Figure 25: Income taxes paid under the general regime and the IMAS in Colombia (2016). Part 1: Taxable income between 0 and $35,000.



Part 2: Taxable income between $35,000 and $1,000,000 pesos



Notes: Amounts in Colombian Pesos. The exercise simulates the income taxes that would be paid by a retailer. The exercise assumes a markup of 30% so that those with taxable income below $27,464.30 would qualify for both simplified regimes, IMAS and the simplified VAT.

Costa Rica

The simplified regime in Costa Rica covers the income and value-added taxes with a single tax on purchases, which may be easy to determine. The formula to determine businesses that qualify, however, considers the sector, the number of employees, the value of the assets, and the sales of the firm, which may make the program costly to administer (see Figure 26). The regime does not offer social security coverage for the business owner.

General regime:

Income tax for business owners or self-employed workers	• Graduated tax with marginal rates that increase from 0% to 25%.
Sales taxes	• Value-added tax of 13%.
Labor regulations	• Cost of hiring salaried labor: 58% -Mandatory social security contributions: 39% -Other provisions: 19%
Social security contributions of the business owner	• Business owners are required to contribute to their social security.

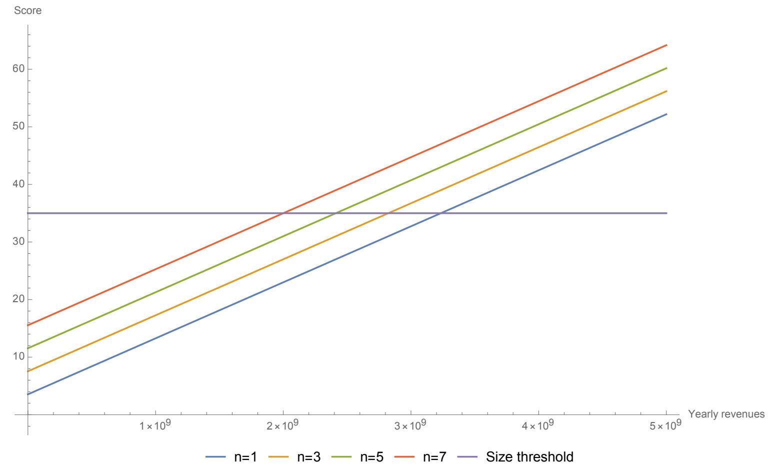
Special tax regimes:

- Simplified regime

Type requirements	• Both individuals and legal entities may enroll. • Only very specific activities are allowed: retail, restaurants, taxi drivers, fishing, among others.

Size requirements	• Their score in the formula used to determine the size of the firm must be less than 35. This score considers the sector, the number of employees, the value of the assets, and the sales of the firm. • Yearly purchases below 150 times the base salary (which was 424,200 monthly colones in 2016), that is, below 63,630,000 per month. • At most 5 employees. • Value of the assets below 350 times the base salary (that is, below 148,470,000).
Tax treatment: income and sales taxes	• Taxes on quarterly purchases as substitutes of the corporate and the value-added taxes. • The income tax rate ranges across activities from 1% to 3.3% of purchases (50 colon-cents per km in the case of taxi drivers). • The VAT rate ranges across activities from 2% to 6.5% of purchases.
Labor regulations	• No special provisions.
Social security contributions of the business owner	• No special provisions. The owner is still required to contribute to their social security.

Figure 26: Size score in retailing (2016).

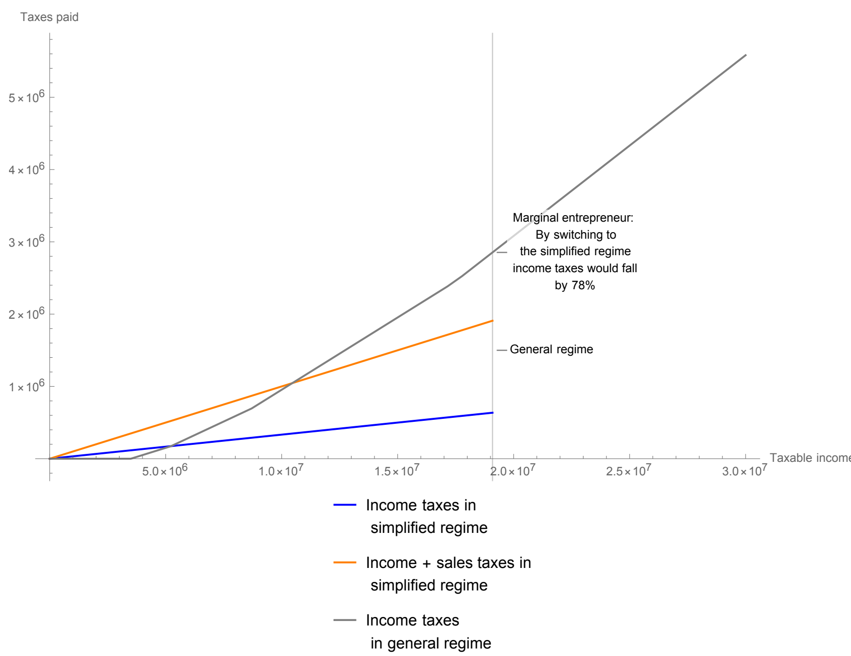


Notes: This exercise examines the relationship between revenues and the score for different number of employees for a retailer with assets fixed at 350 times the base salary (148,470,000 colones). The score is a weighted average of the number of employees, the revenues, and the value of the assets during the fiscal year, each relative to specific sector values. For retailers in particular, the formula is

$$\left(\left[\frac{0.6*employees}{30}\right]+\left[\frac{0.3*sales}{3{,}084{,}000{,}000}\right]+\left[\frac{0.1*assets}{964{,}000{,}000}\right]\right)\times 100.$$

Effect of the Special Tax Regimes on the income tax schedule:

Figure 27: Income taxes paid under the general regime and the simplified regime in Costa Rica (2016).



Notes: Costa Rican Colones. The exercise simulates the income taxes that would be paid by a retailer, assuming a markup of 30% and that the business owner has 3 employees and assets worth 350 times the base salary (148,470,000 colones). The corresponding tax on purchases that covers the income tax in the simplified regime is 1%, and 2 additional percentage points would cover the value-added tax as well. In this example, the discontinuity ocurrs when costs reach the threshold of 150 times the base salary (before the size score reaches the 35 threshold).

Ecuador

Ecuador introduced RISE (Régimen Impositivo Simplificado) in 2008. This regime substitutes the income and the value-added taxes with a single monthly tax in U.S. dollars for entrepreneurs with yearly revenues below US$60,000. The tax varies across sectors and increases with income. For retailers, for example, it increases from US$1.32 per month for those with yearly revenues below US$5,000, to US$34.42 for those earning between US$50,000 and US$60,000 per month. The program offers discounts on the social security contributions of the firm's wage-workers, but there are no special provisions regarding the social security of the entrepreneur.

General regime:

Income tax for business owners or self-employed workers	• Progressive schedule that combines a fixed fee with a fraction of the taxable income in each bracket.
Sales taxes	• Value-added tax of 12% (with special provisions).
Labor regulations	• Cost of hiring salaried labor: 48% -Mandatory social security contributions: 23% -Other provisions: 25%
Social security contributions of the business owner	• Business owners are required to contribute to their social security.

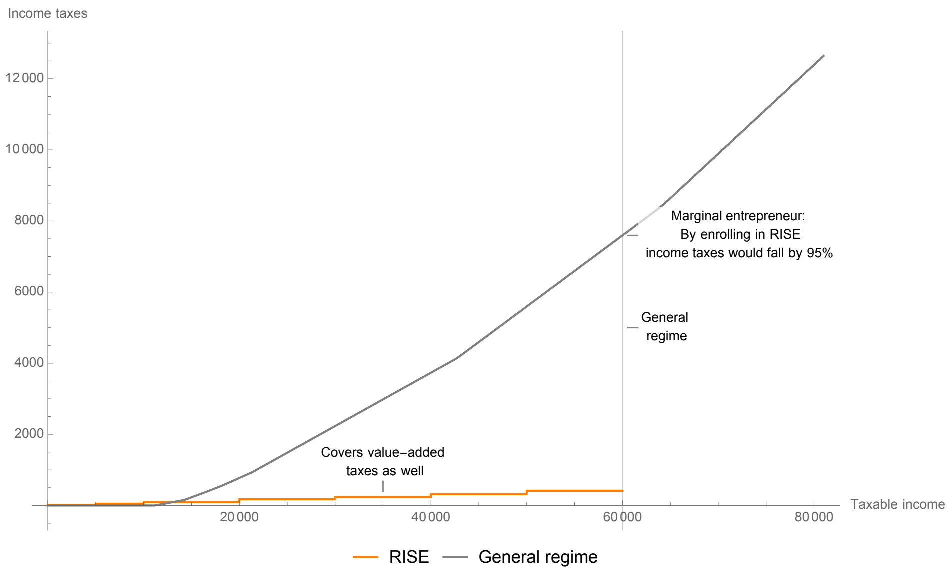
Special tax regimes:

- RISE

Type requirements	• Only individuals may enroll.
Size requirements	• Taxable income below US$60,000. • 10 or fewer employees.
Tax treatment: income and sales taxes	• A single monthly tax in U.S. dollars to cover both the income and the value-added taxes. • The amount of the tax varies across sectors and increases with taxable income. • For retailers, it goes from US$1.32 per month for those with yearly income below US$5,000, to US$34.42 per month for those with yearly income between US$50,000 and US$60,000. For firms in manufacturing, it increases from US$1.32 to US$59.4 per month. For services providers, the tax increases from US$3.96 to US$237.61 per month.
Labor regulations	• The business owner may deduct 5% of their contributions to the social security of their employees for every new employee (capped to a 50% discount).
Social security contributions of the business owner	• No special provisions. The business owner must contribute to their social security.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 28: Income taxes paid under the general regime and the RISE in Ecuador (2016).



Notes: Amounts in U.S. dollars. The exercise simulates the income taxes that would be paid by a retailer.

Mexico

Mexico implemented RIF in January of 2014 to replace the longtime STR REPECO (Special Regime for Small Taxpayers; Régimen Especial para Pequeños Contribuyentes in Spanish). In REPECO, firms paid simply 2% of their annual income and tax collection was done at the subnational level. To the contrary, in RIF entrepreneurs pay a graduated income tax and the tax is collected directly by the federal tax authority (SAT, Servicio de Administración Tributaria in Spanish), but businesses do receive discounts on other federal taxes, including the social security contributions of the firm's wage-workers . Only individuals in retail or that provide services that do not require a college degree, and that in addition receive yearly revenues below $2 million (pesos) may enroll in RIF. The tax benefits in RIF apply only to new contributors, and firms must eventually pay taxes in the general regime.

General regime:

Income tax for business owners or self-employed workers	• Progressive schedule that combines a fixed fee with a fraction of the taxable income in each bracket. • Must be paid monthly.
Sales taxes	• Value-added tax of 16% (with special provisions).
Labor regulations	• Cost of hiring salaried labor: 44% -Mandatory social security contributions: 25% -Other provisions: 19%
Social security contributions of the business owner	• Business owners are not required to contribute to their social security (but may choose to do so).

Special tax regimes:

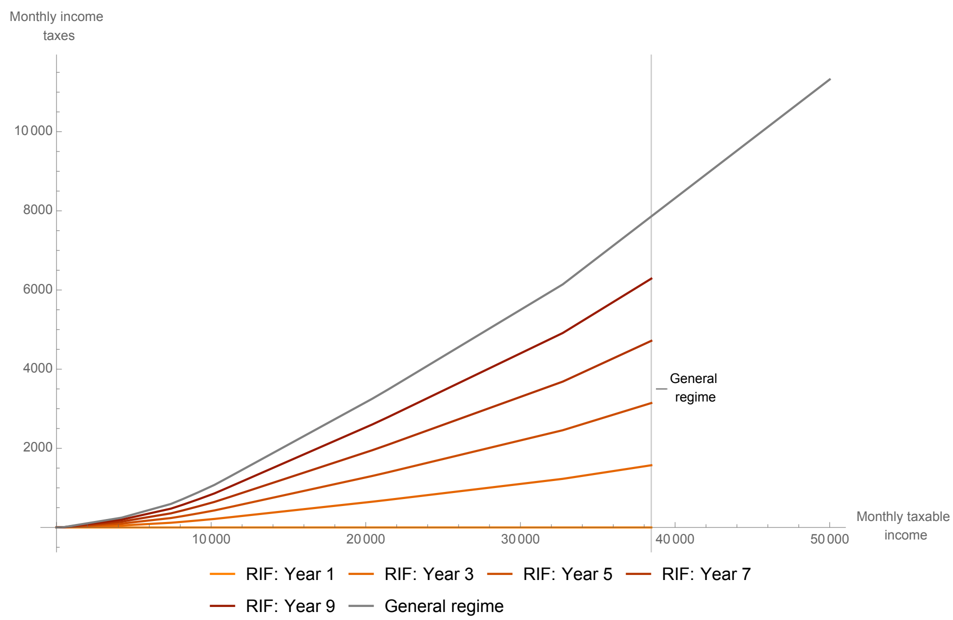
- RIF

Type requirements	• Only for individuals in retail or that provide services that do not require a college degree.
Size requirements	• Yearly revenues below $2 million.
Tax treatment: income and sales taxes	• Individuals pay income taxes every other month according to the same progressive tax schedule established for business owners in the general regime (the only difference is that business owners in the general regime pay every month). • The first year of enrollment the firm obtains a discount in their corporate tax bill of 100%. This discount decreases by 10 percentage points each successive year. • At the end of the 10-year period, the individual must enroll in the general regime. • RIF includes lower rates for excise taxes and for the VAT, but the latter only when selling directly to the final consumer. Instead of the general 16%, the VAT rates are 8% for restaurant owners, 2% for retailers, 6% for those in construction or manufacturing. • The individual receives a discount of 100% on both the excise and the value-added tax bills, and this discount decreases by 10 percentage points each passing year. • If their yearly revenues are below $300,000, the excise and VAT discount remains at 100%.
Labor regulations	• The first year of enrollment the individual receives a discount of 50% in the mandatory contributions to the social security of their employees, and this discount decreases by 10 percentage points every other year.

Social security contributions of the business owner[16]	• Business owners are not required to contribute to their social security, but if they choose to do so, the same subsidy applies: the first year of enrollment the individual receives a discount of 50% in his or her contributions, and this discount decreases by 10 percentage points every other year.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 29: Monthly income taxes paid under the general regime and the RIF in Mexico for different ages of the business (2016).



Notes: Amounts in Mexican Pesos. The exercise simulates the monthly income taxes that would be paid by a retailer with a markup of 30% (which means that the sales threshold would amount to a monthly taxable income of around $38,500 pesos).

[16]These benefits were granted through another special regime that complements the RIF called the RISS or Régimen de Incorporación a la Seguridad Social.

Nicaragua

In Nicaragua businesses with monthly revenues below C$100,000 (cordobas) may cover their income and value added taxes with a single fee, which varies with the level of revenues. The program does not offer special provisions regarding the social insurance contributions of the business owner or his or her employees.

General regime:

Income tax for business owners or self-employed workers	• General tax rate of 30%.
Sales taxes	• Value-added tax of 15%.
Labor regulations	• Cost of hiring salaried labor: 48% -Mandatory social security contributions: 24% -Other provisions: 24%
Social security contributions of the business owner	• The business owner is not required to contribute to their own social security.

Special tax regimes:

- Special regime for the corporate income tax

Type requirements	• Both individuals and legal entities may enroll.
Size requirements	• Yearly revenues below C$12 million or yearly taxable income below C$500,000.

Tax treatment: income and sales taxes	• Firms pay a lower tax with rates that range from 0% to 25%, as opposed to the general 30% rate. • No special provisions for the sales tax.
Labor regulations	• No special provisions.
Social security contributions of the business owner	• No special provisions.

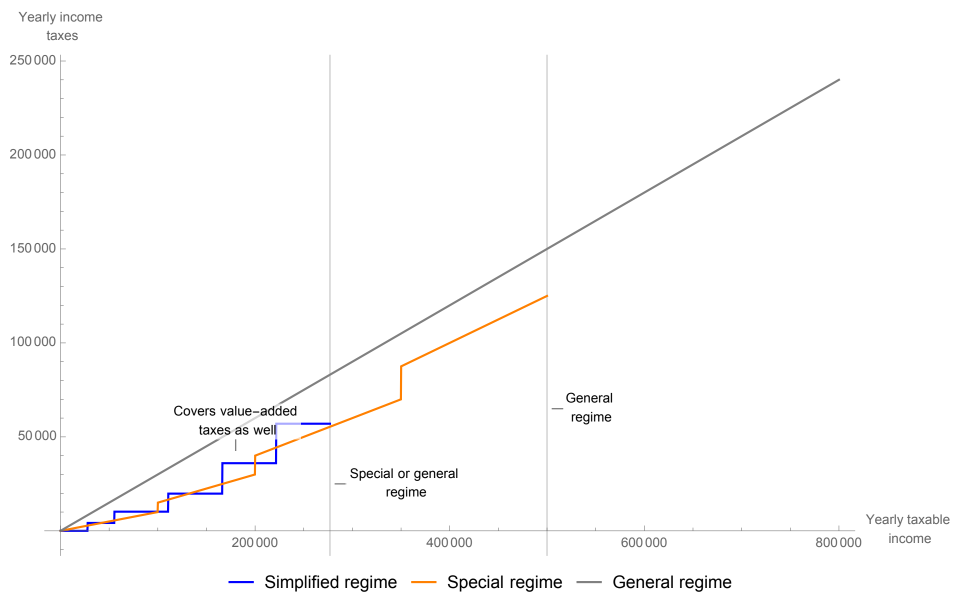
- Simplified regime: Impuesto de cuota fija

Type requirements	• Only for individuals, but professionals are excluded. • Cannot trade abroad or sell to the government. • Unit price of the final good below C\$50,000. • Cannot be located in shopping centers.
Size requirements	• Monthly revenues below C\$100,000. • Value of inventory below C\$500,000.
Tax treatment: income and sales taxes	• A single monthly tax in cordobas to cover the income and the taxes. • This amount varies between C\$0 and C\$5,500 per month depending on the amount of monthly revenues.
Labor regulations	• No special provisions.

Social security contributions of the business owner	• No special provisions.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 30: Income taxes paid under the simplified regime, the special regime, and the general regime in Nicaragua (2016).



Notes: Amounts in Nicaraguan Cordobas. The exercise simulates the monthly income taxes that would be paid by a business owner with a markup of 30%.

Peru

Peru has at least three special regimes: the RUS (Régimen Único Simplificado in Spanish), which groups the income and value-added taxes in a single fee, the RER (Régimen Especial de Impuesto a la Renta in Spanish) which allows businesses to pay only 1.5% of revenues instead of the 28% tax on income, and a special labor regime, which significantly lowers the regulatory burden on businesses with yearly revenues below S$590,000 (soles). None of these regimes covers the social security contributions of the business owner. Small firms may qualify for both the RUS and the special labor regime, or combine the RER also with the special labor regime.

General regime:

Income tax for business owners or self-employed workers	• Tax rate of 28%.
Sales taxes	• Value-added tax of 18%.
Labor regulations	• Cost of hiring salaried labor: 68% -Mandatory social security contributions: 31% -Other provisions: 37% • Firms with 20 or more employees are required to distribute between 5 and 10% of their profits among their employees.
Social security contributions of the business owner	• The business owner is required to contribute to their own social security.

Special tax regimes:

- RUS

Type requirements	• Only for non-professional individuals (construction workers, carpenters) and those in retail, manufacturing, or services. • Incorporated, single-owner businesses (Empresa individual de responsabilidad limitada) may also enroll. • Those in the business of transporting passengers are exlcuded, but small freight transporters (less than 2 metric tons) may enroll.
Size requirements	• Yearly revenues below S$360,000, and monthly revenues below S$30,000. • Value of assets, excluding the land and motor-vehicles, below S$70,000. • One location only. • Yearly purchases below S$360,000, and monthly purchases below S$30,000.
Tax treatment: income and sales taxes	• A single monthly tax in soles to cover both the income and the value-added taxes. • This amount varies between S$20 and S$600 per month depending on the amount of both monthly revenues and monthly purchases. For example, if both monthly revenues and monthly purchases are between S$20,000 and S$30,000, the monthly tax is S$600. • Those engaged in the sale of agricultural products and with both yearly revenues and yearly purchases below S$60,000 are exempt (tax is S$0).
Labor regulations	• No special provisions.

Social security contributions of the business owner	• No special provisions.

- RER

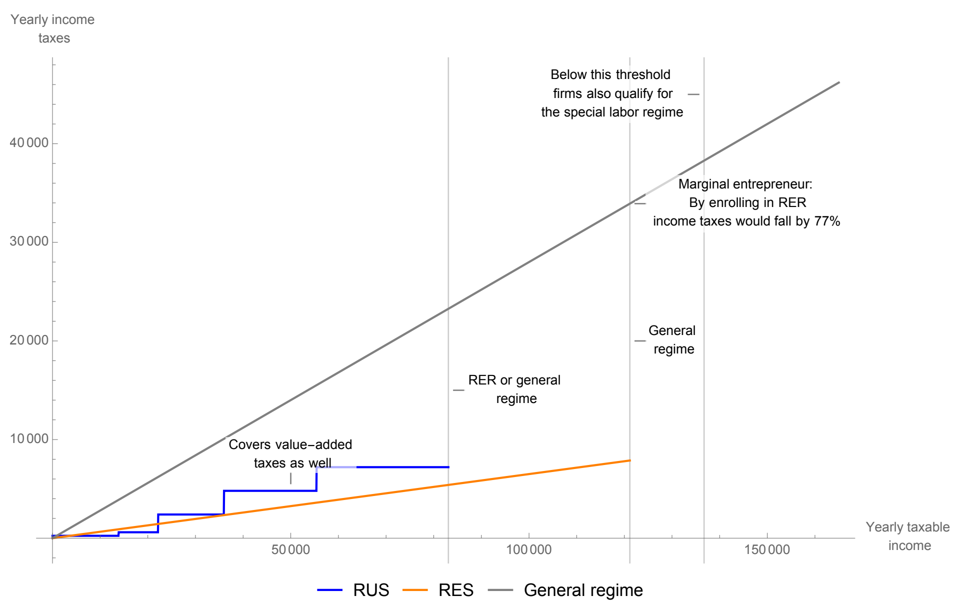
Type requirements	• Both individuals and legal entities in retail, manufacturing, or services may enroll. • Professionals, those in construction, and those in the business of transporting passengers are exlcuded, but small freight transporters (less than 2 metric tons) may enroll.
Size requirements	• Yearly revenues below S$525,000. • Value of assets, excluding the land and motor-vehicles, below S$126,000. • 10 or fewer employees. • Yearly purchases below S$525,000.
Tax treatment: income and sales taxes	• A single tax of 1.5% of monthly revenues to cover the corporate income tax. • They must still pay the VAT (18%).
Labor regulations	• No special provisions.
Social security contributions of the business owner	• No special provisions.

• Special labor regime

Type requirements	• Both individuals and legal entities.
Size requirements	• Yearly revenues below 150 tax value units (UIT, S$3,950 in 2016).
Tax treatment: income and sales taxes	• No special provisions.
Labor regulations	• Less stringent labor protection regulations. • Separate health and pension systems.
Social security contributions of the business owner	• No special provisions.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 31: Income taxes paid under the RUS, the RER, and the general regime in Peru (2016).



Notes: Amounts in Peruvian Soles. The exercise simulates the income taxes that would be paid by a retailer with a 30% markup.

Uruguay

General regime:

Income tax for business owners or self-employed workers	• Tax rate of 25%.
Sales taxes	• Value-added tax of 22%.
Labor regulations	• Cost of hiring salaried labor: 63% • Mandatory social security contributions: 39% • Other provisions: 24%
Social security contributions of the business owner	• The business owner is required to contribute to their own social security.

Special tax regimes:

- Monotributo

Type requirements	• Only for (i) individuals with at most 1 employee, (ii) informal partnerships with at most 2 partners and no employees, or (iii) family businesses with at most 3 partners and no employees. • Sell exclusively to final consumers.
Size requirements	• Yearly revenues below $593,487 (pesos) for individuals and $989,146 for informal partnerships. • They operate at only one location.

Tax treatment: income and sales taxes	• A single monthly tax in pesos to cover all national taxes (except those on imports). • This amount does not vary with the usual measures of the size of the business (in revenues, number of employees, etc), but rather with the number of partners, for example: $1,223 per month if it is a single-owner business, $1,913 per month for an informal partnership with two partners.
Labor regulations	• No special provisions. The business owner is required to pay the social security contributions of their employee.
Social security contributions of the business owner	• The fee covers their social security contributions (except health insurance). • The individual may choose to contribute to the public health system.

- Monotributo MIDES

Type requirements	• Households considered as vulnerable (below the poverty line).
Size requirements	• No employees. • If it is a family business, up to 5 partners.
Tax treatment: income and sales taxes	• A single monthly tax in pesos to cover all national taxes (except those on imports): $306 the first year, $613 the second year, $918 the third year, and $1,223 from the fourth year on.
Labor regulations	• No special provisions.

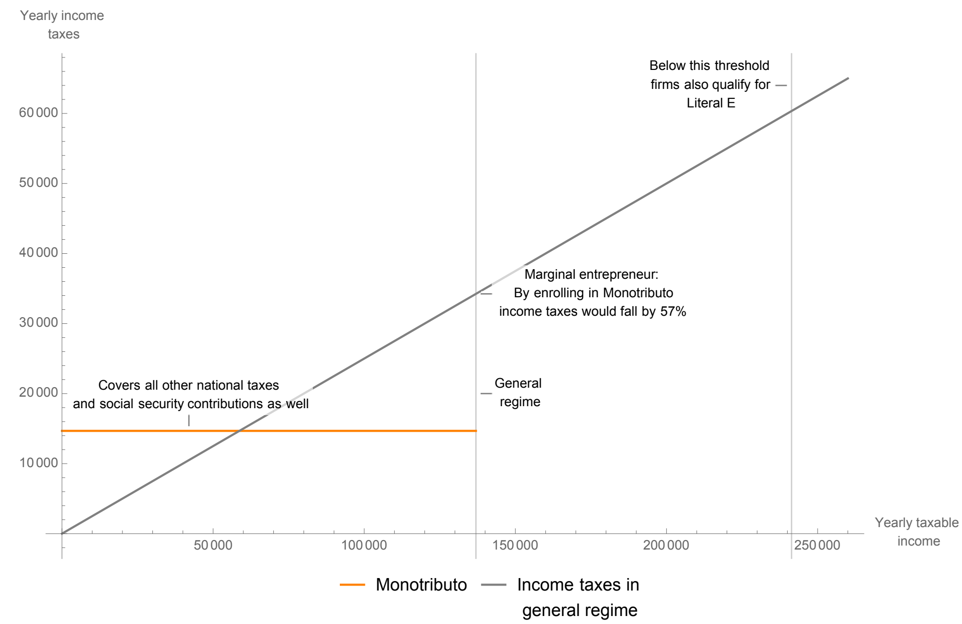
Social security contributions of the business owner	• The fee covers their social security contributions (except health insurance). • The individual may choose to contribute to the public health system.

- Special VAT regime: Literal E

Type requirements	• Both individuals and legal entities. • Freight transportation is excluded.
Size requirements	• Yearly revenues below 305,000 tax value units (UI, $3.4294 pesos in 2016).
Tax treatment: income and sales taxes	• Do no pay corporate income tax. • Pay only a monthly tax in pesos as VAT, which amounted to $2,950 in 2016.
Labor regulations	• No special provisions. That is, the business owner is required to pay the social security contributions of their employees.
Social security contributions of the business owner	• No special provisions. That is, the business owner is required to contribute to their own social security.

Effect of the Special Tax Regimes on the income tax schedule:

Figure 32: Income taxes paid under the Monotributo and the general regime in Uruguay (2016).



Notes: Amounts in Uruguayan Pesos. The exercise simulates the income taxes that would be paid by a business owner with a 30% markup.