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Concealed costs: illicit economies and the erosion of the local tax base in Colombia

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Abstract: Tax revenues are fundamental to state-building and development, particularly in the aftermath of conflict. Through the lens of the recent post-conflict experience of Colombia, this paper explores the challenges of increasing tax revenues amid violence and illicit economic activities. We study four factors that the literature has identified as key determinants of a country's local fiscal capacity: early land conflicts; historical political violence; recent political violence; and the prevalence of illegal economies. We find that municipalities exposed to these factors feature lower tax revenues, with illicit crops being the most important predictor of poor tax performance. As different types of taxes are similarly correlated with the prevalence of illicit crops, we posit that illegal economic activities likely cause a comprehensive erosion of local fiscal capacity. Our findings contribute to understanding how illegal economic activities crowd out the local tax base in post-conflict environments. Although the evidence offered in this paper is descriptive and does not establish causality, it highlights suggestive research avenues regarding the relationship between violence, illicit economies, and state capacity.

Key words: taxation, conflict, violence, Colombia

JEL classification: D74, H71, O10

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1   Introduction

The capacity to collect taxes is essential for state-building and development. Historically, governments' capacity to successfully mobilize resources to wage war and protect their territories has been a key determinant of institutional strength.[1] Basic functions of the state, such as the monopoly on violence and the protection of property rights, began to emerge around 3000 BCE, when those who wielded power sought to collect taxes on observable outputs to perform such functions.[2] Modern states are no exception, as taxes constitute the primary source of revenue to provide goods and services (Okunogbe and Tourek 2024). This is especially true in lower-income economies (Mourre and Reut 2019).[3]

What are the main challenges that developing economies must face to increase tax revenues? Focusing on the case of Colombia, this paper aims to provide suggestive descriptive evidence about the role of violence and illicit activities. Colombia is an ideal laboratory to examine this question for several reasons. First, the country experienced a 50-year internal conflict with many aspects, such as early land conflicts, political violence, and territorial contestation involving insurgent and counterinsurgent groups. Second, it has long been the main producer of cocaine, which requires the cultivation and processing of coca, a crop that grows in most parts of the country, and which further incentivizes violent disputes over the control of land for production and trafficking.

Third, many criminal and rebel organizations in the country deliberately compete with the state to provide goods and services, collecting taxes (not only in the form of extortion), and ultimately serving as para-states in large swaths of the territory (Arjona 2016; Blattman et al. 2024).

Finally, during the 1980s and 1990s, Colombia adopted an ambitious decentralization agenda to improve the capacity of local governments, essentially by enabling them to collect various types of taxes. Of these, two stand out:

1. the *trade and production tax*, which is paid by legal businesses on the basis of their income resulting from sales; and
2. the *property tax*, which is paid by households and businesses based on property valuation.

The tax bases and the tax rates of these duties are defined by the municipal administration (Ch et al. 2018), and their expenditure is not earmarked. Hence, revenues resulting from these taxes are good proxies for local fiscal capacity.

We describe four sets of stylized facts that connect different aspects of violence and territorial non-state governance with the evolution of local fiscal capacity. First, exposure to land conflicts during the early twentieth century—mainly triggered by the expansion of the agrarian frontier (LeGrand 2016; Lopez-Uribe and Sanchez 2024)—is correlated with lower local tax revenues. Specifically, we document that municipalities exposed to early land conflicts had 32% lower per capita tax revenues in the last decade compared to municipalities not exposed to such forms of violence.

Second, exposure to severe political violence in the mid-twentieth century is associated with lower per capita tax revenue. Between 1946 and 1966, Colombia experienced a bloody partisan civil war known as

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La Violencia. During this period, over 190,000 Colombians lost their lives, and an additional two million were displaced by the violence (Oquist 1980). We document that municipalities exposed to *La Violencia* had 18% lower per capita tax revenue in the last decade compared to municipalities not exposed.

Third, exposure to Colombia's modern internal conflict—featuring several guerrilla and paramilitary groups and measured at the peak of the conflict, between the 1990s and the early 2000s (Centro Nacional de Memoria Histórica 2013; Safford and Palacios 2002)—is also correlated with worse local fiscal capacity. Specifically, we show that municipalities exposed to the conflict had 6% lower per capita tax revenue in the last decade compared to other areas. Interestingly, we do not observe evidence of a higher correlation in the intensive margin, as different levels of conflict intensity of exposure are associated with similar levels of deterioration in local fiscal capacity.

Finally, the presence of illicit coca crops is correlated with lower tax revenues.[4] Specifically, we find that municipalities exposed to the presence of coca crops (of any size) had 34% lower per capita tax revenue in the last decade. In this case, we do observe suggestive evidence that the more extensive the illicit crops are, the larger the gap in fiscal performance.

The described magnitudes are similar for the trade and production tax revenues and the property tax revenues. This is important as it suggests that violence and illegal economies likely influence overall fiscal capacity. This is likely to occur via deterioration of both the collection (administrative) capacity and the tax base.

A key limitation of our analysis is its descriptive nature. In the absence of exogenous sources of variation for each one of the phenomena that we seek to correlate with local tax performance, we cannot make causal claims.[5] Furthermore, there is naturally some degree of overlap among the treatments that we study, with some municipalities simultaneously affected by two or more factors. For instance, it may be the case that early land conflicts are at least partially associated with current conflict dynamics. However, such a treatment overlap is surprisingly less common than we anticipated.[6] In spite of these limitations, we hope that the associations that we document are provocative enough to inspire future research.

This paper aims to contribute to our understanding of the relationship between armed conflict, illicit economies, and state capacity—with a focus on taxation. The relationship between exposure to violence and fiscal capacity goes in both directions. Violent conflicts often result from commitment problems, insufficient capacity to enforce contracts or resolve disputes (Fearon and Laitin 2003; La Ferrara and Bates 2001; Skaperdas 2008), low per capita income, and weak institutions, which reduce the opportunity cost of fighting (Justino 2009). Competition for resources also promotes insurrection by increasing the potential benefit of victory (Dal Bó and Dal Bó 2011; Garfinkel and Skaperdas 2007).[7] All these factors hinder the capacity of states to develop and implement sustainable fiscal institutions or, in many cases, determine the type of institutions that can be established (Sánchez De La Sierra 2020). Furthermore, rebel and criminal organizations often invest in gaining legitimacy, which may also be detrimental to the states' tax collection efforts (Arjona 2016; Blattman et al. 2024; Olson 1993; Tilly 1992). In the

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[4] Coca growing is the first step in the value chain of the cocaine industry. While coca is typically grown by peasants, criminal organizations exercise a large degree of territorial control over production zones, acting as de facto monopsonies. Hence, while the value added at this stage is relatively low compared to other phases, coca cultivation implies the presence of extensive illicit economies in production municipalities.

[5] In a companion paper, we explore quasi-random variation in the surge that coca crops experienced in Colombia since 2014 to estimate the effect of illegal drug production on local tax revenues (Justino et al. forthcoming). We find an economically large and statistically significant decrease in tax collection in areas where the coca economy expanded more.

[6] Around 35% of the municipalities were not exposed to any of the four factors, and about 60% were exposed to at most two of them. The remaining 5% were exposed to more than two treatments.

[7] See Blattman and Miguel (2010) for an in-depth literature review on these and other determinants of civil conflict.

end, criminal violence often resembles a competition to monopolize economic resources. Under this view, taxation is a contested resource, but other legal and illegal resources, such as mineral extraction, agricultural production, and control of ports and routes, are also at stake. When economic resources become strategic priorities, competing armed actors may diminish potential profits. Consequently, as we document in this paper, we should observe reduced tax collection in areas where the state competes with other armed actors.

2   Context

2.1   Conflict and violence in Colombia

Unequal access to land has been a persistent issue throughout Colombian history (Melo 2017). To access fertile land, peasants often migrated to wastelands and non-colonized areas, perpetuating a colonization process that started after independence in the early nineteenth century (Duncan 2015). This process occurred in a context of limited state capacity to enforce contracts and establish robust institutions of property rights protections and conflict management, creating fertile ground for often-violent land disputes.

Land conflicts were prevalent in the first decades of the twentieth century and followed a common pattern: a settler would establish a presence on unused land, enhance its agricultural suitability, and subsequently petition the state for land grants to secure property rights. However, large landowners would often claim these lands, leading to disputes (LeGrand 2016). Such contestation frequently escalated to broader political conflict, and was at the heart of both the political conflicts between liberals and conservatives (which ultimately caused *La Violencia* at the end of the 1940s (Melo 2017; Sánchez and Meertens 1983)) and the emergence of guerrilla movements in the 1960s, notably the *Revolutionary Armed Forces of Colombia* (FARC, from its Spanish acronym) and the *National Liberation Army* (ELN).[8]

The ongoing colonization process, coupled with a lack of state capacity, provided an environment conducive to these groups controlling land and acting as de facto states, mostly along the agrarian frontier (Duncan 2015). Predictably, the insurgent movements prompted the formation of counterinsurgency initiatives funded by local elites and initially armed and trained by the army. This took place especially in areas where the state failed to protect civilians and their properties. These groups also competed to control territories for rent extraction and, in some cases, provided services traditionally supplied by the state (Safford and Palacios 2002).

In the mid-1980s, violence was exacerbated by the cocaine boom (Centro Nacional de Memoria Histórica 2013). This economic windfall brought substantial financial resources to both insurgent and counterinsurgent paramilitary groups, enhancing their military capacities and territorial presence. From the mid-1980s to the end of the century, left-wing insurgencies quadrupled in size from about 4,000 combatants across 43 *fronts* to over 20,000 members present in more than half of the Colombian territory. Paramilitary groups also grew substantially (Safford and Palacios 2002). Moreover, the cocaine trade blurred the lines between insurgencies and groups involved in drug trafficking, as all parties engaged in the narcotics business.

Various peace processes have aimed to demobilize armed groups, with the most recent being the peace agreement between the Colombian government and the FARC, signed in 2016 and currently in the im-

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[8] Sánchez and Meertens (1983) point to the existence of over 100 armed groups by 1964, supported by local communities and political elites.

plementation phase.[9] While these efforts have sought to reduce rebellion-related conflict, the ongoing failure of the war on drugs and the rising demand for cocaine in developed countries have largely transformed the Colombian conflict into a struggle between warlords, drug trafficking organizations, and the remnants of old guerrilla and paramilitary organizations. Today, the conflict is less ideologically driven and more focused on resource control.

Motivated by this context, this paper explores how the different stages of violent conflict in Colombia are associated with variations in the fiscal capacity of municipalities. We focus on four forms of violence, the spatial variation of which we summarize in Figure 1: (1) early land conflicts (top-left panel); (2) mid-twentieth-century political violence in the context of *La Violencia* (top-right); (3) the peak of the modern armed conflict during the 1990s and early 2000s (bottom-left); and (4) the prevalence of coca cultivation (bottom-right). While there is apparent geographical overlap between these treatments, there is a relatively wide variation in the type and intensity of municipal exposure to conflict and illicit economies.

2.2 Tax decentralization in Colombia

In addition to a long history of conflict and criminal violence, exacerbated by the presence of illicit economies, Colombia has also struggled with limited state capacity across its territory. For instance, by the end of the nineteenth century, Colombia had only 0.002 bureaucrats per inhabitant, compared to 0.011 in the United States (Acemoglu et al. 2015). Similarly, fiscal revenues have been persistently low, with taxes representing 4–6% of GDP for most of the twentieth century, only reaching 14% after 2000 (Junguito and Rincón 2004).

In the early 1980s, Colombia began a decentralization process aimed at enhancing local fiscal capacity (Eaton 2006). Fiscal decentralization, embodied in Law 14 of 1983, mandated municipalities to collect two key taxes (with no earmarked expenditure): the trade and production tax and the property tax. This reform placed significant responsibilities on local governments, which often lacked the necessary administrative scope to establish effective tax collection systems.[10]

The trade and production tax is levied on formal businesses engaging in industrial, commercial, or service activities within a municipality's jurisdiction. It is paid annually based on the net income generated by their sales. The property tax applies to households and businesses, and is computed as a percentage of the property's cadastral valuation, which is typically an underestimate of the market value. This tax, also paid annually, aims to capture land value appreciation. These taxes represent the main investment vehicle of most Colombian municipalities, with per capita revenues increasing from virtually zero in the mid-1980s to more than US$100 in 2020.[11] Each type of tax represents roughly half of these revenues. Figure 2 reports the yearly evolution of the average trade and production tax and property tax revenues (as well as their sum).

In relative terms, both taxes represent a large share of total current municipality income—the aggregation of tax revenues, non-tax revenues such as fines or income from financial assets, and transfers from the national or provincial governments (Figure 3). Starting in 1996, both taxes have represented about one-quarter of total current income. The figure peaked in 1996, especially for the property tax, following the introduction of a tax reform that fostered increased cadastral valuations and determined that the national government had to assume the payment of property taxes for all land within indigenous territories.

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[9] Since the 1980s, there have been approximately 11 peace processes involving both insurgent and paramilitary groups.

[10] Further, Law 448 of 1998 allowed municipalities to implement and collect a gasoline tax, levied as a percentage of gasoline sales. We keep this tax out of the analysis as revenues are minor compared to the two duties described.

[11] Dollar figures adjusted for purchasing power parity.

Figure 1: Differential exposure to conflict and illicit economies at the municipal level in Colombia

☐ No land conflicts ■ Land conflicts   ☐ Not exposed to La Violencia ■ Exposed to La Violencia

☐ No armed conflict ■ Armed conflict   ☐ No coca crops ■ Coca crops
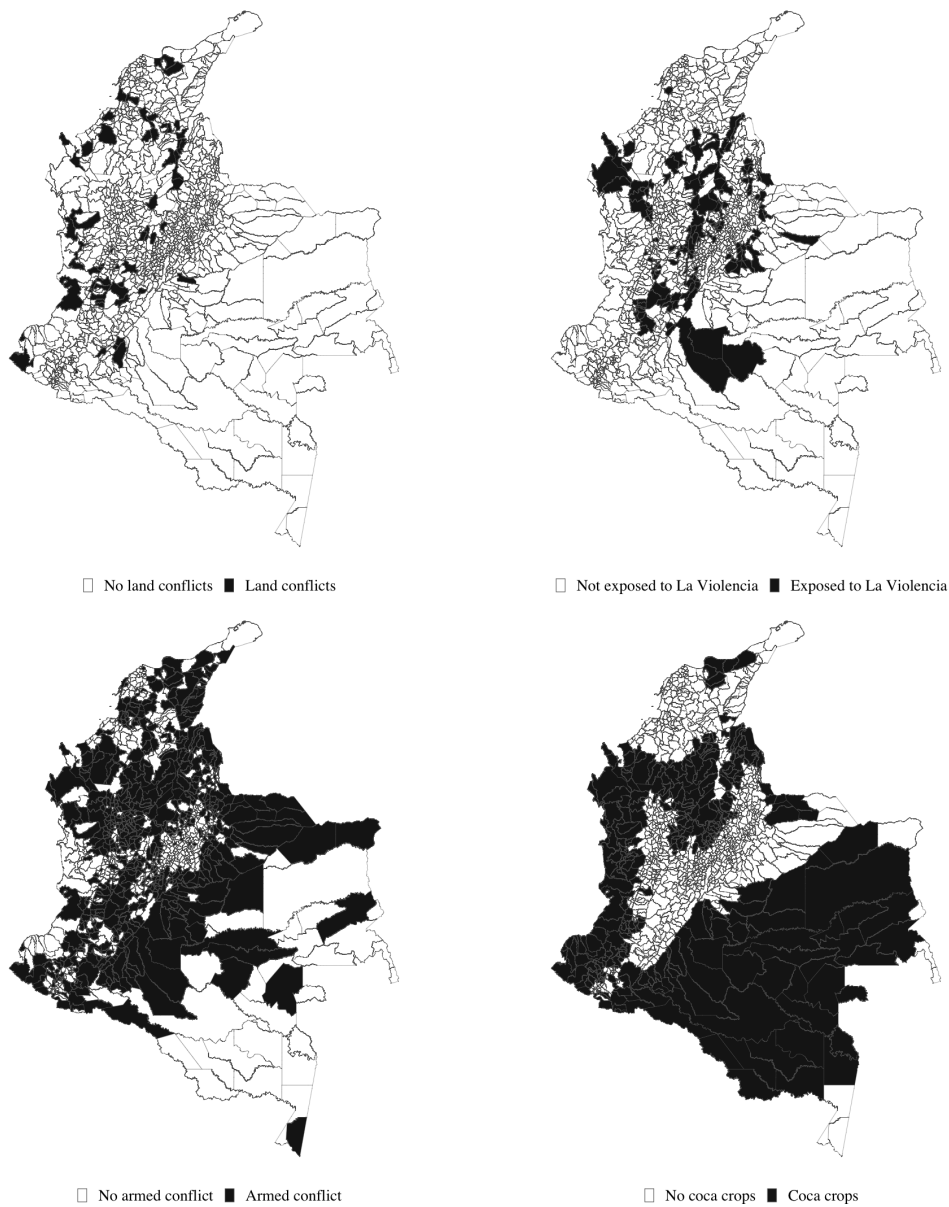
Note: the figure depicts municipality-level exposure to: early land conflicts (top-left), mid-twentieth-century political violence (top-right), the peak of the armed conflict during the 1990s and early 2000s (bottom-left), and the prevalence of coca cultivation (bottom-right).

Source: authors' compilation.

These averages conceal a wide heterogeneity in the relevance of both types of taxes across municipalities, both in absolute and relative terms. For instance, the range of the relative importance of each type of tax goes from 0 to 1 across all municipalities. In what follows, we explore the relationship between this variation and the distinct measures of violence and illegal economies.

Figure 2: Average tax revenue per capita per municipality for the trade and production tax and the property tax
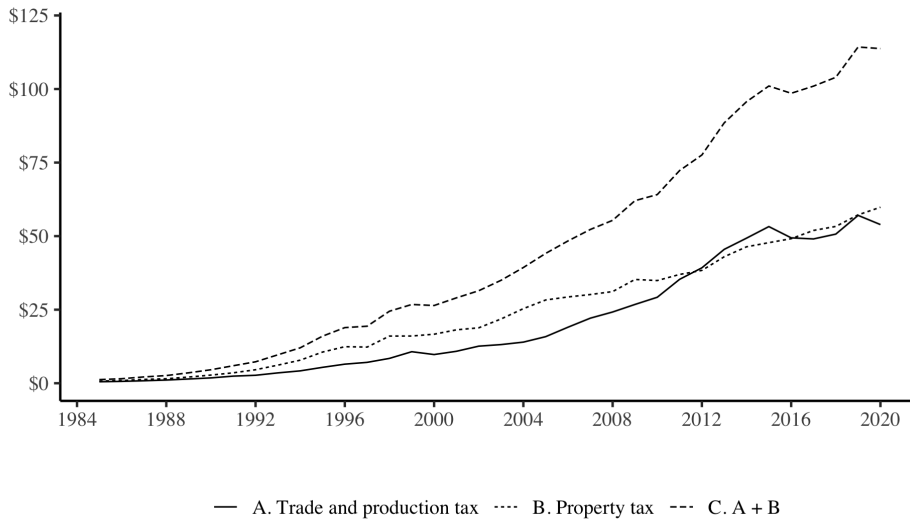
Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both, per municipality per year. Figures are in 2020 US dollars, adjusted for purchasing power parity.
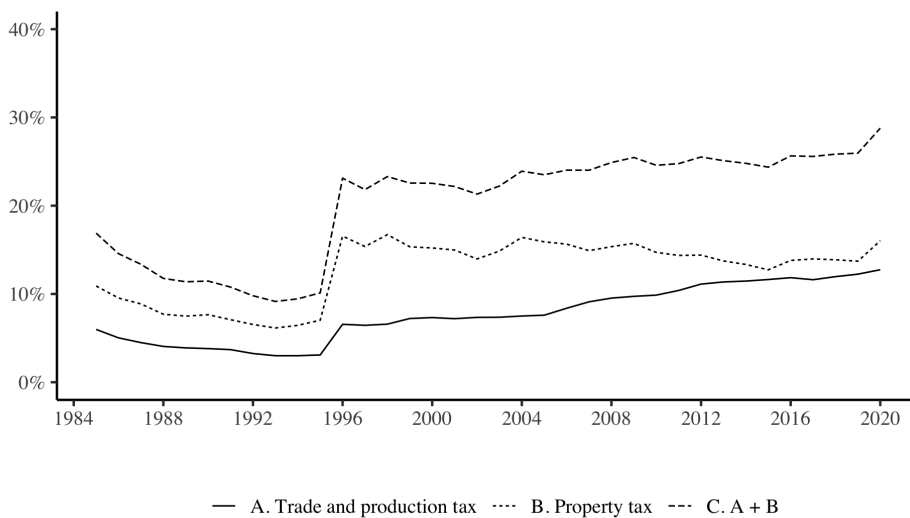
Source: authors' compilation.

Figure 3: Average tax-to-income ratio per municipality, for the trade and production tax and the property tax

Note: the figure depicts the evolution of the average tax-to-income ratio per municipality for the trade and production tax, the property tax, and both taxes.

Source: authors' compilation.

3   Data

3.1   Data sources

To descriptively examine the relationship between exposure to different forms of violence and local fiscal capacity, we use the following data sources:

Tax collection and municipal revenues   We use data on tax collection from the National Planning Department. This database includes yearly data on tax revenues at the municipality level from 1984 to 2020 from different sources.

Exposure to early land conflicts and political violence We use data on land conflicts from LeGrand (2016), who coded an indicator that identifies municipalities where settler families resisted land seizures by entrepreneurs and large landowners during the period 1901–31. Instead, for the *La Violencia* period, we rely on Fergusson et al.'s (2020) coding of an indicator that identifies the municipalities most affected by bipartisan political violence between the late 1940s and early 1960s, based on the National Police.

Exposure to the peak of the modern armed conflict We use data on attacks against the civilian population by insurgent and counterinsurgent paramilitary groups. This dataset includes the number of attacks per year per group against civilians from 1993 to 2010. In our analysis, we use these data in two different forms. First, to examine the extensive margin, we build a dummy variable indicating any incidents or attacks. Second, to examine the intensive margin, we use the continuous rate of attacks to split the sample between municipalities with high and low exposure. The raw data were produced by the National Police of Colombia, and then organized and updated by the Centro de Estudios sobre Desarrollo Económico from Universidad de los Andes (Acevedo and Bornacelly Olivella 2014).

Presence of coca crops Finally, we use data on the presence of coca crops. This database compiles coca crops per grid of approximately 1 km^2 per municipality per year starting in 2000. Our analysis uses these data in two different ways. First, to examine the extensive margin, we build a dummy variable indicating any presence of coca crops. Second, to examine the intensive margin, we use a continuous measure of the extension of coca crops to split the sample into municipalities with high and low incidence of coca cultivation. The data are from the United Nations Office on Drugs and Crime (UNODC Colombia 2021).

3.2 Descriptive statistics

Table 1 presents descriptive statistics for our sample period for all of the municipalities in Colombia. Property taxes are the most important taxes, followed by trade and production taxes, with an average of US$24.7 and US$20.9 per person per year (panel A). Relative to total current income, the property tax represents about 13% per municipality per year, while the trade and production tax represents roughly 8% per municipality per year (panel B).

About 5% of all municipalities were exposed to early land conflicts, while 13% were exposed to political violence during the period of *La Violencia*. Furthermore, 52% of all municipalities were affected by the incidence of at least one attack by either insurgent or counterinsurgent groups, with wide variation in the intensity of these attacks. About 28% of all municipalities reported the presence of coca crops during any point in time starting in 2000, with municipalities also exhibiting wide variation in its incidence (panel C).

Finally, panel D provides descriptive information on geographic municipal characteristics. Our analytical sample includes all municipalities with fewer than 200,000 residents (97%). We exclude larger metropolises as the incidence of violence was minor and local fiscal capacities exhibit different patterns associated with dense urbanization and development (see Appendix Figure A1 for an illustration with local tax revenues).

Table 1: Descriptive statistics

	Mean (1)	S.D. (2)	Min. (3)	Max. (4)	N (5)
A. Tax revenue per capita					
Property taxes per capita	24.69	46.99	0.00	1,645.42	36,867
Trade and production taxes per capita	20.90	69.91	0.00	2,105.40	36,867
B. Tax-to-income ratios					
Property tax-to-income ratio	0.13	0.11	0.00	0.95	36,872
Trade and prod. tax-to-income ratio	0.08	0.11	0.00	1.00	36,872
C. Factors					
Early land conflicts	0.05	0.22	0.00	1.00	1,122
La Violencia period	0.13	0.34	0.00	1.00	1,122
Insurgent and counterinsurgent violence (dummy)	0.52	0.50	0.00	1.00	1,122
Insurgent and counterinsurgent violence (continuous)	2.72	5.80	0.00	83.00	1,122
Coca crops 2000–20 (dummy)	0.28	0.45	0.00	1.00	1,122
Coca crops 2000–20 (continuous)	95.36	624.21	0.00	8,133.66	1,122
E. Geographic characteristics					
Cities with pop. $\geq$ 200,000	0.03	0.17	0.00	1.00	1,122
Distance to Bogotá (km)	321.55	194.64	0.00	1,270.85	1,122
Distance to the department's main city (km)	81.46	60.57	0.00	493.08	1,122
Altitude (masl)	1,132.64	919.93	1.00	3,350.00	1,122
Area (km^2)	1,017.60	3,201.21	15.00	65,674.00	1,122

Note: columns (1)–(5) report summary statistics for the whole sample of Colombian municipalities. Tax revenue per capita is in 2020 US dollars, adjusted for purchasing power parity.
Source: authors' compilation based on the data sources listed in Section 3.1.

4 Descriptive stylized facts

4.1 Early land conflicts

We begin by examining the evolution of local tax revenues in municipalities exposed to early land conflicts from 1901 to 1931, which resulted from disputes over land claims between settlers and large landowners following the arrival of new settlers to rural areas. Figure 4 presents the results. Panel A examines the trade and production tax, panel B focuses on the property tax, and panel C shows both. The values refer to average tax revenue per capita, averaged across municipalities in our sample. We split the sample according to a dummy indicating the extensive margin municipal exposure to land conflicts (roughly 5%).

We observe a difference in tax revenues for both types of taxes. This difference grows over time, reaching 40% for the trade and production tax and 25% for the property tax in 2020. The difference in total tax revenues, considering the average revenues over the last ten years, amounts to 32%.

Figure 4: Average tax revenue per capita per municipality, by exposure to early land conflicts
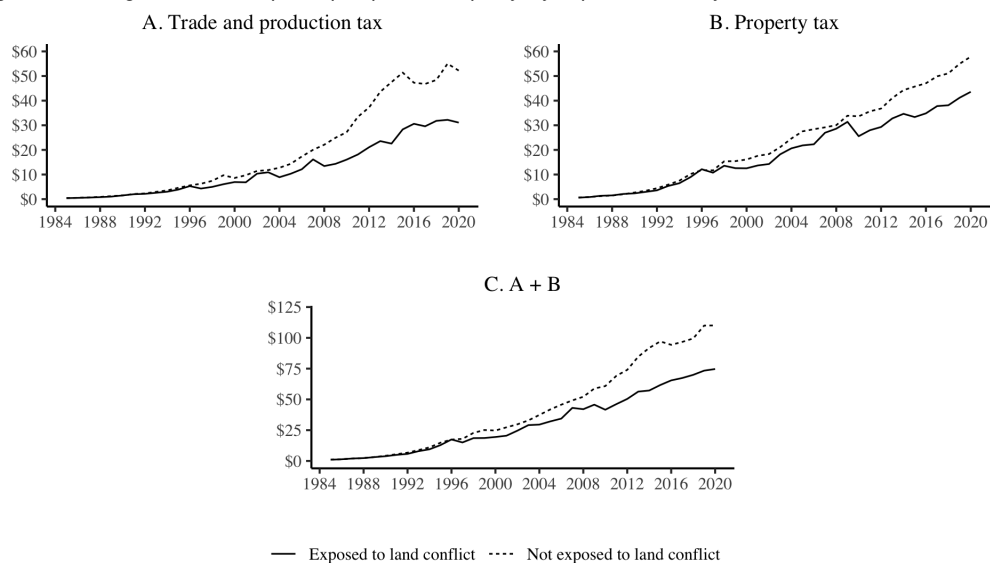
A. Trade and production tax

B. Property tax

C. A + B

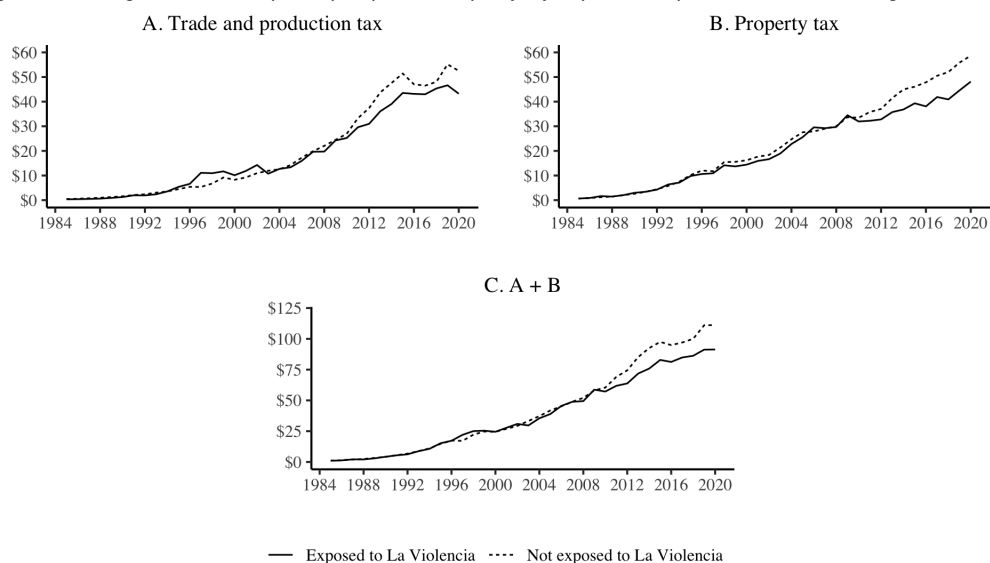— Exposed to land conflict ···· Not exposed to land conflict

Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. The sample is split by municipalities exposed to early conflicts (continuous line) and not exposed (dashed line). Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.

4.2 Political violence during *La Violencia*

Next, we explore the evolution of local tax revenues in municipalities exposed to extreme political violence during the *La Violencia* period (1946–66), when about 190,000 people were killed and two million forcibly displaced. Figure 5 reports the results. As in our analysis for early land conflicts, panel A examines the trade and production tax, panel B focuses on the property tax, and panel C shows both. We split the sample according to a dummy indicating the extensive margin of the municipal exposure to political violence (about 13%).

Figure 5: Average tax revenue per capita per municipality, by exposure to political violence during *La Violencia*

A. Trade and production tax

B. Property tax

C. A + B

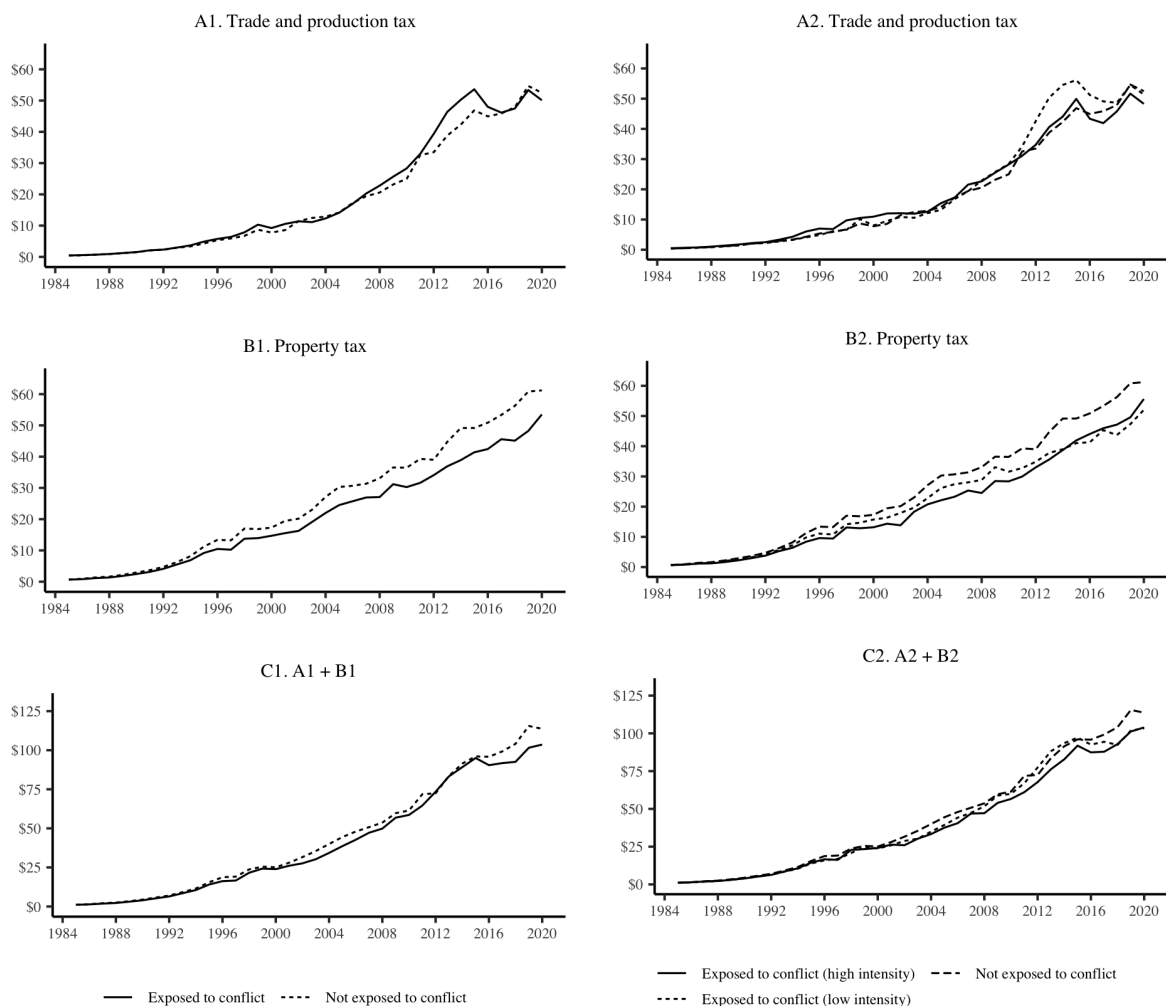— Exposed to La Violencia ···· Not exposed to La Violencia

Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. The sample is split by municipalities exposed to *La Violencia* (continuous line) and not exposed (dashed line). Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.

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We observe a difference in tax revenues for both types of taxes. This difference, however, is less pronounced than the one we observe for municipalities affected by historic land conflicts. The difference nonetheless also grows over time, reaching about 18% for the trade and production tax and the property tax in 2020. The difference in average revenues over the last ten years is also about 18%.

4.3   The peak of the armed conflict

Third, we examine the evolution of local tax revenues in municipalities exposed to insurgent or counterinsurgent violence during the peak of the modern civil conflict, from the 1990s to the early 2000s. This was a period of expansion by guerrilla and paramilitary groups, which exercised intense violence (especially against civilians) as they tried to establish territorial control. Figure 6 reports the results. In the left-side panels we focus on the extensive margin of exposure to violence. That is, we compare municipalities exposed to any type of attack (around 52% of all municipalities) to other municipalities. We observe a growing difference in property tax revenues that reaches 13% in 2020, with trade and production tax revenues being relatively unaffected. Aggregating both, the gap remains. The difference in average revenues over the last ten years is about 9%.

Figure 6: Average tax revenue per capita per municipality, by exposure to the peak of the armed conflict

Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. On the left, the sample is split by municipalities exposed to armed conflict in the 1990s (continuous line) and not exposed (dashed line). On the right, the sample is split by municipalities exposed to high-intensity armed conflict in the 1990s (continuous line), low-intensity armed conflict in the 1990s (small-dashed line), and not exposed (dashed line). Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.

In the right-side panels we examine one approximation to the intensive margin that splits municipalities between those above the median number of attacks (high intensity) and those below the median number of attacks (low intensity). The results suggest any level of exposure to these forms of violence leads to a similar deterioration in local fiscal capacity.

4.4 Prevalence of coca cultivation

Fourth, we look at the evolution of local tax revenues in municipalities exposed to coca cultivation. While this is the first stage in the cocaine industry's value chain—and perhaps the one with the lowest value added—it largely captures the territorial control exercised by criminal organizations in order to secure their product. Figure 7 reports the descriptive findings. As before, the left-side figures focus on the extensive margin, comparing municipalities with any presence of coca crops (28%) with the rest. We observe a large and fast-growing difference in both trade and production tax and property tax revenues. The difference in 2020 is 38% and 32%, respectively. Aggregating both, the difference in average revenues over the last ten years amounts to 35%.

Figure 7: Average tax revenue per capita per municipality, by exposure to illicit coca crops
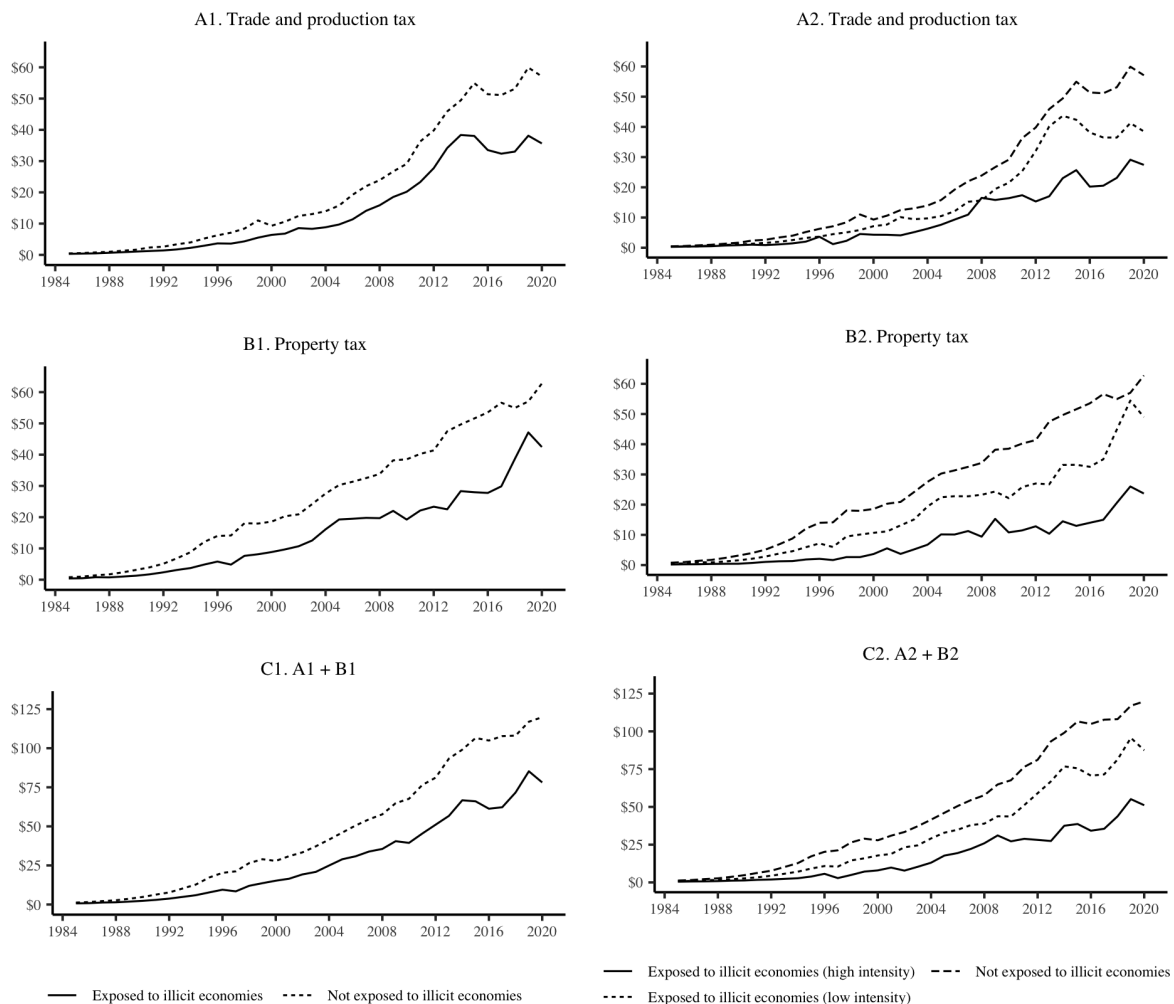
Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. On the left, the sample is split by municipalities with coca crops (continuous line) and without coca crops (dashed line). On the right, the sample is split by municipalities with high-intensity coca crops (continuous line), low-intensity coca crops (small-dashed line), and without coca crops (dashed line). Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.

In the right-hand panels we examine the intensive margin by splitting the sample of exposed municipalities at the median extension average coca cultivation over the sample period. The results suggest a relatively clear monotonic pattern: the higher the incidence of coca crops, the more affected are all forms of tax revenues. By 2020, the difference between municipalities with the highest exposure to coca crops and the rest adds up to 8% and 9%, respectively, for trade and production tax and property tax revenues. Aggregating both, the average difference across the last ten years between these two groups of municipalities is 63%.

4.5 Multiple forms of violence and illegality

Finally, we examine whether exposure to multiple forms of violence and illegality exacerbate the deterioration in local fiscal capacity. These could interact in different ways once manifested in a single municipality. Hence, to avoid being too speculative, we conduct a simple exercise that does not intend to be comprehensive about these type of interactions. The results are shown in Figure 8.

Figure 8: Average tax revenue per capita per municipality, by exposure to different forms of conflict and violence
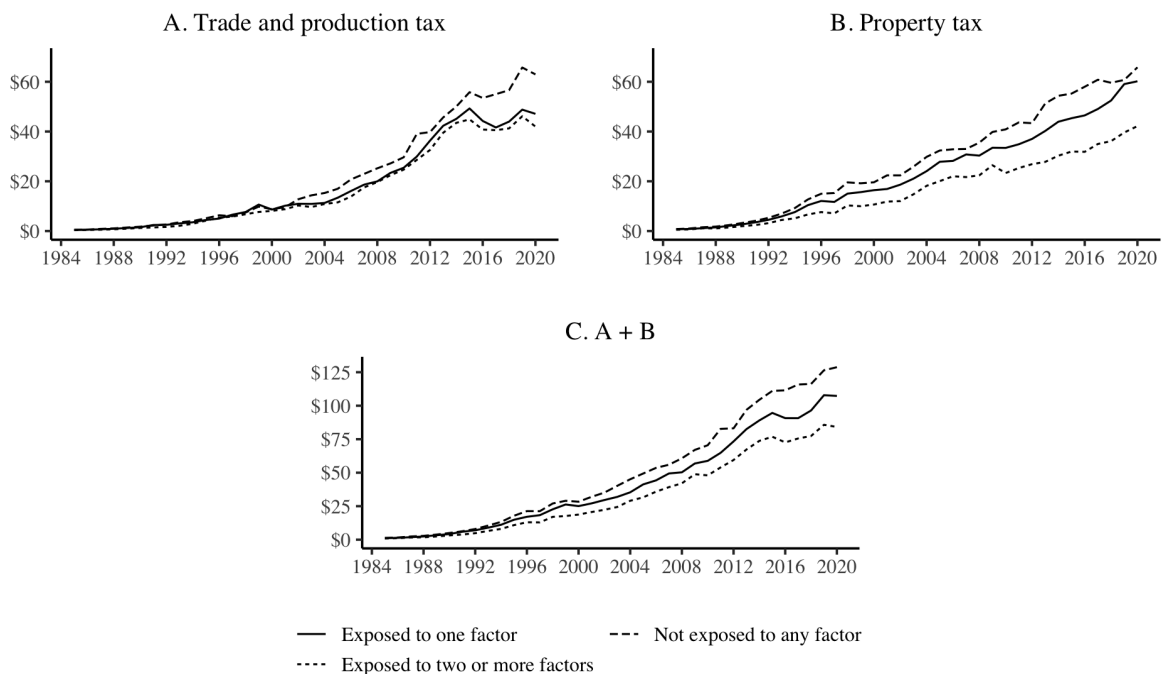
Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. The sample is split by municipalities exposed to one of the factors presented above (continuous line), two or more factors (small-dashed line), and not exposed (dashed line). Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.

We split the sample into three groups of municipalities: those affected by two or more of the four factors (27%), those affected by only one factor (38%), and those not affected by any factor (35%). We observe that the deterioration of local fiscal capacity increases as more forms of violence and illegality are present in a municipality. In all cases, the municipalities that are most affected are at the bottom of the average tax revenues per capita, while those unaffected exhibit the highest revenues. By 2020, the difference in trade and production tax revenues is about 33% between municipalities exposed to two or more factors and unaffected municipalities. For property tax revenues this difference amounts to 35%. Finally, if we consider both types of taxes and average revenues during the last ten years, the difference in revenues between these two groups of municipalities is 32%.

5   Discussion and conclusions

This paper examines the intersection of violence, illicit economies, and local tax revenues in Colombia, a nation that has endured prolonged internal conflict, political violence, and extensive criminal activities. Colombia implemented a series of decentralization reforms starting in the 1980s, aimed to improve local fiscal capacity by mandating municipalities to collect trade and production taxes along with property taxes. These conditions create a unique environment to study the challenges faced by developing economies in enhancing their tax revenues, especially those affected by dire conflicts.

The main findings indicate that exposure to violence and conflict is associated with lower local tax revenues per capita. First, municipalities exposed to historic land conflicts driven by disputes over land claims between settlers and large landowners (at the dawn of the twentieth century) collected 25% fewer taxes in recent years compared to unaffected municipalities. Second, municipalities exposed to political violence during the *La Violencia* period in the middle of the same century resulted in affected municipalities collecting 13% fewer taxes in the last decade. Third, places exposed to violence by insurgent or counterinsurgent groups during the peak of Colombia's modern armed conflict collected 6% lower taxes in the last decade. Moreover, higher intensity of conflict exposure correlated with larger tax collection gaps. Lastly, municipalities with coca crops, central to the cocaine industry, collected 34% fewer taxes, with the extent of coca cultivation correlating with lower tax revenues. These factors similarly impacted both trade and production taxes and property taxes, indicating broad effects on local fiscal capacity.

These stylized facts suggest different avenues to enhance economic development policies in conflict-affected areas. For instance, research also conducted in Colombia documents how land formalization programmes affect incentives for coca cultivation. Muñoz-Mora et al. (2018) examine the impacts of several efforts in land formalization in the country and find that providing peasants with formal titles reduces the expansion of coca crops. The study also provides evidence on one potential mechanism: improving institutional conditions allows peasants to benefit more from substituting their crops—for example, formal land ownership facilitates access to credit markets to invest in legal crops. In terms of local tax revenues, land formalization not only would prevent coca crops from expanding, but would imply peasants and landowners are more entrenched, incentivizing property tax payments. Formalization also facilitates the protection of property rights by formal mechanisms, reducing the chances of conflict and other forms of violence that reduce tax revenues (Ch et al. 2018). Finally, formalizing the economy—beyond property—can improve other taxes such as the trade and production tax. One key challenge that the Colombian economy faces is the large extent of the informal economy, induced by complex taxation rules and other policies.

Future research should explore causal relationships between conflict, illicit economies, and fiscal capacity using more granular data and clean identification strategies. Understanding the solutions is also important, testing how alternative policies can mitigate the damage that conflict, violence, and illicit economies induce on local fiscal capacity.

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Appendix A

Figure A1: Average tax revenue per capita per municipality (for municipalities above and below 200,000 residents), for the trade and production tax and the property tax
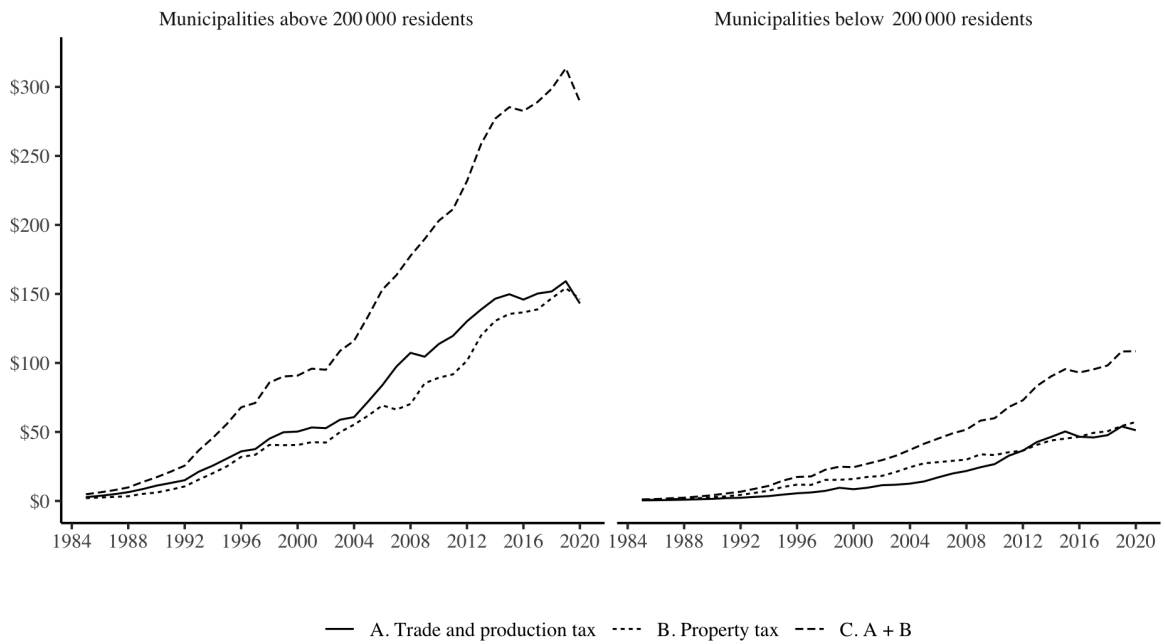
Note: the figure depicts the evolution of the average trade and production tax per capita revenues, property tax per capita revenues, and both together, per municipality per year. The sample is split by municipalities above 200,000 residents on the left and below 200,000 residents on the right. Figures are in 2020 US dollars, adjusted for purchasing power parity.

Source: authors' compilation.