Firms as tax collectors

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Motivation

- Governments at all levels struggle to raise revenue and build tax capacity
- Large-scale compliance requires govts to modernize tax administrations
  - Recent evidence of dramatic returns to improved tax admin [Basri et al AER'21]

- **Withholding regimes** as a policy tool:
  - Collection systems where 3rd parties collect/remit taxes owed by related parties
  - e.g., income tax, VAT built-in mechanism, credit card companies

  [Besley & Persson, 2013; Waseem, 2020; Brockmeyer & Hernandez, 2019]

- Withholding of indirect taxes is widespread, but largely understudied

This paper

What are the implications of delegating tax collection duties on firms?

1. Do withholding regimes lead to an increase in **revenue**? **YES**
2. Does delegating collection duties on firms affect their **own activity**? **NO**
3. Does it affect the **activity of linked firms** (suppliers or clients)? **YES**

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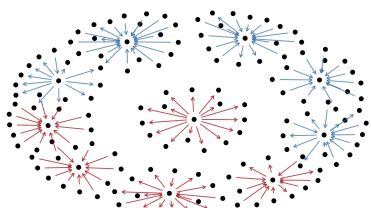
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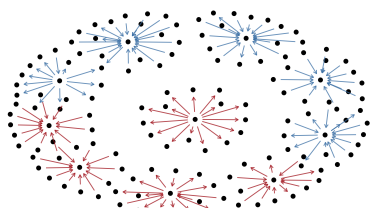
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- Monthly **B2B admin data** in the City of Buenos Aires, Argentina
- An unprecedented **reform** that changed how business tax is collected, holding all else constant (tax base, tax rates, etc.)



The reform: A sharp increase in the # of collection agents (CAs)

- Subnational **Turnover Tax**

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  2. Withholding by CAs

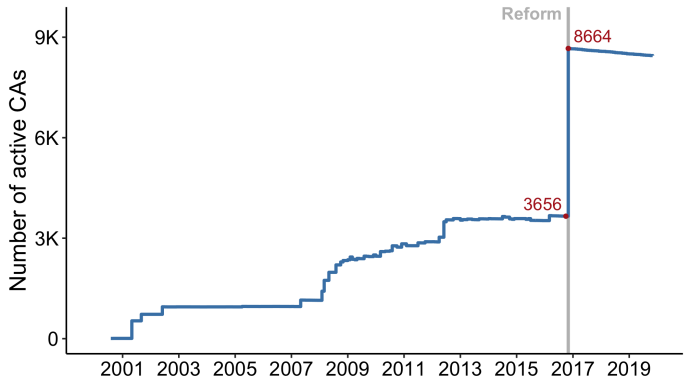
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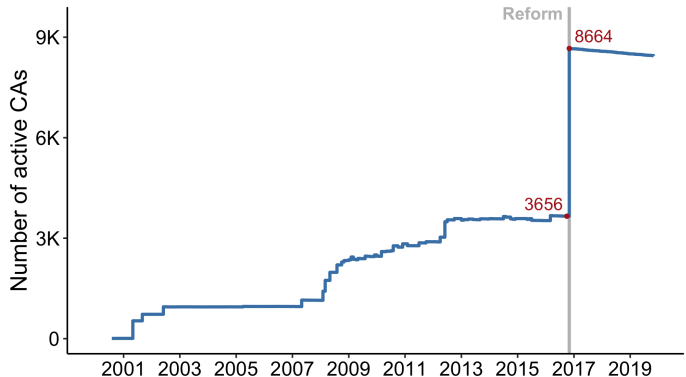
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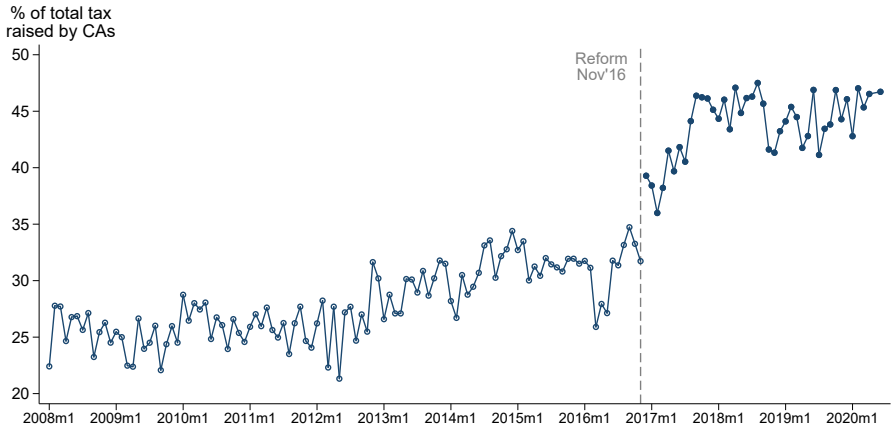


Implication: More tax collected at source by CAs *in lieu* of direct payments

Macro evidence

Withholding

Increase in tax collected through withholding ($\sim$ 30% to 45%)



Indirect effect on linked firms

Strategy & First Stage

Strategy:

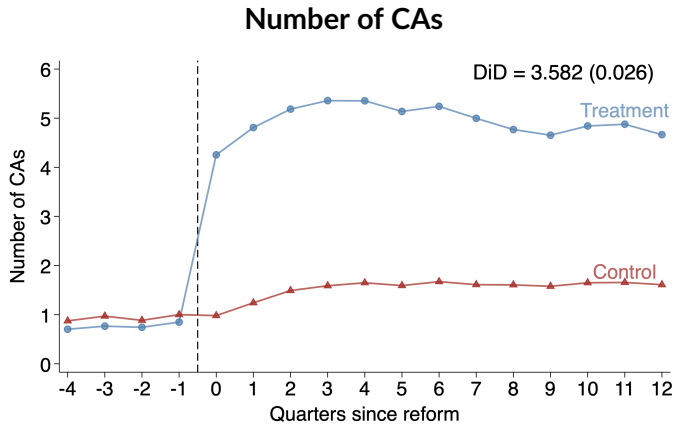
- Firms not directly targeted by the reform; but linked to CAs
- **Diff-in-Diffs:** **exposure** to new CAs
- Control: linked to old CAs
- Treatment: linked to new CAs

Indirect effect on linked firms

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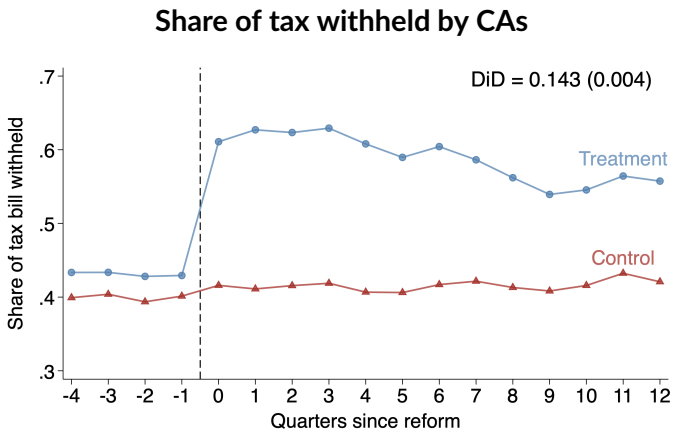


Indirect effect on linked firms

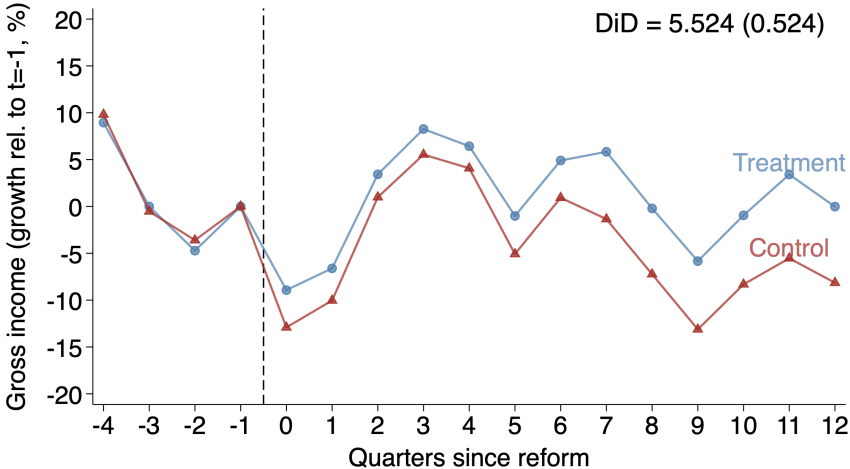
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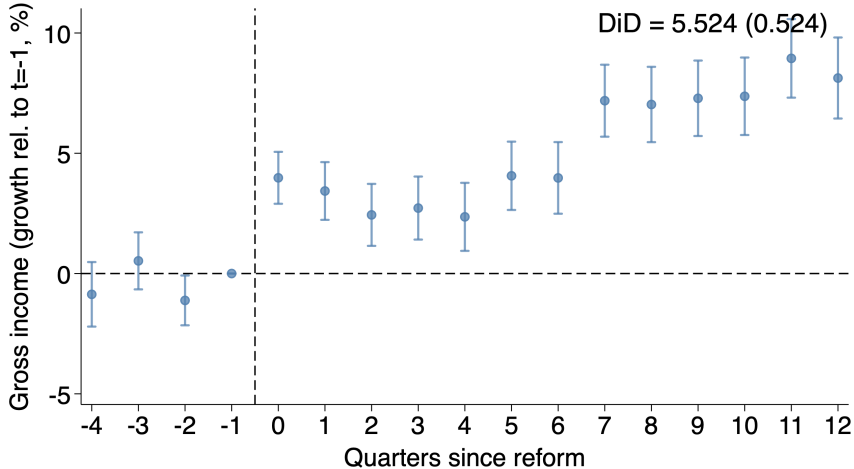
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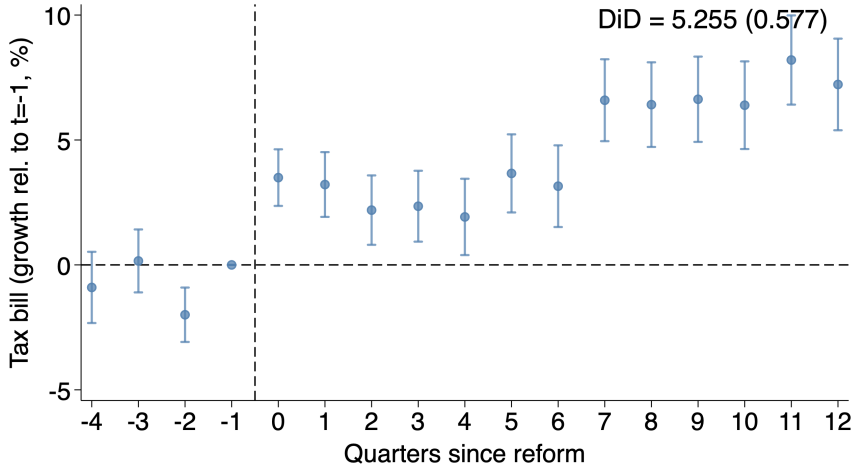
Response of linked firms: Gross income (levels)



Response of linked firms: Gross income (DiD)



Response of linked firms: Tax liability (DiD)



Closing remarks

Appointing firms as tax collectors is a promising tax administration tool

1. Does not harm the activity of the **collector**
2. Leads to increased reported income of **linked firms**
3. Overall, increases **tax revenue**

How? Implications for linked firms Conceptual framework

- Third-party information reporting $\rightarrow$ **enforcement perceptions**
- Withheld amount $\rightarrow$ imposes a **lower-bound** on self-reported sales & tax owed

Next step

- Did policy distort choice of trade partners away from CAs? A priori, no

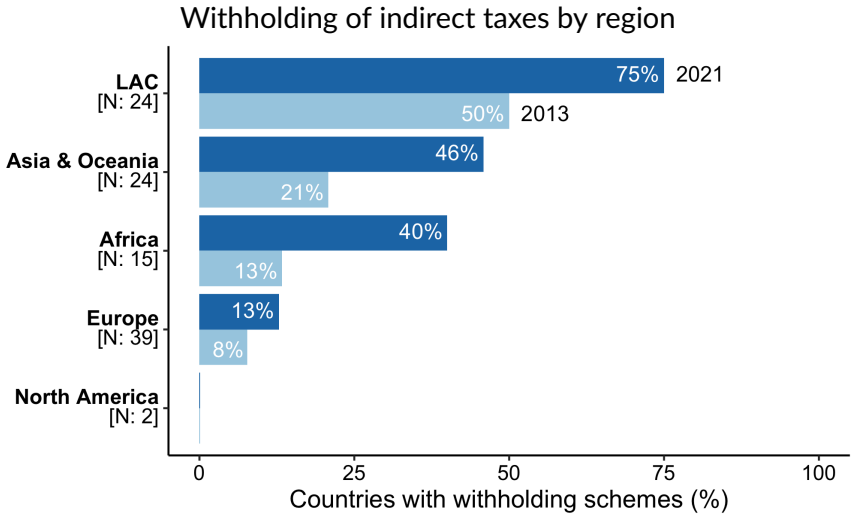
Thank you!

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Appendix

Related literature

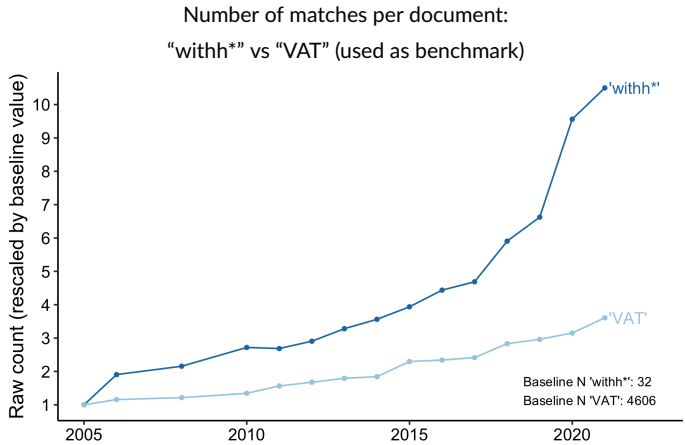
- Tax capacity, compliance, and development
  - Musgrave (1969), Besley & Persson (2013), Slemrod & Yitzhaki (2002), Keen & Slemrod (2017), Basri et al (2021), Bergeron et al (2021)
- Behavioral responses to tax collection & info reporting
  - Remittance invariance: Slemrod (2008, 2019), Pessina (2020), Kopczuk et al (2016)
  - Info reporting: Pomeranz (2015), Carrillo et al (2017), Almunia & Lopez-Rodriguez (2018)
  - Withholding: Waseem (2020), Brockmeyer & Hernandez (2019), Carrillo et al (2011)
- Network effects of taxation schemes
  - Gadenne et al (2020), Gerard et al (2019)



Notes: Text analysis using Ernst & Young's "Worldwide VAT, GST and Sales Tax Guide".

Details of the previous figure:

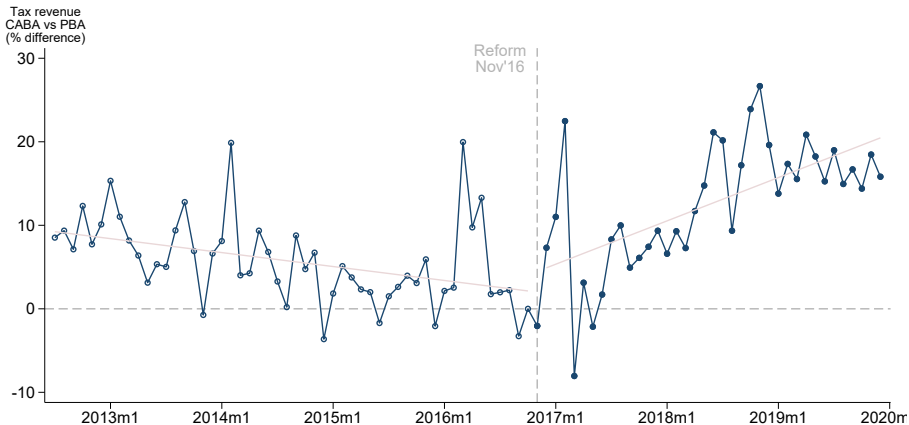
- Text analysis of EY's reports:
  - Match strings containing "withh*" (e.g., "withholding, withheld, withhold", etc.)
  - Split into country chapters where possible (2013 onwards)
  - Binary indicator if a country's chapter contains any matching strings
- There's a sharp increase in the number of matches over time



Macro evidence

Tax revenue

Increase in tax revenue (relative to a comparable district)

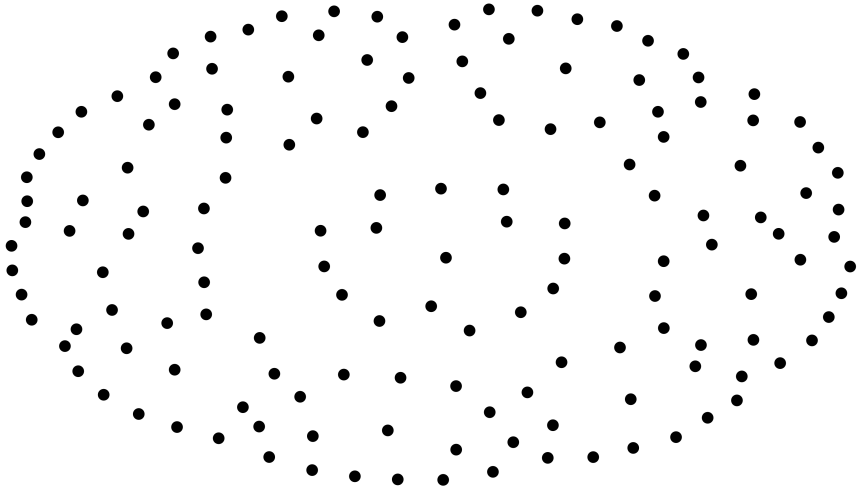


Administrative Data

- Universe of taxpayers: 1M firms
- Sample: 250K firms
  - 78% of total TT revenue
- Period: Sep 2015 – Dec 2020
- Observe monthly filings for all firms
- Observe B2B transactions for 3000 CAs and their partners

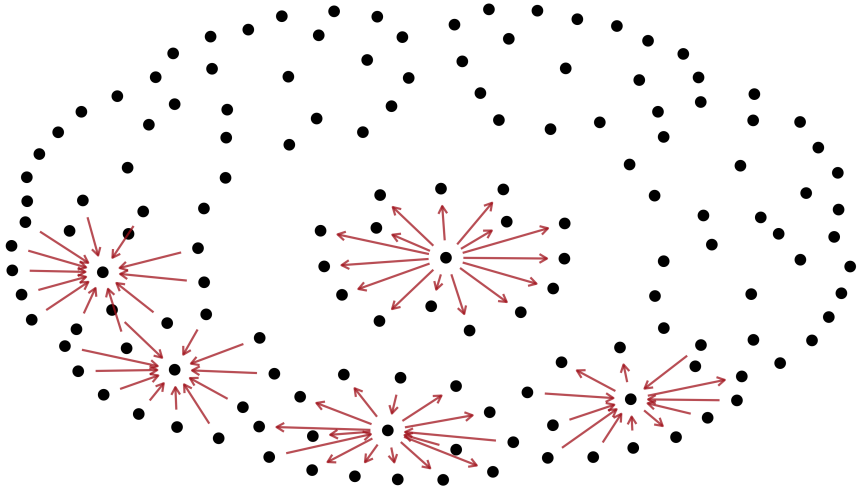
Admin Data: Networks

Example



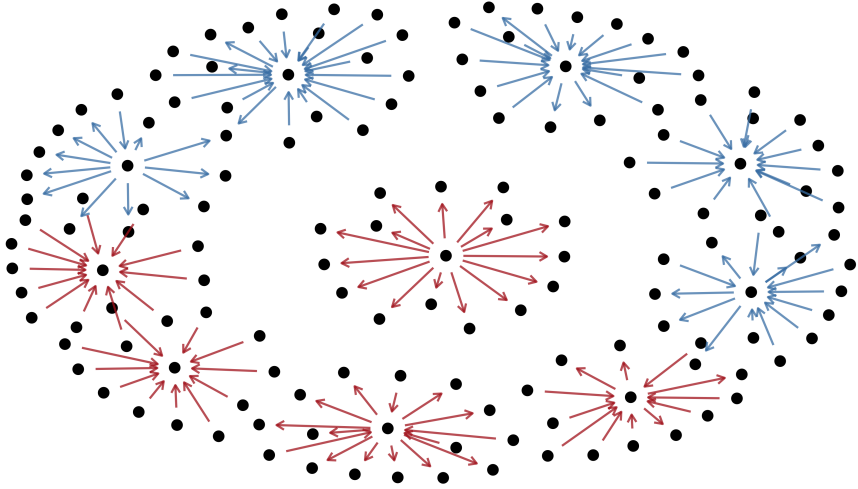
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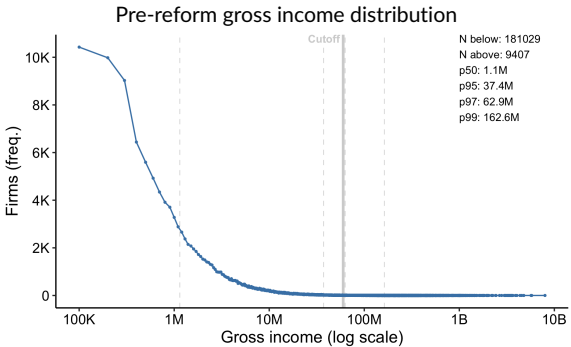
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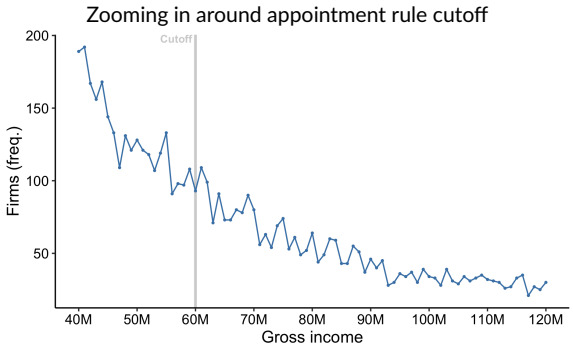
Example



Admin Data

Firm size distribution

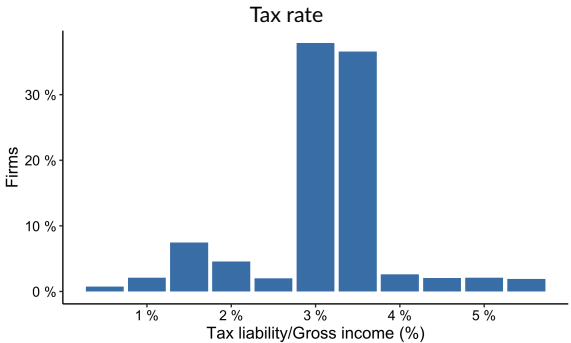


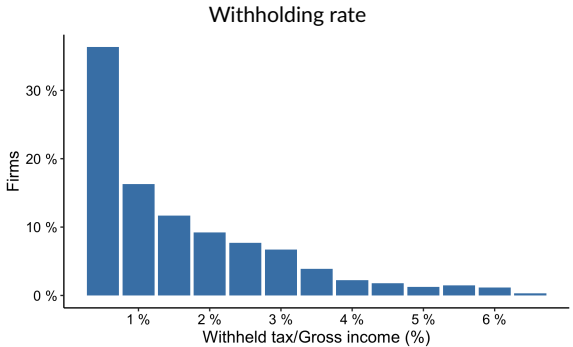


Notes: Gross income bins of size 100K and 1M AR$ ($\sim$ 8K and $\sim$ 80K $), respectively; "Cutoff" indicates the location of income threshold; Dashed lines indicate p50, p95, p97, p99, respectively; Showing relevant part of support in each plot.

Admin Data

Tax rates





Notes: Average annual rates by taxpayer.

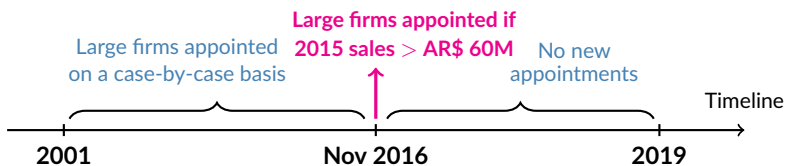
Turnover Tax & Collection

- **Subnational Turnover Tax**
  - Tax base: levied on gross income, no deductions for expenses
  - Tax rates: typically vary from 1% to 5%
  - Applies to B2B and B2C transactions (classic “cascading effects”)
  - Applies to local and out-of-jurisdiction transactions
  - Distortive but simple: Largest source of own revenue ($\sim$ 75%)
  - Imposed in each of the 24 jurisdictions in Argentina
    Note: **National VAT** (built-in self-enforcing incentives already in place)
- Tax collection:
  - Monthly electronic filing
  - Outstanding balance = tax owed − amount withheld by CAs (if any)
  - We exploit an exogenous and sharp increase in the number of CAs

The reform

Indirect collection of Turnover Tax

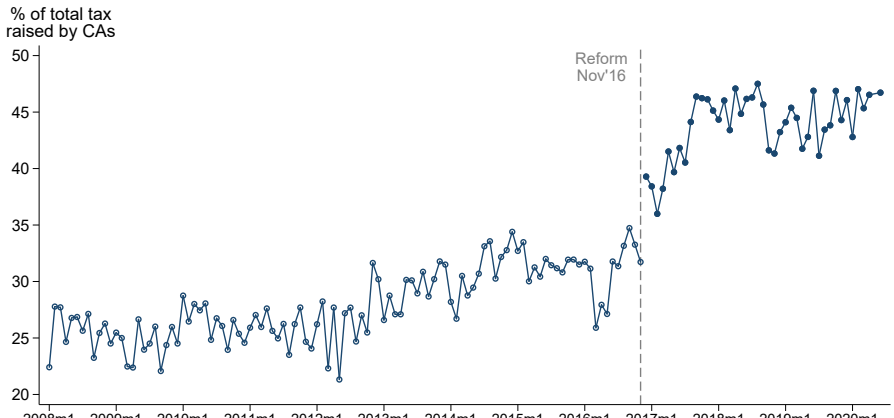
- Provinces rely on Turnover Tax as the main source of revenue
- **Historically**: part of the tax payed through direct payments, some firms acted as collection agents (CAs) and withheld the rest
  - Buyer: subtract a portion of the tax from suppliers' invoice
  - Seller: charge a portion of the tax on clients' invoice
- **Nov 2016 reform**: a substantial # of firms appointed as CAs
  - **Rule**: firms with 2015 annual sales $>$ AR$ 60M ($\approx$ p97)
  - More tax collected at source by CAs *in lieu* of direct payments



Macro evidence

Withholding

Increase in tax collected through withholding ($\sim$ 30% to 45%)



Empirical strategy

$$y_{it} = \sum_{\tau=-q}^{-1} \delta_\tau \cdot D_{i\tau} + \sum_{\tau=0}^{m} \beta_\tau \cdot D_{i\tau} + \theta_i + \gamma_t + \varepsilon_{it}$$

- i indexes firms and t calendar-quarters
- $D_{i\tau}$: event-study indicator for each quarter relative to the baseline period
  - Baseline period: Nov16-Jan17
- θ_i firm FE, γ_t calendar-quarter FE
- SE clustered by firm
- Balanced panel of firms

Conceptual framework

Tax collection mechanisms

Direct payment

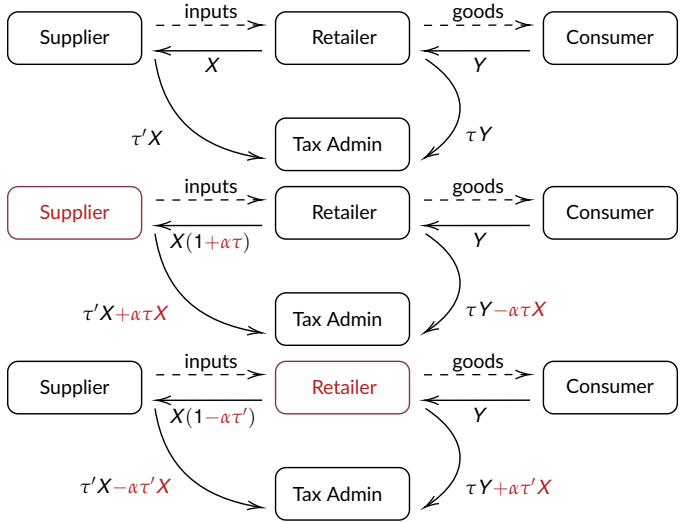
- $\tau' X, \tau Y$ self-reported

Withholding (Seller)

- Supplier now charges $X(1+\alpha\tau)$ with $\alpha \in (0,1)$
- Remits $\alpha\tau X$ to TA
- Retailer only owes $\tau Y - \alpha\tau X$

Withholding (Buyer)

- Retailer now pays $X(1-\alpha\tau')$ with $\alpha \in (0,1)$
- Remits $\alpha\tau' X$ to TA
- Supplier only owes $\tau' X - \alpha\tau' X$



Conceptual framework

Tax collection mechanisms

Withholding through CAs implies **2 main changes on tax payments**

- **WHEN**: tax filing date (end of the month) vs in advance (at source)
- **WHO**: direct payment vs withheld amount remitted by 3rd party

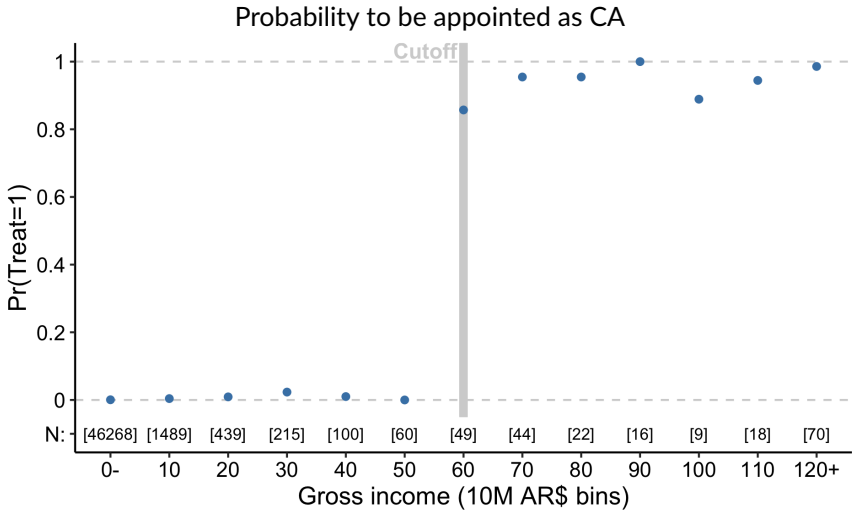
Implications

- **For CAs**:
  - Administrative burden
  - "Cash-flow benefit"
  - Scrutiny from govt (enforcement perceptions)
- **For linked firms**:
  - Third-party information reporting (enforcement perceptions)
  - Withheld amt $\rightarrow$ lower-bound on self-reported sales & tax owed
  - Might distort the choice of trade partners towards non CAs

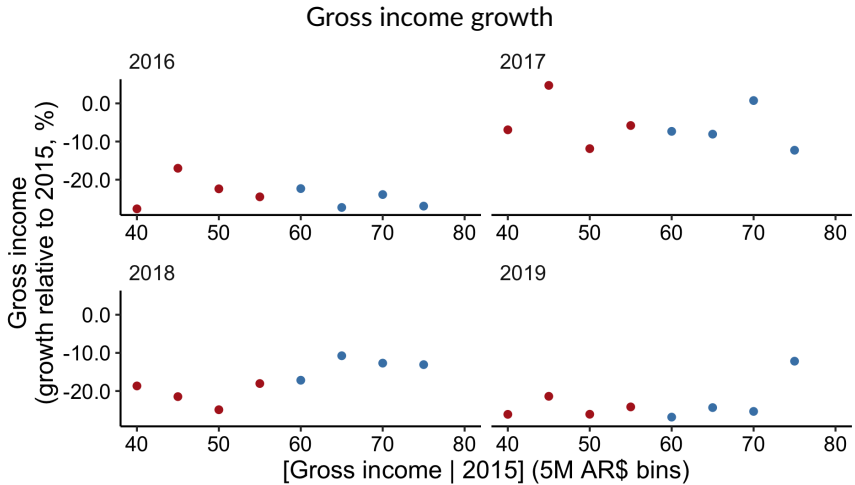
Direct effect on CAs

- **Nov'16 reform:** large firms appointed to collect taxes on behalf of clients/suppliers
- **Rule:** firms with 2015 annual sales $>$ AR$ 60M ($\approx$ p97)
- **Empirical strategy:**
  (1) Document expansion of withholding net
  Probability to: **(i)** be appointed as CA; **(ii)** start withholding
  (2) **RDD:** response of newly-appointed CA firms
  Compare changes in gross income (sales) close to the 60M cutoff

Appointment as CA



Response of appointed CAs



[N below: 564; N above: 336]

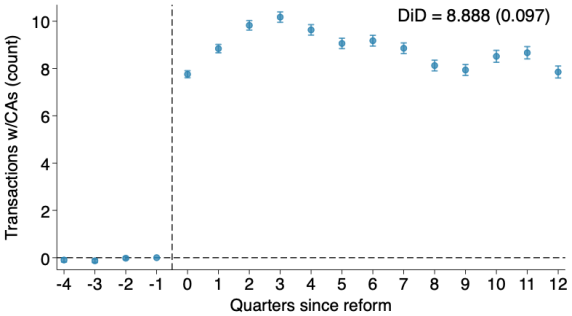
Direct effect on CAs: summary

- CAs activity does not seem to be affected

- **Explanation**: These are **large/formal firms**
  - Collecting taxes from others is not an administrative burden, already have professional accountants in-house
  - These firms are not financially-constrained, so no “cash-flow benefit”
  - Scrutiny from govt does not induce higher compliance as they are already formal

No. of transactions with CAs

jump with reform and remain stable thereafter



Average transaction amount with CAs

jump with reform and remain stable thereafter

