

Lowering Personal Taxation through Corporations

Wealth and Income Shifting

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📍 Mannheim, Germany

1 Introduction

- Global reforms in progressive tax systems during the 2000s/2010s prioritized economic efficiency to overcome capital mobility issues.
 - Lowering Corporate Income Tax (CIT) rates.
 - Dual Personal Income Tax (PIT) → Capital facing lower rates than labor.
 - Abolished Wealth/Estate Tax (WT) or (at least) exemptions for business assets.
- Those legal changes opened up tax-avoidance opportunities for top-income/wealth individuals → Tax-saving incentives for:
 - **Income shifting** → Combined CIT + PIT as incorp. < Only PIT as unincorp.
 - **Wealth shifting** → Business assets exempt from WT.
- **Firms play a crucial role in individual tax planning strategies**, but limited empirical evidence on it.
 - Chetty and Saez (2005), le Maire and Schjerner (2013), López-Laborda et al. (2018), Harju and Matikka (2016), Alstadsæter and Jacob (2016), Bergolo et al. (2022), Miller et al. (2024).
 - Durán-Cabré et al. (2024)

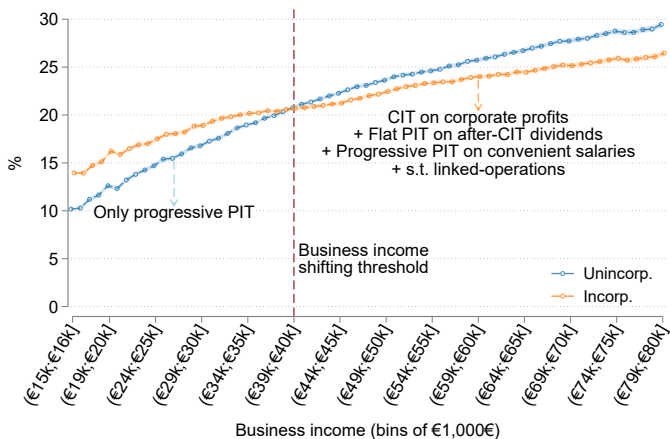
In this paper:

- Quasi-experimental variation from two decades of tax reforms in Spain → Dualization of PIT + decentralization of PIT & WT + reforms in CIT.
- Causal evidence (*diff-in-diff*) of the taxpayers' response to tax-induced incentives to shift **income** and **wealth** towards controlled firms.
- Novel Spanish micro-data base from 1999 to 2021 with linked labor, income and wealth records from many administrative sources.
- Findings → Sizeable shifting responses to both tax-avoidance incentives.
 - 15 p.p. increase in income shifting probability for self-employees as a reaction to **income-tax-saving** incentives. Lower response for regular employees.
 - High **income shifting** responsiveness in sectors such as arts, entertainment, sports, and professional, technical, legal or administrative services.
 - The weight of WT-exempt business assets in individuals' portfolios increases by 8 p.p. as a reaction to **wealth-tax-saving** incentives, coupled with a significant shift of personal real estate into controlled WT-exempt entities.

2 Motivation

PIT and CIT generate incentives to **shift income** towards controlled corporations.

Figure: Combined ETR on business income, professional-classified activities 1999-2021



Note: Controlling for non-shiftable income level.

Corporate-classified

ETR by turnover

of firms by turnover

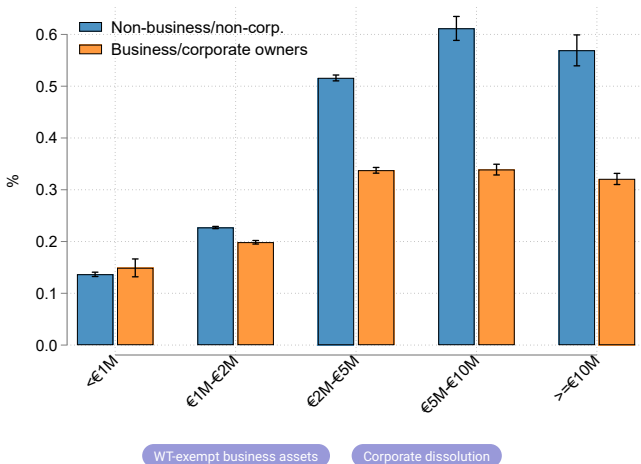
ETR by sub-sector

of corporations by size

2 Motivation

WT generate tax incentives for business owners to **shift wealth** from personal to corporate/business accounts.

Figure: Effective wealth tax rate by total net wealth level, WT-filers, 2016-2021



3 Institutional Setting

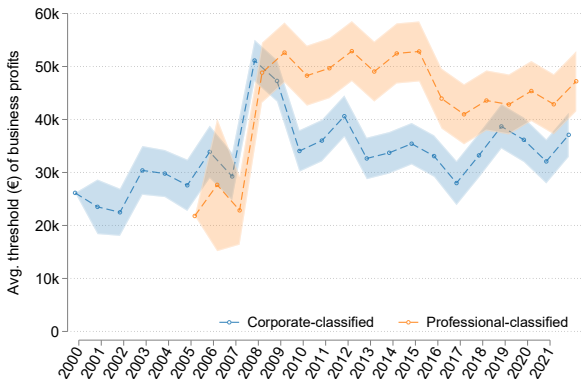
Quasi-experimental variation from two decades of tax reforms in Spanish tax figures governing both **income** and **wealth** shifting channels.

- PIT → 2003-2006 (abolition of PIT imputation regime for profess./arts/sports/asset-holding corps.); 2007 (Dual PIT and decentralization); 2012 (MTR increase in progressive and special schedules); 2015-2016 (MTR decrease, specially in progressive schedule). [Learn more](#)
- CIT → 2003-2006 (incl. of profess./arts/sports/asset-holding corps.); 2007 (lower tax rate for small corps. and new tax credits); 2011 (cut of many tax credits, especially compensation of past negative results); 2015 (lower tax rate for small/newly-created corps. and taxable base broadening). [Learn more](#)
- WT → 2007 (suppression); 2011 (reintroduction, higher exemption threshold and full decentralization with abolition in Madrid).
- Linked-operations → 2007/2008/2009 (profess.-classified corps. must allocate 85% of profits to partners, with $Remun > 2 \times Avg.Salary$); 2015 (excl. of admin./manager remun. from scope). [Learn more](#)

3 Institutional Setting

The **business income shifting threshold** is individual-specific and depends on many characteristics like year, sector and type of activity, region of residence, potential WT filing status, non-shiftable income level, etc...

Figure: Average business income shifting threshold by activity classification



Note: Controlling for non-shiftable income level.

By region

By sector

By WT filing status

- Spanish administrative panel micro-data ("*Panel de hogares, 2016-2021*"), *Instituto de Estudios Fiscales* (2023).
 - Sampling for 17 regions + 10 household types + 9 income brackets → 772,178 (4.57%) households and 2.15 million (4.85%) individuals.
 - Socio-demographics, 1999-2021 → Fiscal residence, age, educ.
 - PIT returns, 1999-2021 → At individual, asset or self-empl. activity level.
 - Third-party reported individual income, 2008-2021 → Informational forms.
 - Employment history records ("*MCVL*"), 1999-2021 → Social Sec. affiliations.
 - Wealth tax returns, 2016-2021 → Personal + corporate assets and debts.
 - Third-party reported personal wealth, 2016-2021 → Personal assets and liabilities + real estate property detail.
- Recursive search algorithm to identify corporate-controlling individuals + Estimation of corporate profits and CIT rates through cell-matching by year, region, legal form, turnover, and size btw. micro-data and aggregate CIT statistics, *Agencia Estatal de Administración Tributaria, AEAT* (2024a).

5 Income shifting: Identification

- Compute individual-specific **business income shifting threshold**, which depends on year, personal/family characteristics, region, type/sector of activity, potential WT filing status, firm size, **non-shiftable income**, etc.
- Classify into: (1) self-employees, (2) regular employees, or (3) property owners deriving real estate income.
- Order obs. in bins of €1,000 of distance to the shifting-threshold.
- Control ➔ *Matching* of individual i in t to other taxpayers in t with equal (1) business shiftable and (2) non-shiftable income, but differing in other characteristics making control-taxpayers fall below their shifting threshold.
- *Diff-in-diff* ➔ **Bin-by-bin**

$$C_{i,b,t} = T_{i,t} \times \left[\sum_{y=-15}^{-1} \theta_b \cdot \mathbf{1}(y = b-15) + \sum_{y=1}^{60} \beta_b \cdot \mathbf{1}(y = b-15) \right] + \zeta_n + \zeta_i + \zeta_p + \zeta_w + \zeta_t + \zeta_r + \nu$$

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Incorporated (1) or not (0)

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Treatment group (1) or not (0)

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Dummies for bins of distance to shifting threshold

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Set of FE: non-shiftable income (n), ID (i), activity type (p), WT-filing (w), year (t), and region (r)

5 Income shifting: Identification

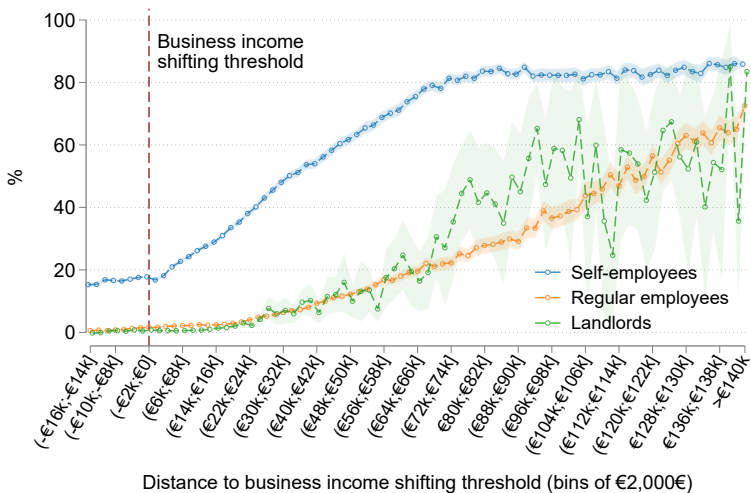
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- *Diff-in-diff* → **Overall ATE**

$$C_{i,b,t} = \beta \cdot T_{i,t} \times \mathbf{1}[b \geq 0] + \zeta_n + \zeta_i + \zeta_p + \zeta_w + \zeta_t + \zeta_r + \nu$$

Above income shifting threshold (1) or not (0)

5 Income shifting: Results

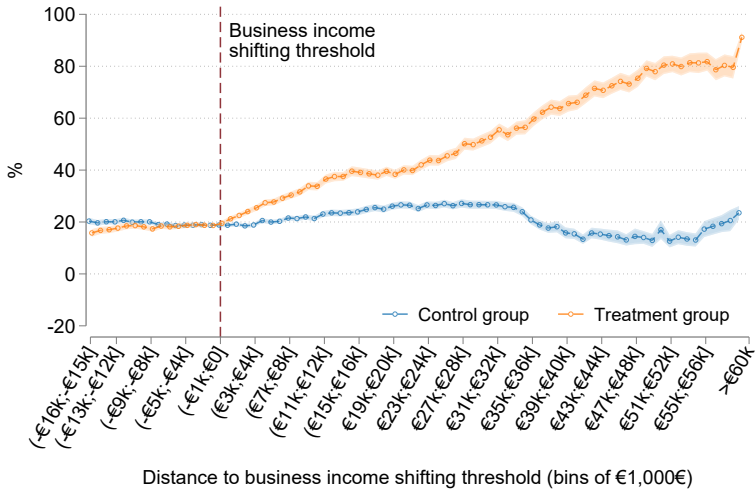
Figure: Probability of incorporating, 1999-2021



Note: Controlling for non-shiftable income level.

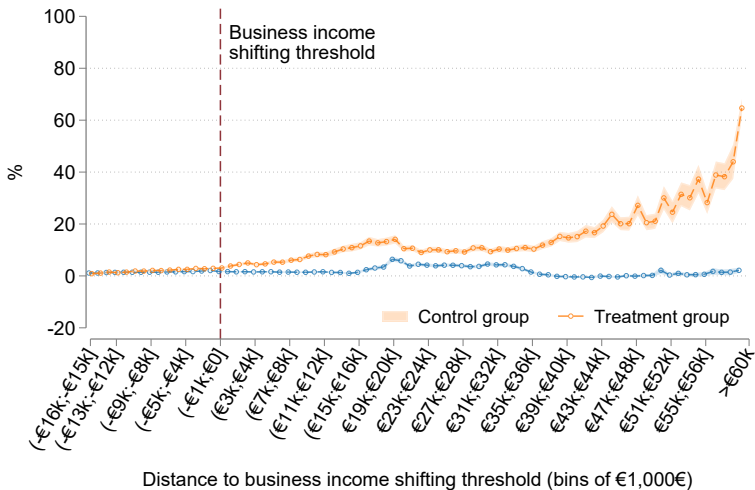
5 Income shifting: Results

Figure: Probability of incorporating, treat. & control, self-employees, 1999-2021



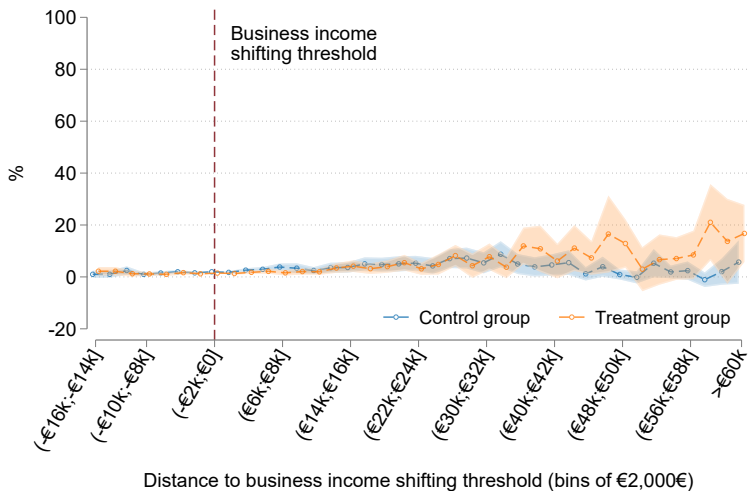
5 Income shifting: Results

Figure: Probability of incorporating, treat. & control, **regular employees**, 1999-2021



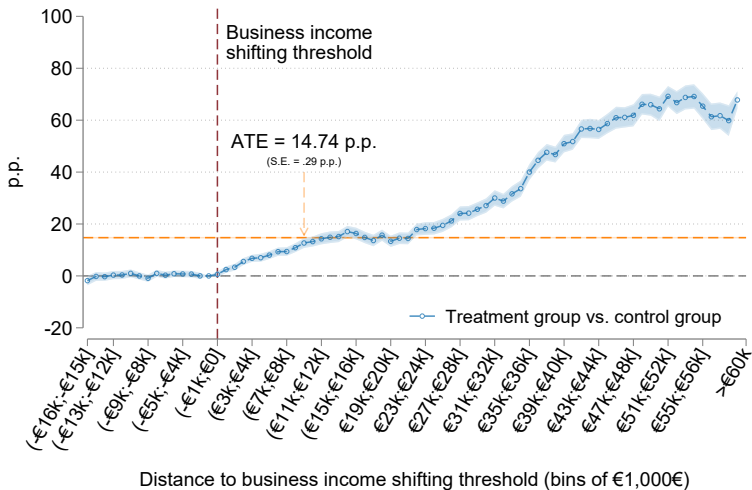
5 Income shifting: Results

Figure: Probability of incorporating, treat. & control, **landlords**, 1999-2021



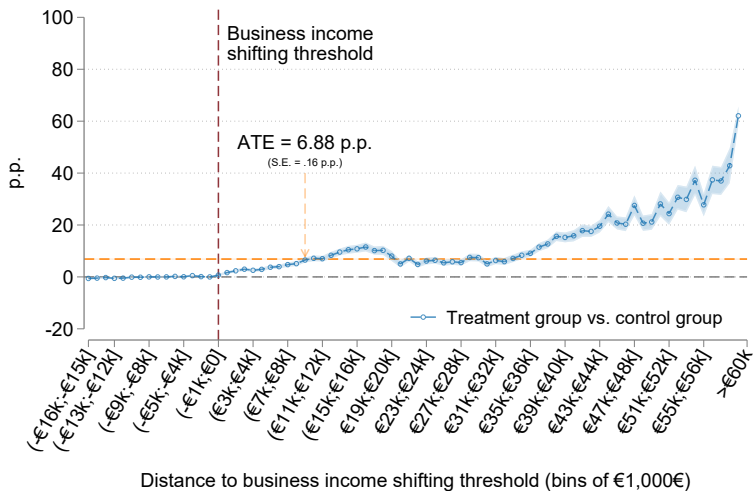
5 Income shifting: Results

Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, self-employees, 1999-2021



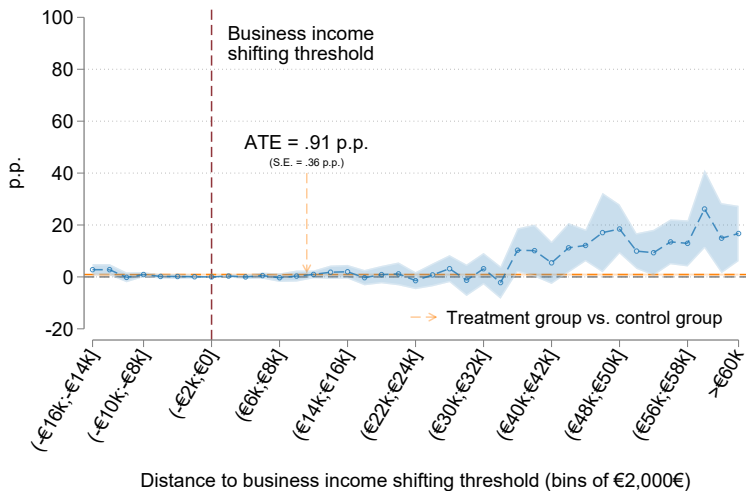
5 Income shifting: Results

Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, **regular employees**, 1999-2021



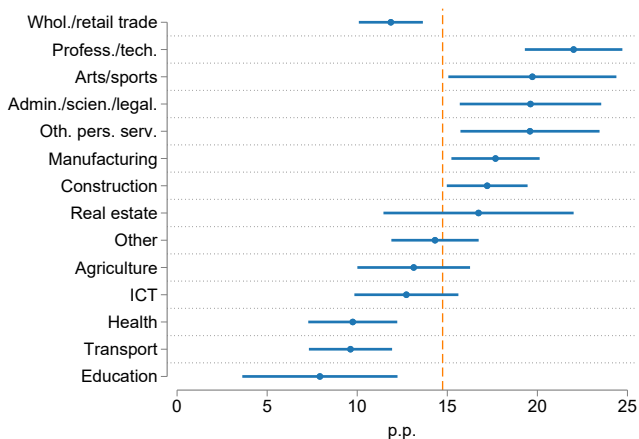
5 Income shifting: Results

Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, landlords, 1999-2021



5 Income shifting: Results

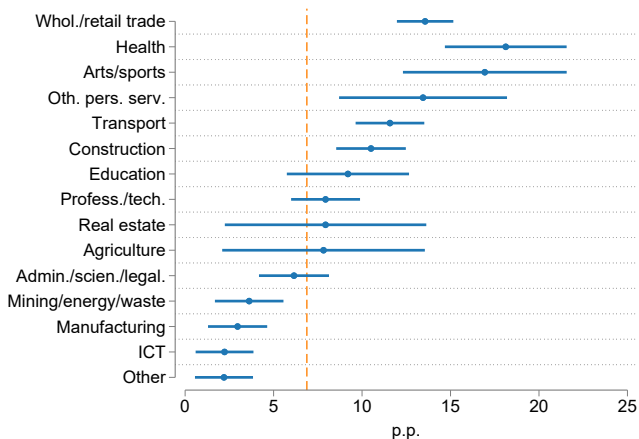
Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by NACE09 sector of activity, **self-employees**, 1999-2021



Note: Vertical dotted orange line depicts overall ATE.

5 Income shifting: Results

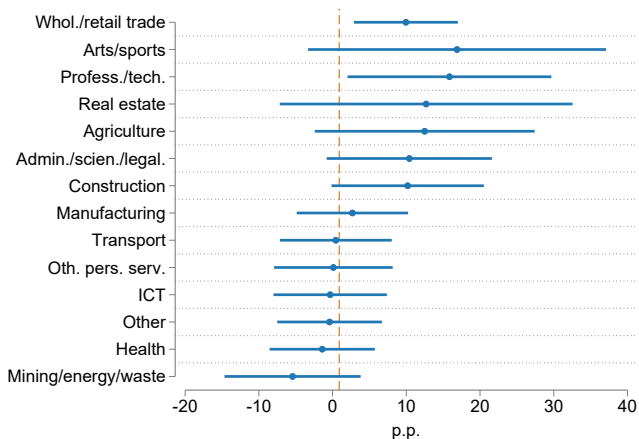
Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by NACE09 sector of activity, **regular employees**, 1999-2021



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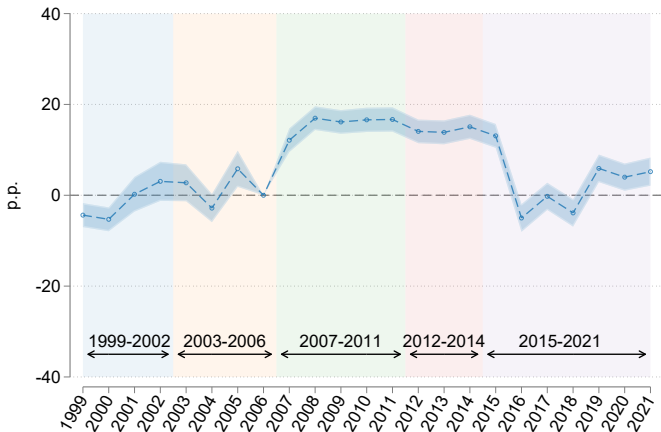
Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by NACE09 sector of activity, landlords, 1999-2021



Note: Vertical dotted orange line depicts overall ATE.

5 Income shifting: Results

Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by year, **self-employees**



Note: Normalized to 2006 (year prior to dualization and decentralization of PIT figure).

Regular employees

Landlords

6 Wealth shifting: Identification

- Certain business/corporate assets are exempt from WT → If (i) effective control (> 5% alone or 20% as a family), and (ii) personal income from entity accounting for major (> 50%) fraction of individual's total personal income .
- Each region sets a minimum exempt net-wealth amount, below which no wealth tax is due. Madrid grants full WT exemption.
- Construct bins of €10,000 of distance to WT exemption threshold.
- Control groups → (#1) non-business owners in Madrid, (#2) business owners in Madrid, and (#3) non-business owners outside Madrid.
- Treatment group → Business owners outside Madrid.
- Triple *diff-in-diff* → **Bin-by-bin**

$$E_{i,b,t} = W_r \times BO_{i,t} \times \left[\sum_{y=-19}^{-1} \theta_b \cdot \mathbf{1}(y = b - 20) + \sum_{y=1}^{31} \beta_b \cdot \mathbf{1}(y = b - 20) \right] + \zeta_t + \zeta_i + \zeta_r + \nu$$

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Share of WT-exempt business assets over total net-wealth

6 Wealth shifting: Identification

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Region charging WT (1) or not (0)

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Individual controlling a firm eligible for WT exemption (1) or not (0)

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Dummies for bins of distance to minimum WT exemption threshold

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Set of FE at the individual, year, and regional level

6 Wealth shifting: Identification

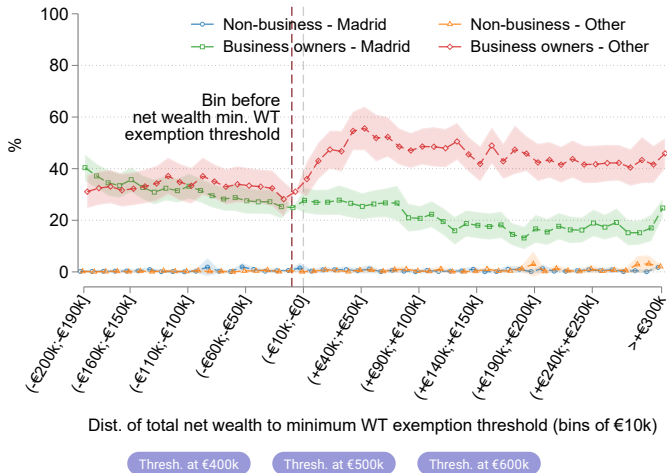
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Above minimum WT exemption threshold (1) or not (0)

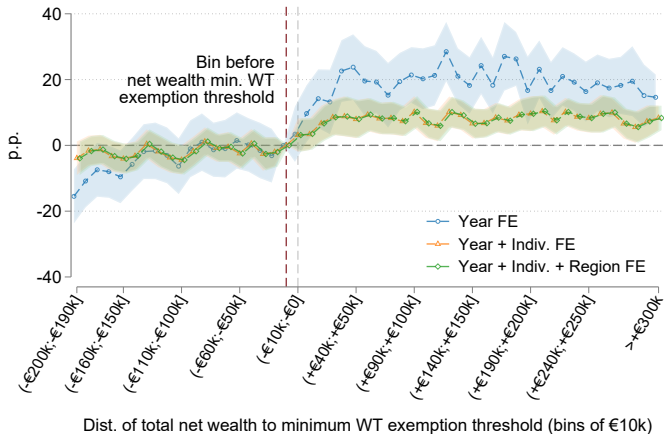
6 Wealth shifting: Results

Figure: Fraction of business/corporate WT-exempted assets, treatment & control groups, regions with a €700,000 WT exemption threshold, 2016-2021



6 Wealth shifting: Results

Figure: Change (p.p.) in fraction of business/corporate WT-exempted assets, triple *diff-in-diff*, regions with a €700,000 WT exemption threshold, 2016-2021



Thresh. at €400k

Thresh. at €500k

Thresh. at €600k

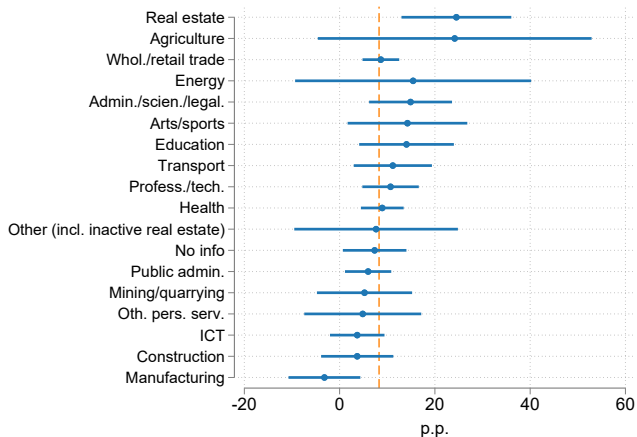
6 Wealth shifting: Results

	(a)	(b)	(c)
Tresh: €400k $W_r \times BO_{i,t} \times \mathbf{1}(B \geq 0)$	0.140*** (0.0116)	0.0580*** (0.00882)	0.0580*** (0.00882)
Tresh: €500k $W_r \times BO_{i,t} \times \mathbf{1}(B \geq 0)$	0.161*** (0.00966)	0.0610*** (0.00780)	0.0611*** (0.00780)
Tresh: €600k $W_r \times BO_{i,t} \times \mathbf{1}(B \geq 0)$	0.166*** (0.0141)	0.0625*** (0.0103)	0.0625*** (0.0103)
Tresh: €700k $W_r \times BO_{i,t} \times \mathbf{1}(B \geq 0)$	0.204*** (0.0107)	0.0827*** (0.00815)	0.0828*** (0.00818)
Year FE	Yes	Yes	Yes
Individual FE	No	Yes	Yes
Region FE	No	No	Yes

Table: Change (p.p.) in % of business-exempted assets over total net wealth when total net wealth exceeds the minimum WT exemption threshold, triple *diff-in-diff*, 2016-2021

6 Wealth shifting: Results

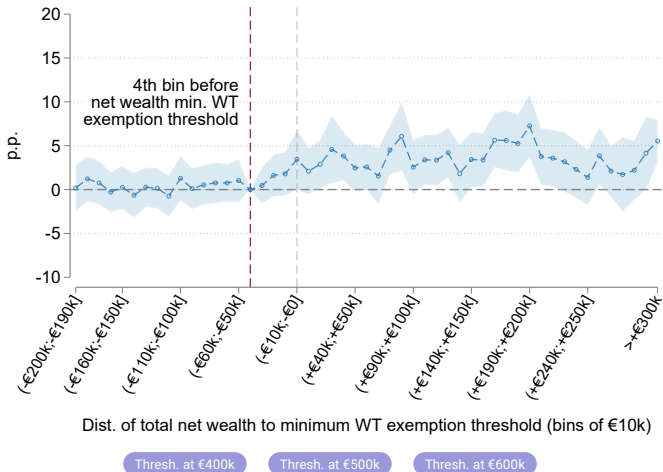
Figure: Change (p.p.) in fraction of business/corporate WT-exempted assets, triple *diff-in-diff*, by NACE09 sector of activity, 2016-2021



Note: Vertical dotted orange line depicts overall ATE.

6 Wealth shifting: Results

Figure: Change (p.p.) in probability of reducing real estate while increasing corporate or business WT-exempted assets btw. $t - 1$ and t , triple *diff-in-diff*, regions with a €700,000 WT exemption threshold, 2016-2021













- This paper studies the **magnitude of behavioral responses** to tax-saving incentives to (i) **incorporate and shift income towards controlled corporations** and to **shift assets into controlled firms**.
- Causal identification ➡ **Diff-in-diff** exploiting **quasi-experimental** variation from a **2-decade period of Spanish tax reforms**.
- Sizable effects of the income-tax-avoidance incentives on **income shifting** among self-employees, halved for salaried workers, with high responsiveness in sectors such as arts, sports, and professional, technical, legal or administrative services.
- Considerable effects of the wealth-tax-avoidance incentives on **wealth shifting**, with significant shifts of real estate into exempt entities.
- Evidence on **role of firms in lowering personal taxation and escaping nominal progressivity**, limiting the power of the redistribution function.
- Ongoing work ➡ (i) Response heterogeneity, (ii) quantification of shifted amounts, (iii) impact on tax revenue, progressivity, and inequality.



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|  serranopuente |  SSRN |

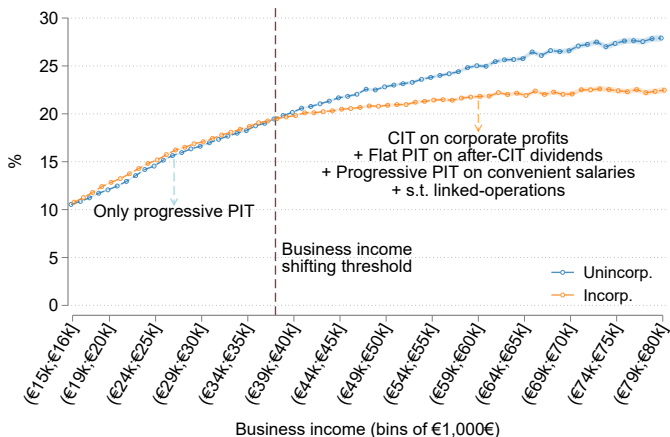
References

- AGENCIA ESTATAL DE ADMINISTRACIÓN TRIBUTARIA, AEAT (2024a): "Cuentas anuales no consolidadas del impuesto sobre sociedades," https://sede.agenciatributaria.gob.es/Sede/datosabiertos/catalogo/hacienda/Cuentas_Anuales_No_Consolidadas_del_Impuesto_sobre_Sociedades.shtml.
- (2024b): "Estadística de los declarantes del Impuesto sobre el Patrimonio," https://sede.agenciatributaria.gob.es/Sede/datosabiertos/catalogo/hacienda/Estadistica_de_los_declarantes_del_Impuesto_sobre_el_Patrimonio.shtml.
- (2024c): "Estadística de PYMES societarias y no societarias," https://sede.agenciatributaria.gob.es/Sede/datosabiertos/catalogo/hacienda/Estadistica_de_PYMES_societarias_y_no_societarias.shtml.
- ALSTADSÆTER, A. AND M. JACOB (2016): "Dividend Taxes and Income Shifting," *Scandinavian Journal of Economics*, 118 (4), 693–717, <https://onlinelibrary.wiley.com/doi/full/10.1111/sjoe.12148>.
- BERGOLO, M., G. BURDIN, M. DE ROSA, M. GIACCOBASSO, M. LEITES, AND H. RUEDA (2022): "How do Top Earners Respond to Taxation? Evidence from a Tax Reform in Uruguay," *SSRN Papers*, <https://dx.doi.org/10.2139/ssrn.4007698>.
- CHETTY, R. AND E. SAEZ (2005): "Dividend Taxes and Corporate Behavior: Evidence from the 2003 Dividend Tax Cut," *The Quarterly Journal of Economics*, 120 (3), 791–833, <https://academic.oup.com/qje/article/120/3/791/1841479>.
- DURÁN-CABRÉ, J. M., A. ESTELLER-MORÉ, AND M. MAS-MONTSERRAT (2024): "Behavioural responses to the (re)introduction of wealth taxes. Evidence from Spain," *IEB Working Paper Series*, 2019, <https://ieb.ub.edu/publication/2019-04-behavioural-responses-to-the-reintroduction-of-wealth-taxes-evidence-from-spain/>.
- HARJU, J. AND T. MATIKKA (2016): "Business owners and income-shifting: evidence from Finland," *Small Business Economics*, 46, 115–136.
- INSTITUTO DE ESTUDIOS FISCALES (2023): "Panel de hogares: Ejercicio 2021," https://www.ief.es/docs/destacados/publicaciones/documentos_trabajo/2023_06.pdf.
- INSTITUTO NACIONAL DE ESTADÍSTICA, INE (2024a): "Estadística de sociedades mercantiles," https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177026&menu=ultiDatos&idp=1254735576550.
- (2024b): "Estadística de transmisiones de derechos de la propiedad," https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736171438&menu=ultiDatos&idp=1254735576606.
- (2024c): "Explotación estadística del directorio central de empresas, DIRCE," https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736160707&menu=ultiDatos&idp=1254735576550.
- LE MAIRE, D. AND B. SCHJERNING (2013): "Tax bunching, income shifting and self-employment," *Journal of Public Economics*, 107, 1–18, <https://doi.org/10.1016/J.JPUBECO.2013.08.002>.
- LÓPEZ-LABORDA, J., J. VALLÉS-GIMÉNEZ, AND A. ZÁRATE-MARCO (2018): "Income Shifting in the Spanish Dual Income Tax," *Fiscal Studies*, 39, 95–120.
- MILLER, H., T. POPE, AND K. SMITH (2024): "Intertemporal Income Shifting and the Taxation of Business Owner-Managers," *The Review of Economics and Statistics*, 1, 184–201, https://doi.org/10.1162/rest_a_01166.

A1 Motivation

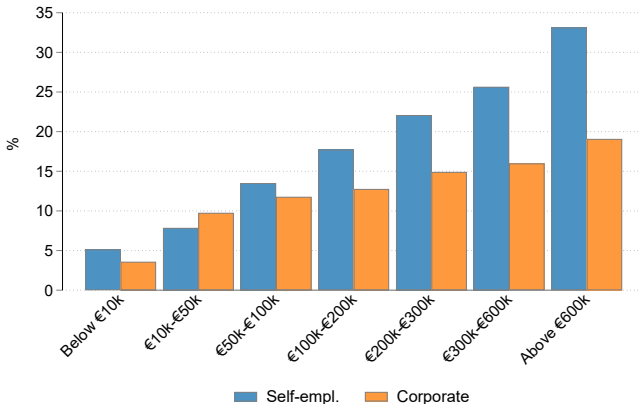
PIT and CIT generate incentives to **shift income** towards controlled corporations.

Figure: Combined ETR on business income, corporate-PIT-classified activities 1999-2021



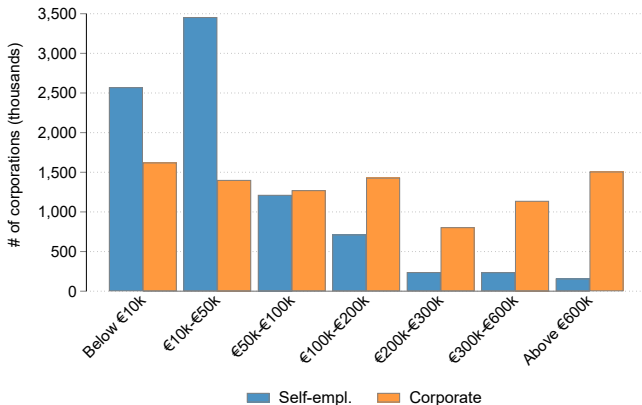
Note: Controlling for non-shiftable income level.

Figure: Effective tax rate on business profits by legal form and turnover level, 2017



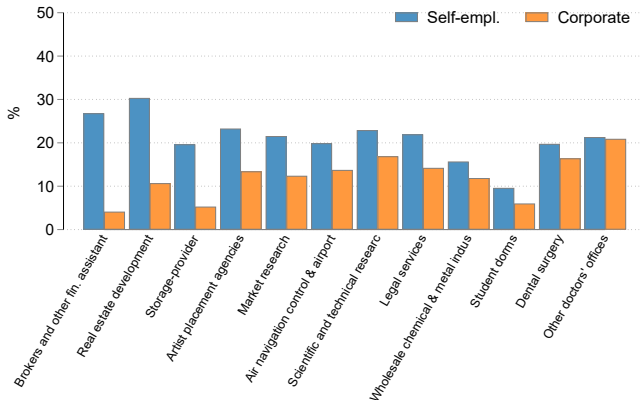
Source: Agencia Estatal de Administración Tributaria, AEAT (2024c).

Figure: Number of firms by legal form and turnover level, 2017



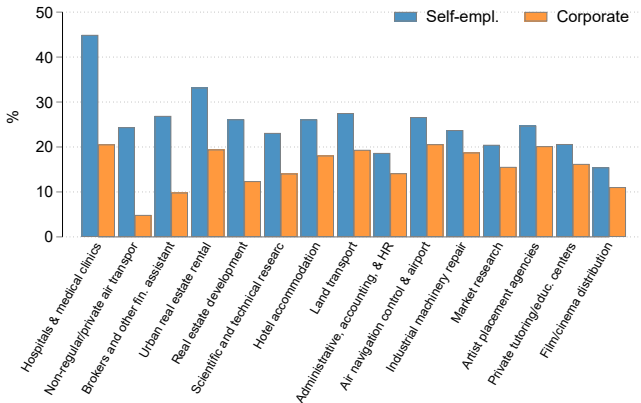
Source: Agencia Estatal de Administración Tributaria, AEAT (2024c).

Figure: Effective business profit taxation by legal form and sub-sector, no employees, 2017



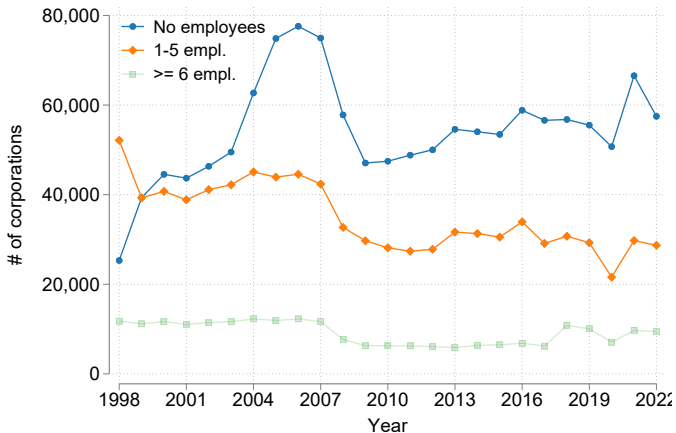
Source: Agencia Estatal de Administración Tributaria, AEAT (2024c).

Figure: Effective business profit taxation by legal form and sub-sector, employees, 2017



Source: Agencia Estatal de Administración Tributaria, AEAT (2024c).

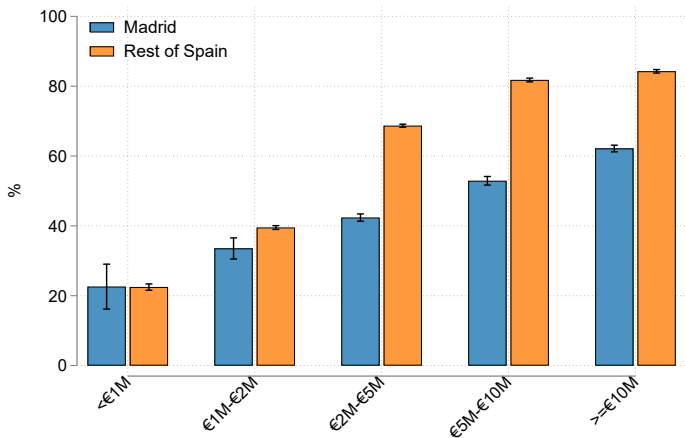
Figure: Absolute number of newly created corporations by size



Source: Instituto Nacional de Estadística, INE (2024c).

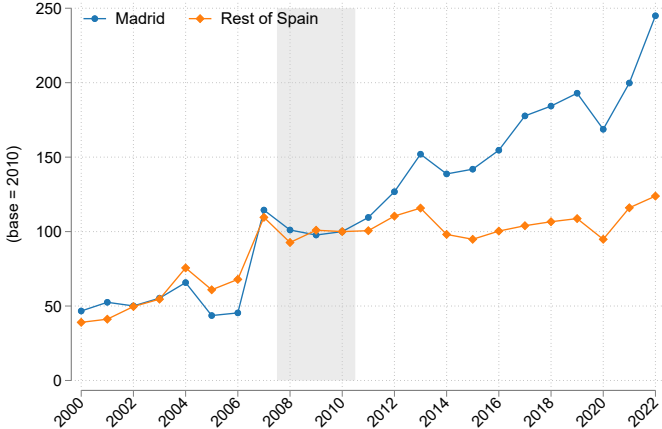
A1 Motivation

Figure: Business/corporate assets benefiting from WT exemption over total net wealth by region and total asset level, WT-filers, 2016-2021



A1 Motivation

Figure: Voluntary dissolution of corporations by region over time

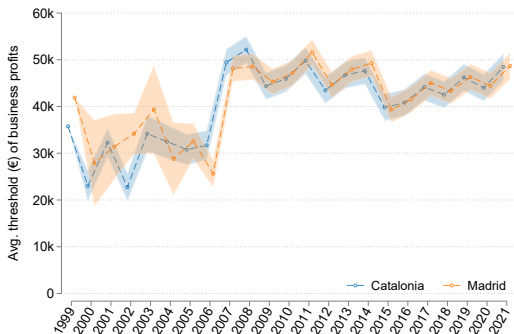


Source: Instituto Nacional de Estadística, INE (2024a).

PIT experiences 4 major reforms from 1999 to 2021.

- 2004 → Excl. from PIT of special professional, sports/arts & asset-holding corporations.
- 2007 → Dual PIT, financial capital income s.t. almost flat-rate + Start decentralization.
- 2012 → Considerable increase (up to 7 p.p.) in marginal rates + Intense decentralization.
- 2015 → Decrease in marginal rates (specially in savings schedule) + Invoicing obligation for corp.-controlling partners.

Figure: Average income shifting threshold, Cataluña vs Madrid

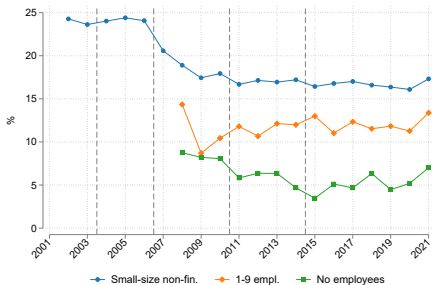


Note: Controlling for non-shiftable income level.

CIT experiences 4 major reforms from 1999 to 2021.

- 2004 → Incl. in CIT of special professional, sports/arts & asset-holding corporations.
- 2007 → Lower CIT rate for small-sized corps. + Number of new tax credits & deductions.
- 2011 → Cut of many CIT tax credits & deductions, especially compensation of past negative taxable bases carried-forward.
- 2015 → Lower CIT rate for small-sized/newly-created corps. + Taxable base broadening.

Figure: Effective CIT, by corporate size, Spain



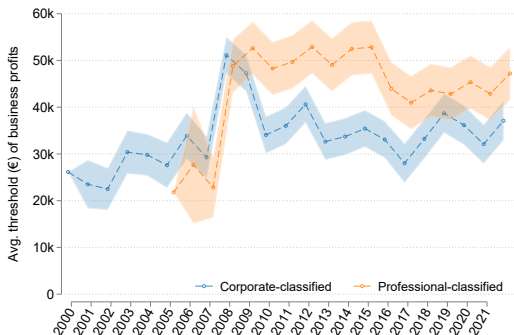
Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

By sector

Linked-operations regulation experiences **3 major reforms** from 1999 to 2021.

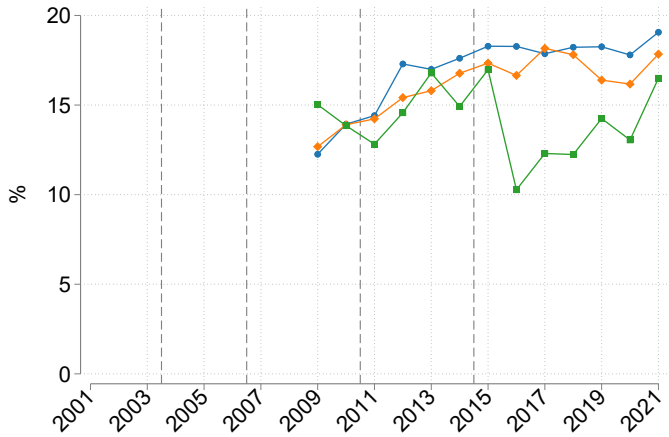
- 2004 → Operations (salaries, invoicing, interests) btw. corporation and controlling partners must be proven to be realized at market prices.
- 2007/2008/2009 → Professional corp. must remunerate 85% of their profits to controlling partners + at least 2 times avg. salary.
- 2015 → Exclusion of admin./manager remuneration from this regulation + Decrease from 85% to 75% in professional remun. + at least 5 times IPREM indicator.

Figure: Average income shifting threshold, professional- vs. corporate-classified



Note: Controlling for non-shiftable income level.

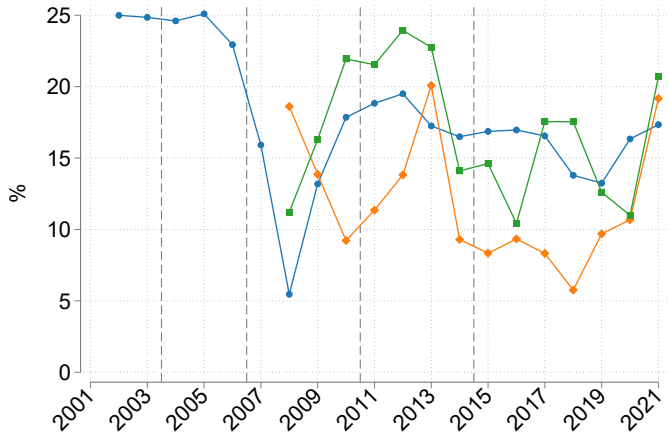
Figure: Effective CIT, by corporate size, Agriculture, Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

A2 Institutional Setting

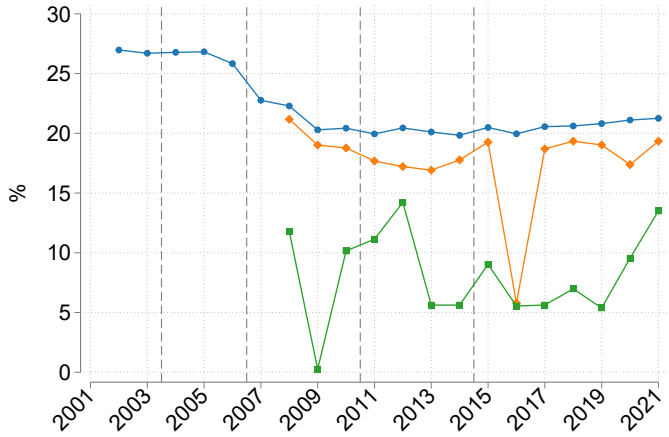
Figure: Effective CIT, by corporate size, Energy & water, Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

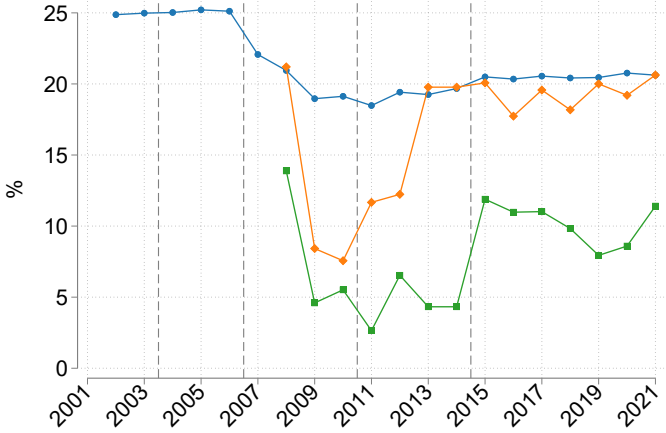
A2 Institutional Setting

Figure: Effective CIT, by corporate size, Industry & Manufacture, Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

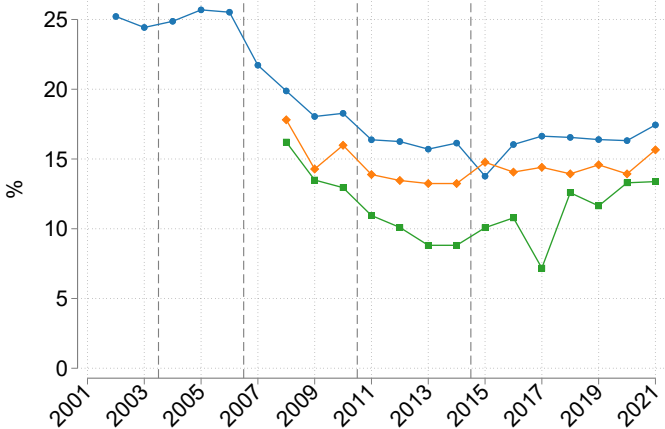
Figure: Effective CIT, by corporate size, Wholesale, retail & transp., Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

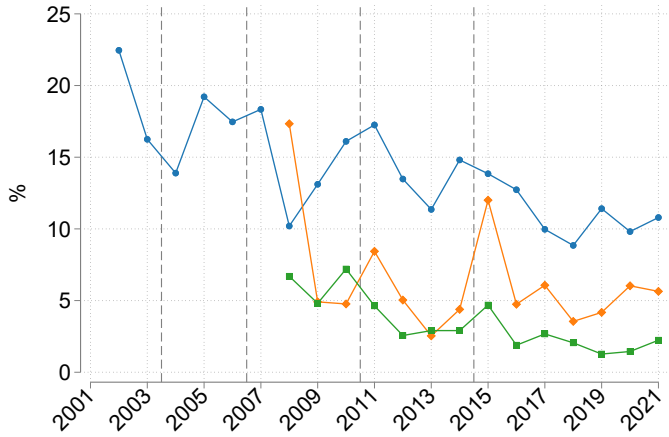
A2 Institutional Setting

Figure: Effective CIT, by corporate size, Real estate & constr., Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

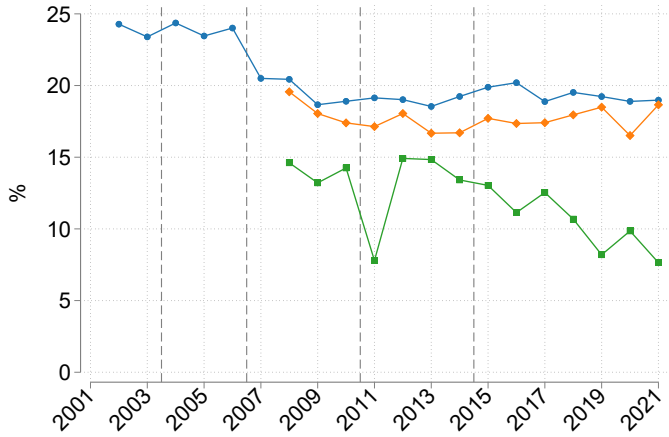
Figure: Effective CIT, by corporate size, Finance-related serv., Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

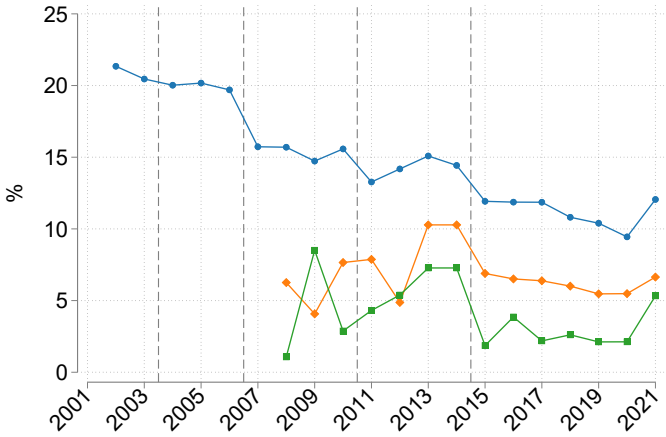
A2 Institutional Setting

Figure: Effective CIT, by corporate size, Education & health, Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

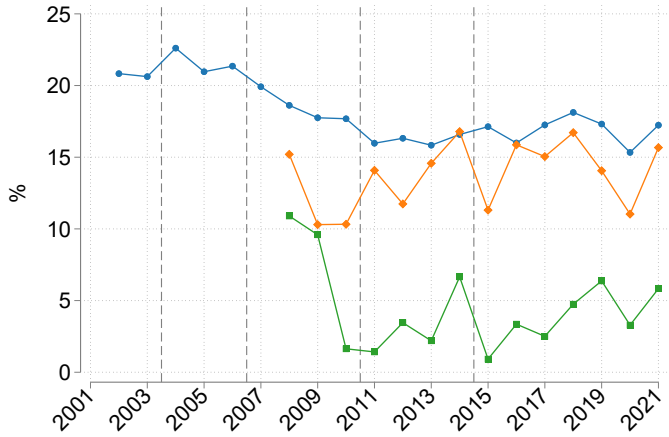
Figure: Effective CIT, by corporate size, Prof., technical & admin., Spain



Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

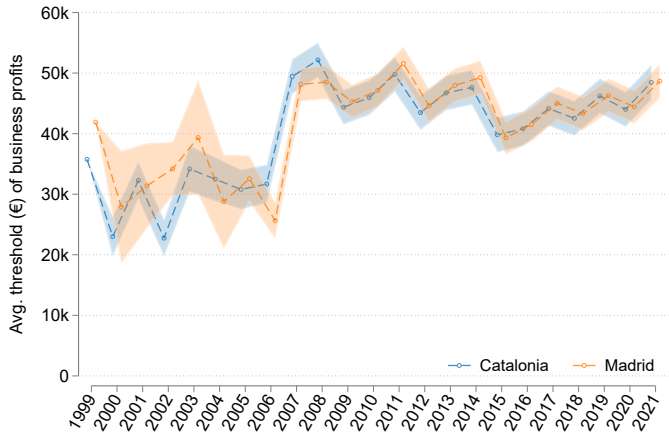
A2 Institutional Setting

Figure: Effective CIT, by corporate size, Accom., food/bever., ICT & arts, Spain



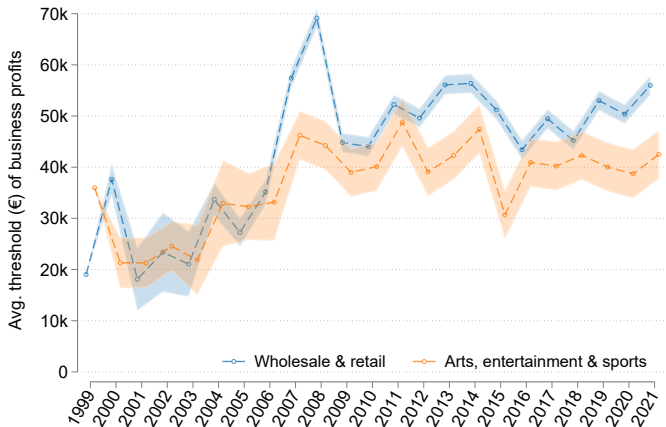
Source: Agencia Estatal de Administración Tributaria, AEAT (2024a).

Figure: Average business income shifting threshold by region of residence



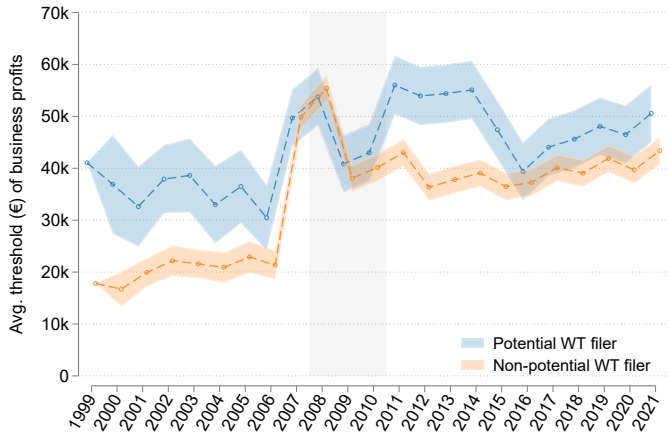
Note: Controlling for non-shiftable income level.

Figure: Average business income shifting threshold by NACE09 sector of activity



Note: Controlling for non-shiftable income level.

Figure: Average business income shifting threshold by potential WT filing status



Note: Controlling for non-shiftable income level.

- No matched individual-to-corporate micro-data → How to identify individuals with effective corporate control [0,1] in available micro-data?
- Solution → **Scoring + recursive search algorithm.**
- Scoring of each individual in typical behaviours of controlling partners.
 - Social Security affiliation registries → Corporate self-employees, incorporated family members, administrator, type of employer.
 - Wealth tax records → WT-exempt shares or business assets.
 - Personal income tax records → Special asset-holding, professional or artistic/sports corporation, PIT withholdings of administrator, manually set salary, typical remunerations.
 - Third-party reported income registries → Remuneration of administrator, type of employer, PIT-exempt income.
- Recursive search algorithm for refinement on lags or leads.
- Accurate fitting of actual number of controlled corporations.

Figure: Total number of effectively controlled corporations

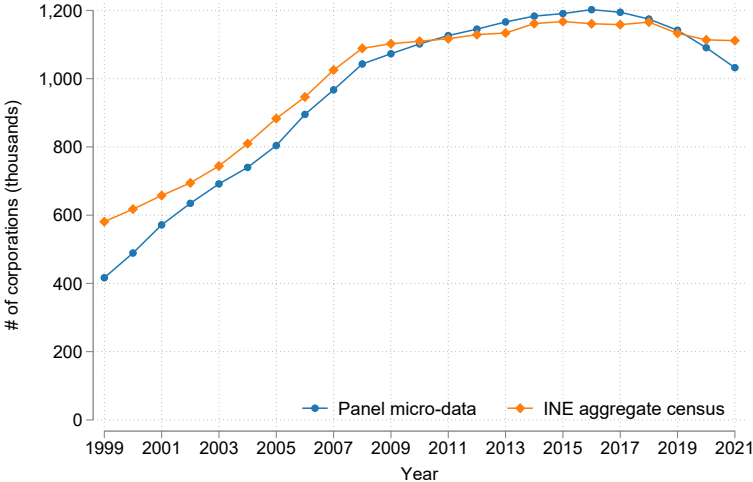


Figure: Distribution of effectively controlled corporations by region, 2016

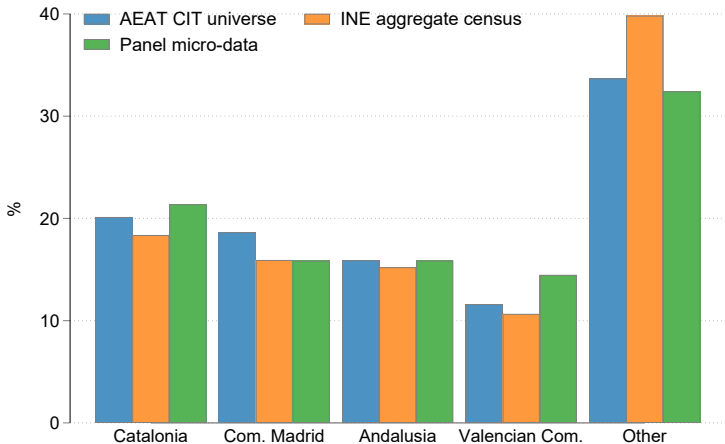
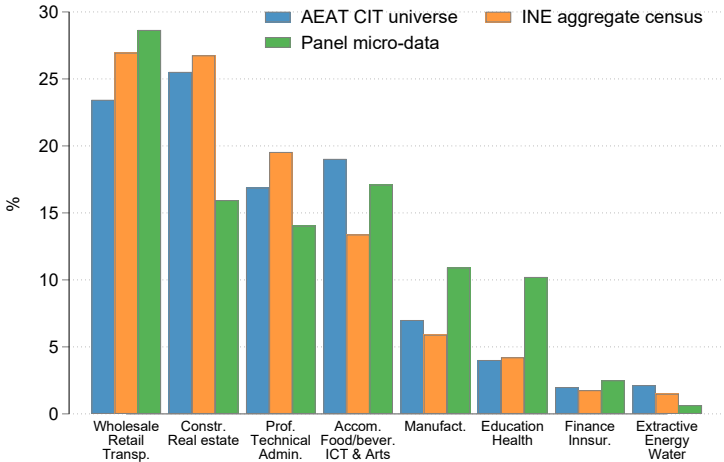


Figure: Distribution of effectively controlled corporations by sector, 2016



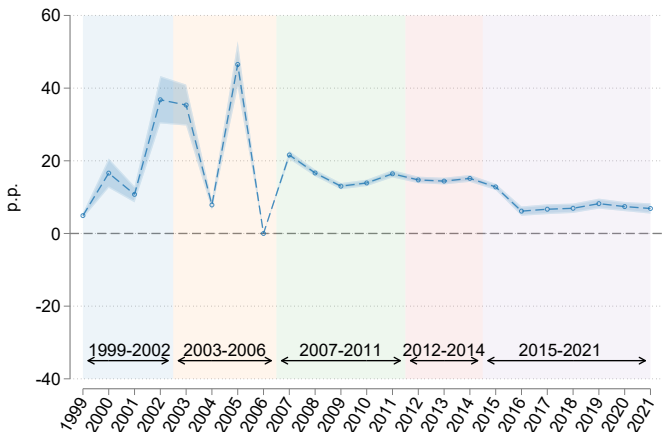
- No matched individual-to-corporate micro-data → Once incorporated, no actual corporate records observable.
- Solution #1 → Estimate effective CIT rate with using aggregate CIT statistics and cell matching: by year, region, legal form, and size.
- Solution #2 → Estimate corporate profits from:
 - Last pre-incorporation self-employment, labor or real estate income.
 - Incorporated remunerations s.t. linked-operations regulation → E.g. Professional-classified corporations must allocate 75% of its pre-tax profits to partners through invoicing.
 - Realized dividends + estimated effective CIT faced.
 - Average corporate profits for entities with certain shareholding capital, location, legal form, sub-sector, size and age.

Other used aggregate public statistics computed from the universe of individuals, corporations or tax filers.

- Annual Corporate Accounts from Corporate Income Tax, 2002-2021, *Agencia Estatal de Administración Tributaria, AEAT (2024a)*.
- Statistics of Corporate vs. Non-corporate Small-sized Firms, 2016-2021, *Agencia Estatal de Administración Tributaria, AEAT (2024c)*.
- Central Directory of Companies, 1999-2021, *Instituto Nacional de Estadística, INE (2024c)*.
- Statistics of Mercantile Corporations, 2000-2021, *Instituto Nacional de Estadística, INE (2024a)*.
- Statistics of Real Estate Property Transfers, 2007-2021, *Instituto Nacional de Estadística, INE (2024b)*.
- Statistics of Wealth Tax returns, 2003-2021, *Agencia Estatal de Administración Tributaria, AEAT (2024b)*.

A4 Income shifting: Results

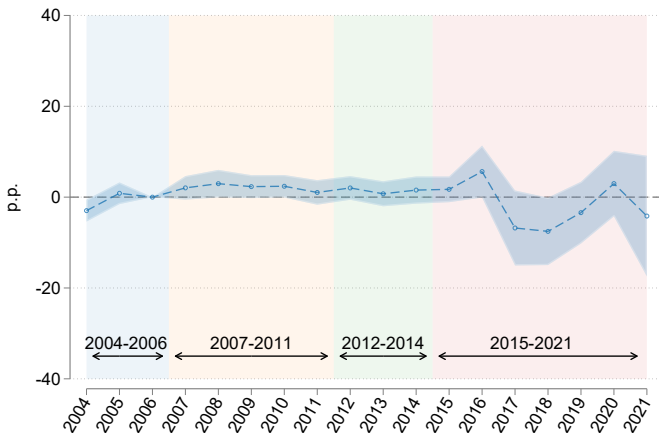
Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by year, **regular employees**



Note: Normalized to 2006 (year prior to dualization and decentralization of PIT figure).

A4 Income shifting: Results

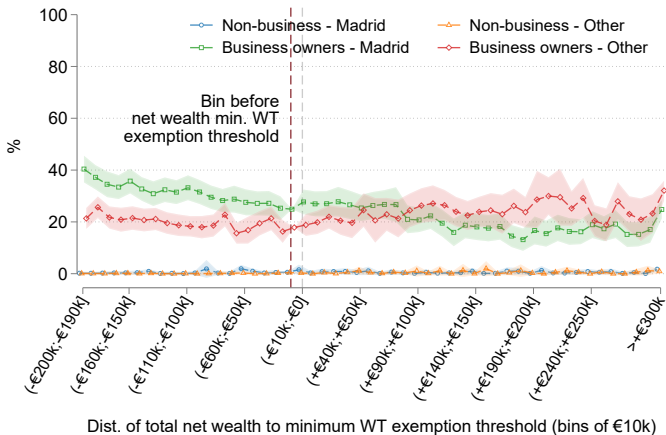
Figure: Change (p.p.) in prob. of incorporating, *diff-in-diff*, by year, landlords



Note: Normalized to 2006 (year prior to dualization and decentralization of PIT figure).

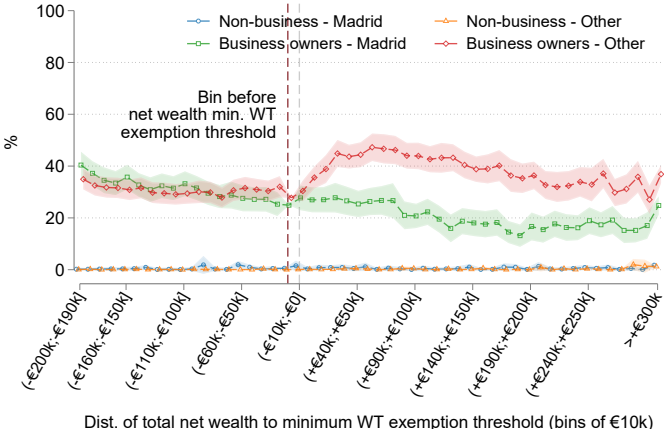
A5 Wealth shifting: Results

Figure: Fraction of business/corporate WT-exempted assets, treatment & control groups, regions with a €400,000 WT exemption threshold, 2016-2021



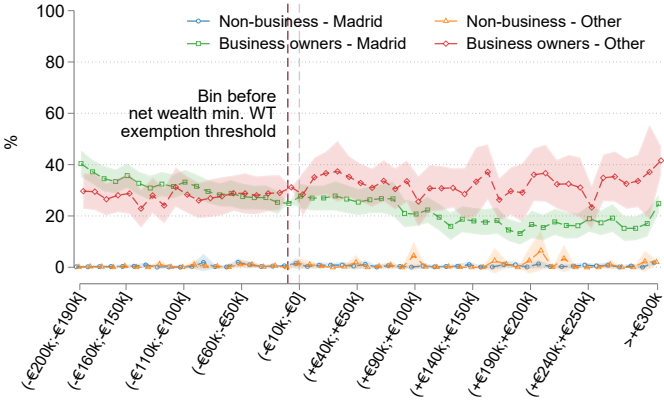
A5 Wealth shifting: Results

Figure: Fraction of business/corporate WT-exempted assets, treatment & control groups, regions with a €500,000 WT exemption threshold, 2016-2021



A5 Wealth shifting: Results

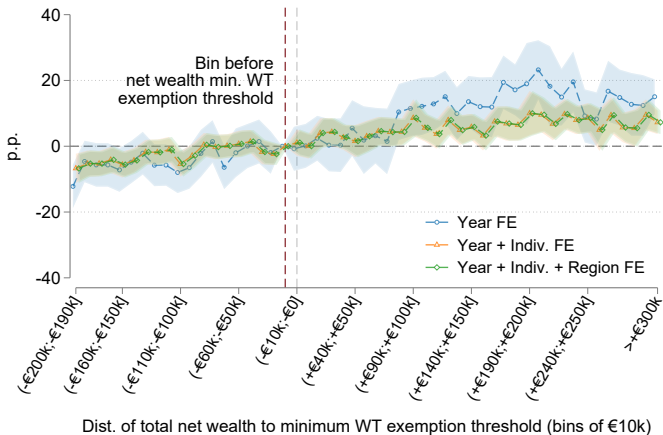
Figure: Fraction of business/corporate WT-exempted assets, treatment & control groups, regions with a €600,000 WT exemption threshold, 2016-2021



Dist. of total net wealth to minimum WT exemption threshold (bins of €10k)

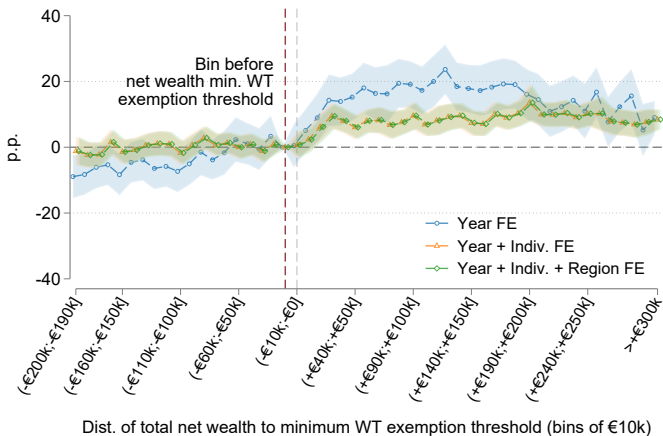
A5 Wealth shifting: Results

Figure: Change (p.p.) in fraction of business/corporate WT-exempted assets, triple *diff-in-diff*, regions with a €400,000 WT exemption threshold, 2016-2021



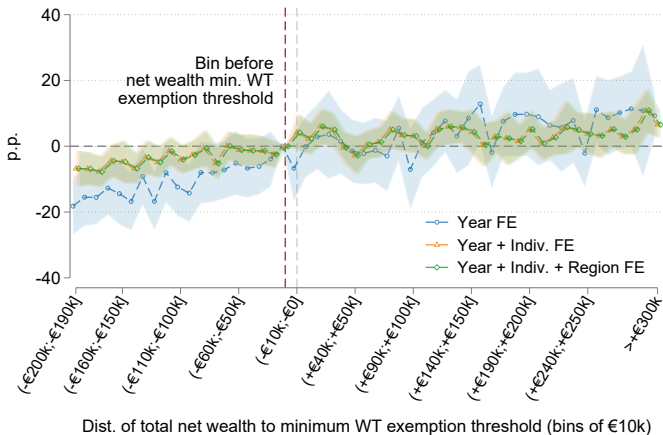
A5 Wealth shifting: Results

Figure: Change (p.p.) in fraction of business/corporate WT-exempted assets, triple *diff-in-diff*, regions with a €500,000 WT exemption threshold, 2016-2021



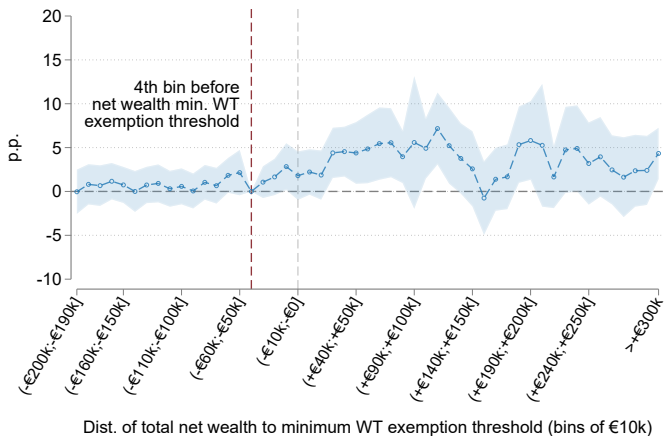
A5 Wealth shifting: Results

Figure: Change (p.p.) in fraction of business/corporate WT-exempted assets, triple *diff-in-diff*, regions with a €600,000 WT exemption threshold, 2016-2021



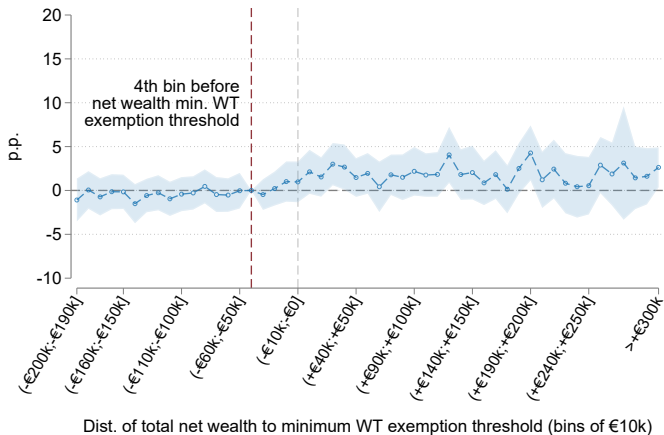
A5 Wealth shifting: Results

Figure: Change (p.p.) in probability of reducing real estate while increasing corporate or business WT-exempted assets btw. $t - 1$ and t , triple *diff-in-diff*, regions with a €400,000 WT exemption threshold, 2016-2021



A5 Wealth shifting: Results

Figure: Change (p.p.) in probability of reducing real estate while increasing corporate or business WT-exempted assets btw. $t - 1$ and t , triple *diff-in-diff*, regions with a €500,000 WT exemption threshold, 2016-2021



A5 Wealth shifting: Results

Figure: Change (p.p.) in probability of reducing real estate while increasing corporate or business WT-exempted assets btw. $t - 1$ and t , triple *diff-in-diff*, regions with a €600,000 WT exemption threshold, 2016-2021

