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BARCELONA

# The Political Economy of Regional Elite Splits

Origins, Competition, and Consequences

Pau Vall Prat



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Facultat de Dret

Programa de Doctorat en Dret i Ciència Política  
Línia de recerca: Ciència Política

# The Political Economy of Regional Elite Splits

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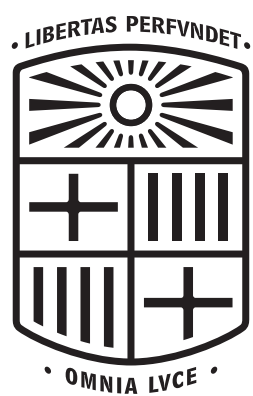
PAU VALL-PRAT

**Directors** | Jordi Muñoz Mendoza  
Joan Josep Vallbé Fernández

Barcelona. Maig de 2022

TESI DOCTORAL DIPOSITADA EN COMPLIMENT DELS REQUISITS  
PER OBTENIR EL TÍTOL DE

DOCTOR EN CIÈNCIA POLÍTICA



PAU VALL-PRAT, 2022



*Als meus pares, per ensenyar-me a trencar barreres*





# Abstract

This dissertation examines the origins and consequences of intra-elite political competition. Specifically, it focuses on elite tensions and its role in the democratization process under electoral autocratic settings. I argue that, beyond economic factors, mobilization resources are decisive to understand when certain non-incumbent elites emerge as a new political actor and how they influence political and electoral dynamics. Throughout this thesis, I focus on regional elites—as a representative example of non-incumbent elites—and I explore their influence through the analysis of micro-level historical data in Catalonia in the late 19th and early 20th century. In the three papers of this dissertation, I trace the political genesis of regional elite parties and the impact non-incumbent elites had on democratization dynamics.

First, I explore the origins of elite divisions and I focus on the causes behind the formation of a regional elite political party. I argue that it is the combination of economic grievances and mobilization resources in hands of the elites what explains elite divisions along regional lines. By capturing the intensity of an exogenous trade shock and combining this with the presence of local mobilization agents, I show the mechanisms behind elite decisions to split. The results indicate that regional non-incumbent elites chose to support an elite split where they suffered largest economic losses *and* where these elites could benefit from access to political mobilization resources.

The second article delves into the consequences of intra-elite political competition on electoral fraud practices. In electoral autocracies, incumbent elites can easily control bureaucratic resources and engage in tally tampering thus, if non-incumbent elites are to win seats, they need to prevent fraud. I contend that it is in areas where these elites, endowed with mobilization—but also economic—resources, stand for office that electoral fraud becomes less likely. Through qualitative evidence, electoral forensic techniques, and causal inference methods, I show that the presence of non-incumbent elites diminished the extent of electoral fraud. Beyond the influence of intra-elite competition on formal institutions, this paper provides evidence that elite struggles can also influence democratization by shaping informal practices and dynamics.

Finally, the third paper examines the impact of technological telecommunication changes on intra-elite political competition dynamics. This study contends that new technologies benefit regional non-incumbent elites, especially in those places where these elites had previous mobilization capacities or where new technologies facilitate the coordination between local elites and regional elite party leaders. A difference-in-differences design confirms that municipalities recently connected to a telephone network saw an increase in the support towards non-incumbent elites and electoral losses for incumbent elites, and this was especially the case in municipalities where local elites were more influential. This study provides new evidence on

the importance of technological change and mobilization resources to understand intra-elite competition.

Overall, this dissertation highlights that mobilization resources are crucial to explain both the origins and the consequences of intra-elite struggles. This is especially the case when certain elites have an insufficient capacity to mold institutions. A political economy explanation relating economic preferences and political mobilization resources is necessary to understand when elites split, but also to fathom how elite struggles influence political competition and democratization dynamics.

**KEYWORDS:** intra-elite competition, historical political economy, democratization, mobilization resources, economic shocks, electoral fraud, technological change.

# Resum

*Aquesta tesi examina els orígens i les conseqüències de la competició política entre elits. Específicament, es focalitza en el rol de les tensions entre les elits sobre el procés democratitzador en autocràcies electorals. L'argument d'aquesta tesi és que, més enllà dels factors econòmics, els recursos per a la mobilització són decisius per entendre quan certes elits sense poder polític executiu emergeixen com un nou actor polític i com això influeix les dinàmiques polítiques i electorals. Aquesta tesi se centra en l'estudi de les elits regionals —com a exemple representatiu d'elits sense poder executiu— i explora la seva influència a partir de l'anàlisi de dades històriques micro a Catalunya entre finals del segle XIX i principis del segle XX. Els tres articles d'aquesta tesi permeten traçar la gènesi política dels partits d'elits regionals i l'impacte que les elits sense càrrecs polítics executis van tenir en les dinàmiques democratitzadores.*

*En primer lloc, aquesta tesi explora els orígens de les divisions entre elits i se centra en les causes que hi ha darrere la formació d'un partit polític promogut per les elits regionals. El principal argument és que la combinació de greuges econòmics i la possibilitat d'emprar recursos per a la mobilització en mans de les elits és el que explica la divisió de les elits al voltant d'una clivella territorial. La combinació d'un xoc comercial exogen i la presència d'agents mobilitzadors a nivell local permet mostrar quins són els mecanismes que expliquen la decisió d'escindir-se per part d'algunes elits. Els resultats indiquen que les elits regionals van optar per recolzar la divisió entre elits després de patir pèrdues i greuges econòmics i quan aquestes elits es podien beneficiar de recursos per a la mobilització política.*

*El segon article se centra en les conseqüències de la competició política entre elits sobre el frau electoral. A les autocràcies electorals, les elits que ostenten el poder polític poden fer ús de la burocràcia per tal de falsificar actes electorals; si les elits sense poder polític volen guanyar eleccions, han de prevenir el frau. Aquest segon article argumenta que en aquells territoris on aquestes darreres elits, amb accés a recursos econòmics i de mobilització electoral, es presenten a les eleccions, hauria de ser menys probable observar frau electoral. A partir d'informació qualitativa, de l'ús de tècniques de detecció electoral forense, i de mètodes d'inferència causal, aquest estudi mostra que la presència d'elits regionals va disminuir l'abast de les pràctiques de frau electoral. Més enllà de la influència de la competició política entre elits sobre el disseny de les institucions formals, aquest estudi mostra que les tensions polítiques entre les elits també influeix en la democratització, tot modelant pràctiques i dinàmiques informals de competició política.*

*Finalment, el tercer article examina l'impacte dels canvis tecnològics, especialment en l'àmbit de les telecomunicacions, sobre les dinàmiques de competició política entre elits. Aquest estudi argumenta que les noves tecnologies beneficien les elits regionals especialment en aquells llocs on aquestes*

*elits disposen prèviament de recursos per a la mobilització, però també on aquestes tecnologies faciliten la coordinació entre les elits locals i els líders del partit regionalista. Un disseny de dobles diferències confirma que als municipis que acabaven de connectar-se a la xarxa de telèfons hi va haver majors nivells de suport cap als partits de les elits regionals, i aquesta dinàmica va ser més pronunciada allà on les elits locals tenien major influència. Aquest estudi mostra la rellevància que té el canvi tecnològic combinat amb els recursos per a la mobilització per entendre la competició entre les elits.*

*En suma, aquesta tesi remarca que els recursos per a la mobilització són un element crucial per explicar tant els orígens com les conseqüències dels enfrontaments entre elits. Això és especialment rellevant per a aquelles elits que no tenen prou capacitats per modelar les normes i les institucions d'acord amb les seves necessitats. Una explicació d'economia política relacionant les preferències econòmiques i els recursos per a la mobilització política ajuda a entendre quan les elits se separen, però també a comprendre com les lluites entre elits influeixen la competició política i les dinàmiques democratitzadores.*

**PARAULES CLAU:** *competició intra-elits, economia política històrica, democratització, recursos per a la mobilització, xocs econòmics, frau electoral, canvi tecnològic.*

# Thesis Regulations

This dissertation is an article-based thesis fulfilling the regulations of the doctoral academic committee at the Universitat de Barcelona Law Faculty. According to the established requirements, this dissertation includes the following pieces.

1. ECONOMIC SHOCKS, MOBILIZATION, AND REGIONAL ELITE SPLITS

This is the “main article” of the article-based compilation thesis and it has been accepted for publication with *Comparative Political Studies*. This journal has a Two-Year Impact Factor of 5.143 and it is a Q1 journal in the Political Science field, according to the latest Journal Citation Reports (JCR) classification (2020). By including this article, this dissertation fulfills the main requirement to submit a paper-compilation thesis according to the Universitat de Barcelona regulations. This article is reprinted in chapter 3 with the permission of the editors of *Comparative Political Studies*.

2. INTRA-ELITE COMPETITION AND ELECTORAL FRAUD

This article is a working paper version that has not yet been submitted to any journal and it is presented in chapter 4.

3. DEMOCRATIZATION IS CALLING: THE POLITICAL CONSEQUENCES OF TELEPHONE NETWORKS

This article is a co-authored piece with Francesc Amat (Universitat de Barcelona–IPErG), a similar version has been submitted to a Political Science journal (Q1 JCR), and it is presented in chapter 5.

4. DATASET OF HISTORICAL ELECTIONS IN CATALONIA: MICRO-LEVEL HISTORICAL RESULTS (1890–1923)

A research note based on the data collection process and the micro-level electoral data for Catalonia between 1890–1923 was published in *Data in Brief*—see Vall-Prat (2021)—, which is a Q1 journal in the JCR Multidisciplinary Sciences category. Chapter 2 includes an adapted version of this piece.



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## *Agraiments / Acknowledgements*

Aquesta tesi és el producte de diversos anys d'esforços i d'aventures, a voltes solitàries, però també de l'ajuda i del suport de molta gent. Com en una ascensió a un pic qualsevol dels Pirineus que tant gaudeixo, i malgrat el tòpic suat, és tan important fer cim com el recorregut. Encara que en aquests anys de tesi no he pogut anar a la muntanya tantes vegades com m'hauria agradat, mirant enrere puc dir que he gaudit molt de tot el camí. En part, perquè l'he fet molt en molt bona companyia. Aquesta tesi doctoral és el resultat, com deia Pompeu Fabra, de no haver perdut ni la tasca ni l'esperança. I tant en l'una com en l'altra, hi ha jugat un paper clau tota la gent que m'ha acompanyat en les diferents fases d'aquest procés tan llarg i gratificant. Per això, ara que he acomplert l'objectiu que em vaig fixar ara fa cinc anys, no vull deixar d'aturar-me per mirar enrere, valorar com déu mana el trajecte i agrair l'ajuda a tothom.

He de començar, esclar, pels meus directors de tesi. Especialment, al Cesc Amat que, malgrat no constar oficialment com a director, ha actuat com a tal durant tots aquests anys. Vaig decidir que em volia dedicar a fer recerca a les seves classes de grau a la UPF i, des de llavors, sempre hi ha sigut. M'ha assessorat en cada pas, m'ha calmat quan les coses em semblava que es torçaven i m'ha apretat quan ha calgut, però sobretot, m'ha fet sentir increïblement acompanyat. Sense algú que m'hagués entés—personalment i acadèmica—com ho ha fet ell, no sé si hauria pogut arribar fins aquí. Acadèmicament parlant, a més, sempre s'ha engrescat i ha cregut en les meves idees, m'ha obert les mires i m'ha empès sempre a repensar-ho tot i a anar un pas més enllà. Ho dic tot si dic que representa el model d'investigador que m'agradaria ser en el futur.

Al Jordi Muñoz, per tota la seva dedicació i per trobar sempre un moment per a mi a la seva agenda. També, per haver cregut en mi i en el projecte, fins i tot quan jo no les tenia totes. Per “no animar-me” a fer la tesi, sinó simplement explicar-me tot el que implicava; per deixar-me espai per prendre la decisió —que em va costar una mica massa— i després bolcar-se sempre a ajudar-me a avançar. Per la seva lectura crítica i sagaç de totes les diferents versions dels articles i per forçar-me sempre a pensar més enllà del cas. Em sento un gran afortunat d'haver pogut créixer i treballar amb ell braç a braç durant tots aquests anys.

Al Pep Vallbé, per acollir-me al Departament de Ciència Política de la Universitat de Barcelona quan era un nouvingut, per treure'm d'algun embolic burocràtic i per la seva bonhomia permanent. Veure com ha confiat i s'ha entusiasmat des de l'inici amb aquesta tesi, ha sigut una font de motivació constant. N'he pogut aprendre molt de la seva manera de fer, pausada i reflexiva, tant de bo en el futur pugui assemblar-m'hi més.



A tots tres, en definitiva, gràcies pel seu mestratge, per encoratjar-me a seguir, a marxar fora, i per redreçar el projecte quan es desviava. Trobaré molt a faltar les reunions mensuals per discutir els avanços de la tesi. Les moltes imperfeccions que pugui contenir encara aquest treball, possiblement ells ja me les han fetes notar i soc jo que no he sabut com solucionar-les. Si aquesta tesi ha arribat a ser el que és, és en bona part gràcies a la seva dedicació. He tingut molta sort d'haver-los tingut de model i de guia; infinites gràcies, de tot cor.

La idea inicial d'aquesta tesi doctoral —i de la qual, mal m'està de dir-ho, n'han quedat pocs vestigis— va néixer mentre feia d'assistent de recerca a l'Institutions and Political Economy Research Group (IPeRG). Va ser una gran satisfacció poder formar part d'aquesta comunitat des del principi. En aquell moment, gener de 2017, em va ajudar a ressituarme vitalment, i acadèmicament em va permetre seguir creixent i aprenent moltíssim. Des de llavors, s'ha mantingut per a mi com una font d'estimulació intel·lectual constant. Li estaré sempre agraït al Carles Boix que comptés amb mi des dels inicis del projecte i que m'encoratgés a fer la tesi. Durant aquells primers temps de l'IPeRG vaig poder aprendre molt de tot l'equip (Chit, Cristophe, Filip, Marta i Sonia) i dels visitants (Guillem, Pradeep). *Thank you all!* A l'IPeRG també hi vaig conèixer la Rosa, que va ser clau per animar-me a fer el pas de començar la tesi i amb qui vam compartir moltíssimes vivències junts. La vida ens ha portat per camins diferents però sempre guardaré molt bons records d'aquells dies.

El gruix de la tesi, però, l'he desenvolupat els darrers quatre anys a la Facultat de Dret i la Secció de Ciència Política, que ja s'ha convertit en casa meua. En algunes èpoques, segurament, hi he passat més hores que a casa. A la secció s'hi ha creat un ambient de treball molt estimul·lant i les noves incorporacions han fet que l'àrea hagi crescut molt en aquest temps. Però no només ha estat intel·lectualment engrescador, les sessions de *tupper* han sigut un espai fantàstic per desconnectar dels capficaments de la tesi. No voldria deixar-me de mencionar a ningú, així que moltes gràcies a tothom pel suport i, especialment, gràcies per tota l'ajuda preparant les entrevistes de feina d'aquest últim any.

A l'Aitor, això sí, un agraïment especial per ensenyar-me la casa per dins. I també per totes les interrupcions imprevistes, per tenir sempre la porta del despatx oberta i per la disposició sincera a ajudar. Malgrat la rivalitat amiga entre un escapulat i un quadribarrat, sempre ens quedarà la Marxa dels Castells. Sense els *pateos* potser hauríem arribat al mateix lloc, però no hauria sigut tan divertit. Gràcies!

Una tesi, com deia al principi, es fa alhora solitàriament i acompanyada. La companyia de gent que també fa la tesi, i que et pot entendre com gairebé ningú més, es fa sovint imprescindible. Gemma, Leire, Sergi, Andreu i Luis, sempre ens unirà el despatx A203. Elles van obrir camí i em van aguantar moments de dubtes i incerteses, vitals i acadèmiques; a ells, espero haver-los pogut ajudar a fer el seu camí de manera més fluida. *I am also thankful to Ha for her support in these last years.* I unes paraules especial per a l'Alba i l'Emmy. Amb l'Alba hem compartit trajec-

tòries paral·leles des de fa més d'una dècada, tot i que haguem acabat fent la tesi en institucions diferents. Després del grau plegats, també acabarem la tesi pràcticament alhora. Gràcies per la paciència, per relativitzar les coses i per animar-me. Segur que el futur ens depara coses bones, i que puguem seguir tenint aquestes trajectòries paral·leles! I a l'Emmy també, moltes gràcies per tot el suport i per l'amistat, i per tenir sempre a punt una ampolla de cava fresc a la terrassa.

No em vull oblidar tampoc de la Natalia, que m'ha acompanyat professionalment quan la salut mental se n'ha ressentit. En les diferents sessions, he après a gestionar-ho tot millor. Sense aquest suport, no hauria sabut afrontar adequadament algunes de les fases més complicades. Moltes gràcies!

Les estades són una de les parts de la tesi que em feien més respecte. Tot i això, algunes de les reticències van desaparèixer després de compartir trajecte amb la Francesca i en Jonas. Les vostres estades a la UB van portar energia fresca. Aquella primavera del 2019, pre-pandèmica i esplendorosa, va ser molt millor gràcies a vosaltres. Fra, gràcies per les aventures pel Raval, per l'excursió a Cervera i per la passió amb què vius les coses. *Grazie mille!*

L'exemple de la Fra i el Jonas em va animar a marxar d'estada a Yale la tardor del 2019, malgrat tots els dubtes i les pors inicials —clarament infundades. El Dídac i la María José van ser uns amfitrions meravellosos, es van preocupar per mi i em van fer sentir com a casa. No els ho podré agrair mai prou, perquè si no hi hagués anat me n'hauria penedit sempre. Gràcies! A Yale vaig tenir la sort de poder fer una immersió en una universitat de primer nivell i entendre una mica millor com funciona la recerca puntera. Vaig aprendre i gaudir molt als cursos de la Kate Baldwin i de l'Alex Coppock. *And I also met a great group of young PhD candidates, thank you Diana, Jacob, Luca, Sam, Tini, and Tuuli. You made my stay in New Haven a memorable time.* I també gràcies al Marc, per la motivació que transmet i per fer-me sentir una mica com a Barcelona quan ens trobàvem; segurament mai més menjaré un gall dindi d'acció de gràcies tan ben cuinat.

La bona experiència a Yale va fer que no m'ho pensés dues vegades abans de marxar cap a Göteborg la tardor del 2021. I quina decisió més encertada. *Tack, Johannes, for hosting me during my stay. The Political Science Department in Göteborg was extremely stimulating and it was perfect for the final push that my dissertation required. Thank you Jana, for coordinating the PhD events, and also thank you Adea, Brit, Elena, Eva, Felicia, Gefjon, Luca, and Simon for making the stay so lively. Tack så jättemycket!* Compartir estada amb el Sergi i el Guillem va ser una fortuna, no ho hauria canviat per res. Moltes gràcies per la companyia i l'amistat; llarga vida, als *pàjarus*! L'estada tampoc hauria estat el mateix sense el Víctor, que ens va obrir les portes de casa seva i ens va organitzar partits de futbol suec i partides de Catan els caps de setmana. Gràcies! I per últim —però no per això menys important—, moltíssimes gràcies, Marta, per fer-nos de cicerone per Göteborg, per la xocolata desfeta i els berenars al Brogyllen, i per preocupar-te sempre per nosaltres. Tornaré ben aviat a fer-te una visita.

Tothom qui he mencionat fins ara, m'ha ajudat en una manera o altra a millorar aquesta tesi, també en el seu contingut. Al llarg d'aquests anys, he tingut l'oportunitat de presentar el projecte en el seu conjunt o articles específics en molts espais diferents. Degut a la pandèmia de covid-19, bona part d'aquestes presentacions han sigut de manera telemàtica. Tot i això, els comentaris rebuts han contribuït immensament a fer-me repensar i millorar aquest treball. Voldria començar mencionant el PhD Workshop on Empirical Political Science, que hem impulsat en els darrers anys entre la UAB, la UB i la UPF. Allà hi vaig presentar una de les primeres versions de la tesi i en Toni Rodon em va fer alguns comentaris que em van ajudar molt a encarar més bé la tesi. En Toni és un dels meus referents a l'hora de fer Ciència Política i tinc la sort d'haver-hi pogut treballar des que em va tutoritzar el TFG a la UPF. Li estic infinitament agraït per l'interès en la tesi des de l'inici i pel seu entusiasme (amb pinzellades de pessimisme) vital. Toni, moltes gràcies!

També he presentat a altres seminaris de doctorands al departament d'història econòmica de la UB (2019), a la universitat de Yale (2019), a la Universitat de Göteborg (2021), a la Universitat d'Oslo (2022) i al PPRN Graduate Workshop organitzat per KCL-LSE-UCL (2022). Endemés, amb els materials de la tesi he participat a les conferències d'EPSA, APSA i el CES, i als workshops online EUROWEPS i Virtual HPE Workshop. A tothom que hi ha participat i ha comentat parts de la tesi, moltes gràcies. No voldria acabar aquest apartat sense agrair els comentaris i el seguiment de la tesi que n'ha anat fent el Pablo Beramendi, en les diferents estades que a l'IPeRG i les diferents vegades que m'ha fet de *discussant*. Per tot el suport i l'empenta, moltes gràcies, Pablo!

Tot i ser una tesi de Ciència Política, l'enfocament eminentment històric ha fet que hagi pogut gaudir del privilegi de rebre comentaris, també, de diferents historiadors. En diferents moments i fases del projecte vaig rebre assessorament i ajuda del Pere Audí, l'Albert Carreras, l'Àngel Calvo, en Joan B. Culla —que em va permetre assistir d'oient a les seves classes a la UAB abans no esclatés la pandèmia—, l'Alfonso Herranz, la Conxita Mir, i en Raimon Soler-Becerro. A més a més, la recollida intensiva de dades m'ha portat a descobrir tot un món apassionant, el dels arxius. Els arxivers han jugat un paper fonamental per poder recopilar totes les dades d'aquesta tesi. Moltes gràcies al Narcís Castells i l'Aleix Viñas, de l'arxiu de la Diputació de Girona, a l'Isidre Prades i el Joan Ferrer de l'Arxiu Històric de Girona, al Manel Güell de l'arxiu de la Diputació de Tarragona, i a la Dolors Rivas de l'arxiu de la Diputació de Barcelona. En general, però, gràcies a tot el personal de les desenes d'arxius que he visitat. Sé que sovint demanava molta informació de cop i això aixecava algunes suspicàcies, però al final sempre ens hem acabat entenent. Sense l'accés a tota aquesta documentació, aquesta tesi no existiria.

Aquesta tesi tampoc no existiria sense les institucions que han proveït els fons necessaris per pagar-me el sou i les estades durant els darrers quatre anys. Estic immensament agraït d'haver pogut fer tota la tesi amb recursos públics provinents del programa de Formació de Professorat Universitari del Ministeri d'Universitats, al qual agraeixo també el finançament suplementari

per fer front a l'estada a Yale. L'estada a Göteborg la vaig poder finançar amb una de les beques de mobilitat per a la investigació que atorga anualment la Societat Econòmica Barcelonesa d'Amics del País (SEBAP). Va ser una mica com tancar un cercle, amb els hereus d'aquelles elits industrials catalanes que investigo finançant una tesi que parla del seu passat. Tant al Ministeri —i a tots els contribuents que no han eludit les seves obligacions fiscals— com a la SEBAP, moltes gràcies pel suport econòmic.

I com que això s'està allargant més del que preveia d'inici, vaig acabant. Als meus amics, perdó per les hores que ens ha robat la tesi, gràcies per escoltar-me i, sobretot, moltes gràcies per ajudar-me a desconnectar quan més ho he necessitat. Gràcies a la colla de Sant Andreu: Amanda, Bernat, David i Paula; qui ha estat casa, segueix sent casa per sempre! Gràcies a la colla de la Pompeu: Àlex, Esther, Gina i Mercè; per la Vinya, Fuerteventura, Cadis i per tot, que puguem seguir bevent i xatejant per molts més anys! Gràcies, Fèlix, per fer-me sentir com a casa a Duesaigües. Gràcies, Jaume, per l'entusiasme i la motivació, i gràcies també a la resta d'El Teu Parlament: Bernat i Guillem; a Das vaig agafar embranzida per embastar la tesi, tornem-hi aviat.

A la meua família, que malgrat no acabar d'entendre el que faig, si em veuen content ja en tenen prou. I gràcies, Cristina, per creure-hi més que jo i per acompanyar-me en els moments de dubtes i tribulacions; al final, ens en sortim.

Moltes —moltíssimes— gràcies als avis. L'avi Martí i l'àvia Paquita, que sempre m'han dit que estudiés i els he acabat fent massa cas. Gràcies per explicar-me històries i *batalletes* de Manresa i de Sant Joan, i per fer-me néixer el gust per la història i per entendre millor el passat.

Milers de gràcies a la Patri, pel suport indefallible, per la paciència constant i per l'estima incalculable. Soc un gran afortunat de gaudir de la teua companyia en el meu dia a dia, que ho fa tot més fàcil i més feliç. Quines ganes de seguir sumant vida al teu costat!

I, sobretot, infinites gràcies als meus pares, Benet i Maria Àngels, per ajudar-me a ser qui soc. Sou un exemple de lluita i perseverança davant un context poc preparat i hostil a la diferència. Per educar-me en la diversitat i regalar-me una llengua; per la vostra inesgotable fe en mi; per la vostra estima absoluta; per tot això i més,





# I

## Introduction

*A unified elite means the end of freedom. But when the groups of the elite are not only distinct but become a disunity, it means the end of the State. Freedom survives in those intermediate regions...*

Raymond Aron (1950, p. 143)

### 1.1 DEPARTURE POINT

#### 1.1.1 DIVERGING ELITES

Albert Rusiñol i Prats and Alfons Sala i Argemí were two prominent members of the Catalan industrial elite. They were born in the early 1860s to families owning textile businesses, and they inherited their family corporations around the 1890s. Albert Rusiñol shared ownership of the cotton textile company, Rusiñol Hermanos, with his brother, the famous writer and painter Santiago Rusiñol. Together they managed a cotton textile and industry town factory in Manlleu, in the district of Vic. Alfons Sala inherited a company that would later become the Sala y Badrinas S.A. corporation, controlling one of the largest wool textile factories in the industrial city of Terrassa, near Barcelona. In 1893, both Albert Rusiñol and Alfons Sala were elected as representatives to the Spanish lower chamber for the constituencies of Vic and Terrassa, respectively. In fact, when they were elected, they both belonged to the same political party, the Liberal party, which won the 1893 elections as a consequence of the agreement between the two main Spanish political parties to turn in power. Being candidates for the incumbent party organizing the elections, their chances of winning the seat were almost secured due to the pervasive electoral fraud practices in Spain in those years.

Over the years, their political fortunes were also quite similar, and they both had long political careers: Alfons Sala continued to be elected Member of Parliament (MP) for the constituency of Terrassa almost uninterruptedly until 1923; Albert Rusiñol, despite losing his seat in 1896, was elected MP again in 1901 and he occupied different political posts until 1923. However, a crucial difference separated their political careers after 1900. At this time, Albert Rusiñol and Alfons Sala would no longer share the same political party because Rusiñol decided to join and lead a newly created regional elite political party, the Lliga Regionalista.

The almost parallel lives of these two prominent members of the Catalan elites diverged at the turn of the century. After the creation of the regional elite party, some of the Catalan elites sought new political alliances and decided to back this new party, while other sectors kept their ties with the Spanish-wide political parties. The new alliances between some industrial elites and the Catalan intellectual elites turned the political competition dynamics upside down with mobilization resources. Although Catalan identity had been politically salient in Catalonia, these differences did not find fertile soil for electoral growth until the early 20th century. Once this division took root, intra-elite struggles would largely influence political competition in Catalonia. According to many historians, political competition dynamics changed and elections became cleaner and more disputed.

The case of Catalonia is neither unique nor an exception. In a similar historical period, regional elite parties were flourishing around Europe. In Ireland, regional political organizations were also created in the mid-19th century and, over time, became hegemonic, replacing the Conservative and Liberal British parties. In Bavaria, the regional Catholic elite also pushed for the creation of regional parties. The Euzko Alderdi Jeltzalea–Partido Nacionalista Vasco was also created in the late 19th century in the Basque Country, leading to a divide among Basque elites that was less electorally successful. Yet, in other cases, such as Scotland or Frisia, elite or political divides did not take place until much later in time. In all the successful cases of regional elite division, a combination of political and economic factors led to regional splits, but with different political and electoral fortunes. In some cases, political differences were related to language or identity; in others it was about religion. However, in most cases, it was a combination of several economic and political factors. Regardless of the line of division, when these

differences were politically mobilized, intra-elite struggles gained political salience and entailed, in each of these cases, far-reaching institutional and political competition consequences.

### 1.1.2 PUZZLES

In non-democratic settings, it is crucial to focus on elites to understand democratization dynamics. Elites are, in these circumstances, the main political actors, and it is when they disagree and compete that democratization becomes likely (Ansell & Samuels, 2014). However, how do elites come to disagree? And even more importantly, when are these disagreements transformed into electoral struggles? Why did Albert Rusiñol and Alfons Sala in the previous example choose different political paths? It is not unusual to see a diverse group of elites coexisting and making their demands through the same organization; neither is it uncommon to see the opposite, with different elites competing through different platforms. What are the conditions that prevent elites from engaging in splits and facilitating competition?

As described in the initial quote, it is when elites are distinct and compete that freedom (and democratization) can flourish. In such contexts, elections are the formal mechanism to select politicians, but informal mechanisms curtail the democratic nature of voting procedures; elections are there but democracy is missing. Then, to what extent can new elite-led organizations deter these informal mechanisms? Once the division formalizes, through which specific channels do elite conflicts contribute to enhance democratization practices and dynamics? Following the earlier example, how was Albert Rusiñol able to prevent the pervasive electoral fraud practices favoring incumbent party candidates?

Last but not least, the main goal of elites choosing to confront other elite groups was to win elections. In a period in which the expansion of new technological innovations was widespread, new technologies played an important role in electoral competition. What was the role of these social and technological changes specifically on intra-elite struggles? What were the factors related to incumbent elite electoral losses and to elite replacement through elections? Overall, what drives intra-elite competition dynamics, and how are the new elite not only to deter fraud but to win elections? In other words, what factors contributed to the rise and electoral success of Albert Rusiñol once he stood as a candidate of the Lliga?



The previously outlined puzzles guide this dissertation project. All these questions have been partially neglected in the literature, and inquiries along these lines can contribute to advancing our understanding of intra-elite competition dynamics and their influence on the democratization processes. This thesis is structured as a compilation of three different papers with each study focusing on one of the previously outlined puzzles. In this introductory chapter, the theoretical and empirical nexus across the three papers is outlined. I start by summarizing the main argument of this dissertation and detailing the scope conditions of this argument. After that, I point out the main contribution of the thesis and present the literature gaps, which this dissertation fills. Next, I present a general theoretical framework in which I define the concept of elites and its relevance in political science. I briefly overview the most recent contributions to elite divisions and summarize the findings regarding the contributions of elite competition to democratization dynamics. The following pages provide a more detailed description of what makes elite divisions along territorially aligned dimensions different, and what is the relevance to study regional elites. Subsequently, I lay out the contextual characteristics of Spain and Catalonia during the late 19th and early 20th centuries. I conclude this chapter by explaining each of the three dissertation papers.

## 1.2 ARGUMENT

The aim of this dissertation is to show under what conditions the elites engage in intra-elite competition and the repercussions this competition has for democratization dynamics. In this work, I present new micro-level evidence detailing the causes and (some of) the consequences that intra-elite competition entails. More specifically, I focus on the interplay between economic and political conditions to better specify how intra-elite strategic relations and interactions shaped political competition and democratization practices. Throughout this dissertation, I argue that mobilization resources in the hands of non-incumbent elites, i.e., those who systematically remain alien from access to executive political power, are essential to understanding both the origins and the consequences of intra-elite competition.

Figure 1.1 summarizes the main argument in this dissertation. Overall, the main argument is that mobilization resources in the hands of the elites are not only a necessary condition to ex-

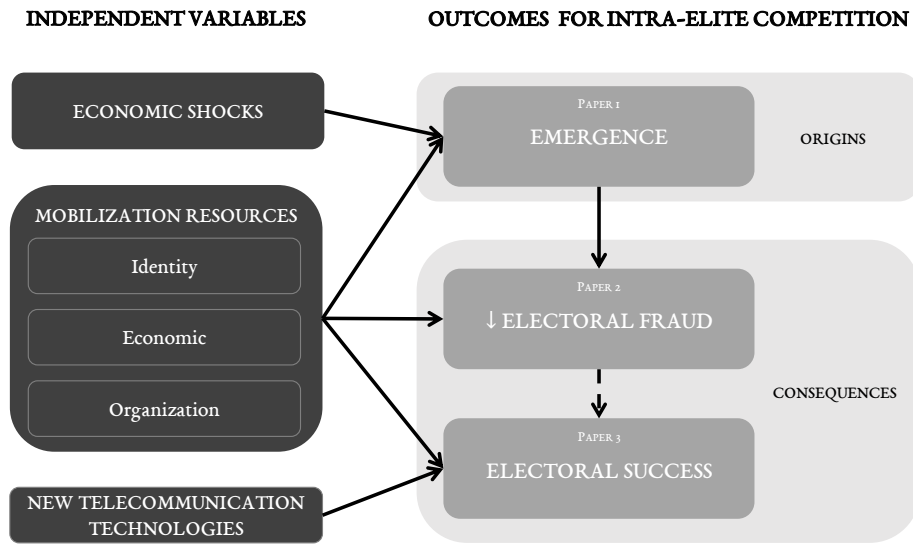


FIGURE 1.1 Summary of the Argument

plain splits, but they also help to understand how intra-elite competition then leads to changes in democratization practices and new political competition dynamics. On the one hand, I argue that elite splits take place when a change in the economic conditions affects preferences *and* when there is access to mobilization resources. I argue that heterogeneous economic and political preferences can be insufficient explaining when elite divisions take place. An economic shock exacerbates discontent elites' willingness to support division and confrontation, but they can only turn on the separation machinery when they can resort to mobilization resources. This is because these resources increase the chances of this enterprise being successful. I argue that heterogeneous economic and political preferences can be insufficient in explaining when elite divisions take place; changes in economic conditions are the trigger, but mobilization resources facilitate turning grievances into an effective political movement.

On the other hand, and building on the contributions by Albertus and Menaldo (2012) and Mares (2015, forthcoming) regarding how different elites employ resources to enhance their interests, I argue that mobilization resources make intra-elite competition conducive to more democratic and competitive electoral *practices*. I defend this case even when certain elites do not have access to formal political representation or when their legislative influence is insufficient to reform institutions, i.e., when they do not possess institutional manipulation capacities. Hence, mobilization resources are pivotal for understanding non-incumbent elites' access

to political representation and their potential to confront incumbent elites. I argue that the combination of economic and political mobilization-related factors can contribute to the explanation of changes in electoral competition and in the electoral fate of non-incumbent elites.

In my argument, the presence of a new elite electoral competitor, generates new political competition dynamics and the intra-elite struggle has consequences for democratization practices, even when they are a minority in representative institutions. First, the presence of new and non-incumbent elites contributes to reduce the extent of electoral fraud in contexts in which these procedures were customary. Remarkably, changes in these practices were more likely in places where the elite could easily resort to their (widely understood) mobilization resources. Second, and once electoral fraud was no longer pervasive, these new elite competitors were more likely to electorally defeat incumbent elite through the use of new technologies, especially in places where they already had larger mobilization resources. All in all, this dissertation calls attention to the importance of mobilization resources in the hands of the non-incumbent elite to explain both the origins and the consequences of intra-elite competition.

### 1.2.1 SCOPE CONDITIONS

The influence of elites on political competition and democratization dynamics in this study are constrained by certain elite and contextual characteristics. Regarding the differences, on the one hand, I want to note that the focus is on *non-incumbent* elites,<sup>1</sup> i.e., those with a low capacity to mold institutions according to their interests, or in other words, elites with low institutional manipulation capacities. This is why the focus on regional elites gains prominence in this study, as I further detail in Section 1.5. Albeit powerful in their own regions, these elites are representative of those with no—or very little—access to the formal powers at the central level to pass legislation and change the rules of the game. Regional elites allow us to understand the incentives and strategies of those without institutional manipulation capacities in contexts of emerging intra-elite strife.

On the other hand, and crucial to my argument, I focus on elites who have access to resources, especially resources that can be useful for political mobilization. This is necessary to

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<sup>1</sup> In this dissertation I use regional and non-incumbent elites interchangeably.

effectively engage in intra-elite competition. Only when the non-incumbent elites can use these alternative resources in their favor can they counterbalance the resources in the hands of the incumbent elites. For instance, access to organizational or economic resources can facilitate electoral mobilization by expediting the spread of news or ideas or by counterbalancing the electoral strategies of the incumbent elites. In this case, resorting to the regional elite is advantageous because these elite can resort to additional resources, such as identity, that can be helpful to mobilize a wider segment of the electorate along new electoral dimensions or build larger political coalitions with other political actors. Yet, non-incumbent elites can employ a wide array of resources, and the argument I present here is valid for all sorts of non-incumbent elites.

The argument I advance in this study is constrained by certain contextual characteristics. First, I focus on the role and the relevance of intra-elite competition in the context of non-democratic polities. More specifically, this study analyzes the rise of elite conflicts and the consequences of their struggles in contexts of endogenous processes of democratization, i.e., in scenarios where democratization is likely to emerge without (or very rare instances of) external interventions. Elites are the main actors to understand institutional political changes under these settings, and I argue that under these conditions they can also modify practices conducive to democratization.

Second, the findings in this dissertation are limited to cases in which there is a minimum of liberal state institutions and some sort of elections are present. This means that regular elections should take place, even if they are of an autocratic nature, division of powers and certain rights and freedoms should be constitutionally grounded, and the possibility of setting up political organizations should be, at least minimally, present. Otherwise, in contexts of pure single-party autocracies in which freedom of expression or reunion are not granted, the potential for non-incumbent elites to structure alternative organizations would be much more complex. Resources in the hands of the elites matter if the possibilities for political mobilization are not punishable; that is, if certain preconditions are granted, the resources can be effective for political mobilization.

Third, intra-elite competition is also constrained by taking place in electoral autocratic systems. Political and electoral competition has specific characteristics and grants a tilted playing

field favoring the incumbent elites. Electoral competition in this scenario cannot be equated to competition under full democratic settings and it requires taking into account the specificity of these contexts. In such a case, it is difficult to observe elites choosing to split and/or to compete in elections.

Finally, the existence of intra-elite conflicts requires a certain degree of heterogeneous political and/or economic conditions. If, for instance the whole country is agrarian, Catholic, and linguistically homogeneous, all of the elites would share similar preferences. Under these circumstances, the likelihood of seeing elite divisions would be much lower because all of the elites would be equally well represented in political decision-making. Only when there are some differences in socio-economic characteristics, can we see elite divisions and their connected consequences. Moreover, these differences can necessitate that elites use these distinctive traits as a mobilization resource. It is usually through these different characteristics that opportunities and resources for mobilization can be exploited by certain elite to their favor to promote political organization and effectively compete in elections.

### 1.3 CONTRIBUTION

Why do elite splits and elite competition merit a dissertation? One crucial reason it is important to study the causes and consequences of splits is because elite struggles are a key element of the democratization transition processes. For many years, elites were conceived as a unitary actor but recent literature has largely emphasized that elite struggles were behind institutional and competition changes leading to the transition from autocratic to democratic polities (Ansell & Samuels, 2010, 2014). The approval of new democratizing rules and institutions was a consequence of intra-elite struggles, and these reforms, sometimes unintendedly, paved the path for democratic consolidation. This study builds upon much of the previous intra-elite competition and democratization literature to refine the conditions under which elite conflicts contribute to democratization. A greater understanding of elite competition furthers our comprehension of democratization processes and this thesis contributes to the literature in several ways.

First, this study contributes to the previous literature by focusing on the role and relevance of mobilization resources that have not received ample attention in the intra-elite literature. In

this dissertation, I emphasize that differences in economic and/or political preferences can be insufficient in understanding elite competition. It is rather when these elements combine with resources, e.g., mobilization or coordination capabilities, that elite conflicts surface and gain political relevance. Mobilization capacities are necessary for the non-incumbent elites to gain power vis-à-vis incumbent elites with access to law and order tools—use of force, coercion, and bureaucratic resources. Access to these resources influences utilitarian calculations on whether to run for office, and on the likely support a non-incumbent elite party might receive in elections. Furthermore, access to such resources also conditions the dynamics of intra-elite political competition.

Second, in this thesis I endogenize the factors leading to intra-elite competition. Most of the previous literature on such conflicts takes the elite divisions for granted. In previous contributions, the focus has always been on elites represented in parliament, disdaining the reasons why in some cases they were able to win access to power and engage in intra-elite struggles, while in other cases conflicts were absent. Until now, most of the literature has considered the political and economic consequences of elite struggles in terms of the extension of enfranchisement, changes in fiscal institutions, variations in state capacities, etc. Nonetheless, I show that some of political and economic factors are also in the origins of intra-elite competition. Understanding where elite divisions originate can also help recognize the likely consequences these conflicts may involve in the future. Democratization is not only a consequence of elite divisions, but it is rooted in features that make it possible for elites to institutionalize their divisions. Paper 1 (Chapter 3) is one of the first contributions focusing on the origins of elite conflicts rather than on its consequences.

Third, one of the contributions of this dissertation is the focus on the mechanisms associated with intra-elite competition. Throughout the three papers, research designs are carefully drawn to escape mechanistic explanations on the relation between political and economic factors and political outcomes. In this thesis, I provide empirical evidence of the mechanisms related to the presence of specific factors leading to political consequences. This allows me, for instance, to better specify the necessary scope conditions for an elite split along regional lines to take place. Going back to a previous point, traditionally political and economic factors had

been associated by Stein Rokkan (1982) with the rise of regional divisions. In Paper 1 (Chapter 3), I show not only that political and economic factors mattered, but also when these factors made a difference. Identity or economic heterogeneity are behind regional elite decisions to split, but only when identity can be mobilized and when economic differences are exacerbated. In Chapters 4 and 5, I am also able to provide evidence on the different mechanisms involved.

Fourth, this dissertation presents a new perspective on the role of intra-elite conflicts on democratization. Most of the previous literature linking elite competition and democratization have generally focused on the institutional transformations shaped and passed in parliaments. This study shows that intra-elite competition not only facilitates the enactment of democratic institutions, but it can also shape democratizing electoral practices through changes in informal processes and practices. This is even more likely when non-incumbent elites have access to resources that allow them to improve the coordination capacities and electoral mobilization. Then, non-incumbent elites can influence certain informal electoral procedures and prevent coercive or fraudulent practices favoring the incumbent-elite. Even when elites have no (or very little) access to formal politics, intra-elite competition has political consequences and shapes informal practices conducive to democratization. As previously indicated, mobilization resources are essential because they facilitate access to formal institutional representation to non-incumbent elites, and can shape informal democratizing practices. This is detailed in Paper 2 (Chapter 4).

Fifth, this thesis contributes to an ongoing debate regarding the effects of new technologies on political competition. Most intra-elite struggles leading toward changes in democratic institutions and practices took place in a time period in which technification and modernization processes shaped new social relations. Building on all the previous factors (mobilization resources, relevance of the mechanisms, democratization practices, etc.), in Paper 3 (Chapter 5) I contribute to the literature by detailing some mechanisms through which new technologies can shape elite relations. Changes in informal political practices and dynamics not only depend on political and economic factors, but also technological changes.

Last but not least, this dissertation shifts the focus of the intra-elite competition literature toward the regional dimension of elite conflicts. To date, most contributions in the literature

have analyzed elite divisions at the national level. By focusing on regional elites, as an especially well-suited case of non-incumbent elites, a new perspective of the consequences related to a different type of elite contention is offered.

In summary, this thesis highlights, first, the relevance of focusing on the origins of elite divisions, and second, the significance of elite formal behaviors, e.g., roll-call votes, and of informal practices. In these two aspects, my contributions emphasize the importance of the available resources to non-incumbent elites. Both the resources and the changes in informal practices are essential for understanding the role elites play in the democratization processes, beyond the impact of their interactions on institutional reforms. In the next section I clarify some of the concepts I will employ throughout the three main papers and I provide a more detailed overview of the existing intra-elite conflict and democratization literature.

#### 1.4 ELITES, COMPETITION, AND DEMOCRATIZATION

##### 1.4.1 DEFINING ELITES

This study focuses on elites, one of the main subjects of interest for early contemporary political scientists. Debates regarding who they were, what their role was, and how they were organized have received a great deal of scholarly attention.<sup>2</sup> In the late 19th and early 20th centuries, the three classical elite theorists—Vilfredo Pareto (1968), Gaetano Mosca (1939), and Robert Michels (1915)—set the foundations for the political analysis of elites. In general, they were defined by these authors as those individuals with disproportionate access to wealth and resources in society, or in other words, those individuals who “have more influence over public affairs than do ordinary citizens” (Putnam, 1976, p. 140).

Elites have also been defined as “a minority of individuals designated to serve a collectivity in a socially valued way...[who] are ultimately responsible for the realization of major social goals and for the *continuity* of the social order” (Keller, 1963, p. 4).<sup>3</sup> Social continuity and change are, thus, in the hands of the elites and their configuration is crucial to understanding stability and change. Despite the classical theorists’ belief of elites as a unified corps, it soon became clear

<sup>2</sup> Ricart-Huguet (2019) has comprehensively summarized many of these contributions.

<sup>3</sup> Emphasis added.



that not all elites were created equal. Mills (1956), for instance, distinguished between different types of elites depending on the resources to which they had a disproportionate access—military elites, economic elites, and power elites—and he emphasized the relevance of non-unified elites.

Putnam (1976, ch. 5), in turn, highlighted that the degree of elite integration or cohesion depended on several dimensions: social background, personal interactions, preferences, sense of belonging, and institutions. When (some of) these elements are incongruent across different groups, then elite struggles might arise, opening the possibilities of political instability and change. As advanced by Aron (1950), compatibility and cohesion among the different elite subgroups is also crucial in explaining political stability. Democratization, thus, required a certain degree of elite conflict to allow for institutional changes, but not too great if “the end of the State” was to be avoided. The initial elite literature, nonetheless, did not detail when these differences turned into political divisions.

#### 1.4.2 POLITICAL DIVISIONS

Elites always struggle for power, but these conflicts can be aligned along different political dimensions. Sometimes, they are able to maintain struggles in the shadows; other times sociodemographic, economic, and/or technological changes lead to wider and public political tensions and conflict. Political divisions are not idiosyncratic to the elite. However, given that they were the main political actors until fully democratic institutions were implemented, it is of special interest to understand the main existing explanations regarding (elite) political differences.

Some of the main political divisions are rooted in historical events. Technological change is a crucial factor to understand the configuration of political divisions because it “creates new social forces that, at some point, have the incentives and economic means to challenge the existing political and legal framework and the *ruling elite*” (Boix, 2015, p. 6).<sup>4</sup> Therefore, technological changes influence the balance of power across elites and create winners, who seek to increase their political power, and losers, who will exert their influence to remain powerful (Mokyr, 1998). One of the main historical events associated with the technological innovations and that led to profound economic changes was the industrial revolution, which transformed mostly

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<sup>4</sup> Emphasis added.

agrarian into capitalist societies, and led to the rise of a new elite, the bourgeoisie (Allen, 2009). Until then, landowners and aristocrats were the dominant elites and they controlled the main source of wealth—land—, but they saw their preponderant position threatened. The technological and economic changes associated with the industrial revolution, beyond leading to migration processes and new types of labor relations (Mokyr, 2010), empowered the bourgeoisie and transformed intra-elite relations.

Lipset and Rokkan (1967) viewed the whole industrialization process as a foundational moment that set up (and froze) the main political cleavages. Thus, according to these authors, political conflicts are related to certain social characteristics that define and distinguish individual preferences. Some of these cleavages are more difficult to change, i.e., religion ascription, language spoken, identity, etc., but others are contingent upon the economic characteristics and resources available to political actors. The specific social dynamics and how the industrialization process was experienced in each country, defined and set up certain political cleavages that would remain, according to Lipset and Rokkan (1967), almost unalterable.

Although the cleavage theory is appealing, because it defines the salient political divisions in society, it is less suited to reveal the occurrence of changes in the political competition dimensions. Economic geographic explanations have tried to bring more dynamic justifications of political divisions, presenting them as a consequence of changes in the economic geography (Rickard, 2020). From this perspective, as the industrialization process unfolded, urbanization processes were intensified and trade became increasingly more important; hence, political preferences regarding trade policies or urban vs. rural preferences gained political salience. This is why political divides around trade policies (Schonhardt-Bailey, 1991) or taxes (Mares & Queralt, 2015) gained significance, precisely because industrialization strained political preferences along these issues. According to this view, economic changes are the main driver of the configuration of political divides.

However, political divisions are not only influenced by political preferences, but also by electoral opportunities. Jusko (2017), for instance, shows that changes in electoral geography explain why certain political preferences are better represented than others. In turn, Tavits (2008) shows that before engaging in new political enterprises, entrepreneurs consider not only the

benefits but also the costs of standing for office. Elites, as the main political actors during the early industrialization period, were subject to all these considerations. This explains why they should back certain political divides only when they see more opportunities than costs in doing so. Political divisions, as well as elites, require both elements: distinct preferences and opportunities to structure political competition around certain dimensions. Without disdaining the relevance of social divisions and economic factors, and incorporating utilitarian evaluations of elites, Chapter 3 builds on the previous contributions of political divisions, and I provide some specifications on the political and economic conditions necessary for elites to formalize new political divisions.

#### 1.4.3 ELITES AND DEMOCRATIZATION

It is not possible to analyze the democratization process without taking into account the role played by elites. Classical explanations have typically portrayed the democratization process as a consequence of intra-elite conflicts and cooperation. For instance, according to Barrington Moore (1966), democratization took place in places where the new industrial and bourgeoisie elites allied with landowners and aristocrats. However, in places where the industrial elites were weak or absent, liberal democracies could not develop. Similarly, Luebbert (1991) highlighted the relevance of different types of coalitions between landowner elites, liberal elites, working classes, and peasantry for democratization outcomes.

Democratization is clearly associated with modernization processes (Boix & Stokes, 2003; Przeworski et al., 2000) but the puzzle of why elites in a non-democratic system agree to democratize has received multiple answers in recent years. A strand of the literature has stressed the strategic behavior of the elite, who only agree to democratize when they anticipate they would be better off by compromising (Boix, 2003; Przeworski, 1991; Weingast, 1997) and when they see democracy as the lesser evil to maintain (most of) their status. Factors such as inequality, the main source of wealth for elites (Boix, 2003), or a credible threat of revolution (Acemoglu & Robinson, 2006), would make elites more or less prone to democratize. Hence, based on the Meltzer and Richard (1981) model, Acemoglu and Robinson (2006) and Boix (2003) present the democratization process as a redistributive strategy of elites to avoid revolution or exces-

sive taxation from the masses. Moreover, elites are aware that they can manipulate institutions strategically<sup>5</sup> in order to minimize the influence of the masses and their losses, and maximize their political influence under democratic settings. For instance, they can shape electoral rules (Boix, 1999) or establish counter-/super-majoritarian institutions (Przeworski, 2010). Overall, these models depict democratization as a consequence of redistribution preferences between elites and the (disenfranchised) masses.

Also focusing on elites, but from a different perspective, contractarian models of democratization portray this process as a consequence of intra-elite conflict (Ansell & Samuels, 2010, 2014). Democracy arises as a credible commitment device to secure the assets of new industrial elites that would not be expropriated by the landowner and aristocratic elites. Institutional changes, such as larger electorates and further checks and balances to control political power, contribute to guaranteeing property rights for the industrial elite. In this argument, crucially, democratization is not a result of elite concessions to the masses but of intra-elite bargaining. It is only when there are different types of elites competing politically that democratic institutions are implemented to accommodate the interests of the new rising group of elites.

Hence, elites and their interactions are essential in understanding how democratization unfolded. The democratization process goes hand in hand with emerging liberal and industrial elites who seek a way to increase their political influence once they have achieved enough economic influence. A bulk of recent evidence has highlighted the role of intra-elite competition in democratizing institutions. For instance, enfranchisement extensions and universal suffrage were more likely when elites competed (Lizzeri & Persico, 2004). Intra-elite competition has also been related to variations in fiscal institutions, seen as myopic decisions, and to a lack of internal cohesion across elites (Beramendi & Queralt, in preparation). More specifically, Mares and Queralt (2020) have related the introduction and intensity of income taxes to a coalition between landowners and certain industrial elites to diminish the political influence of the middle classes and shift the fiscal burden from land to industries. Other studies have related intra-elite competition to variations in state capacity (Garfias, 2018) or power-sharing arrangements (Paniagua & Vogler, 2021). Finally, Albertus and Menaldo (2012) focus not only on the pref-

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<sup>5</sup> As North (1990) clearly highlighted, institutions contribute to reduce uncertainties and shape the incentive structure for all political actors.

erences and elite interactions, but also on coercive resources in the hands of incumbent elites to understand when a transition to democracy is more likely. Intra-elite competition and elite resources are thus crucial to understanding variations in democratization paths.

Most of the previous literature has focused on elites with existing formal representation, access to institutional manipulation, and influential legislative bargaining power (Baron & Ferejohn, 1989) to study their influence on democratization. Nonetheless, in cases where new or emerging elites do not have access to power or have weak legislative influence, their strategies and contribution to democratization should operate through other channels, mainly through resources available to these non-incumbent political actors. As defined by Teorell et al. (2017, p. 533), “[w]hile formal institutional features are more easily amenable to empirical analysis, the *practice* of democracy remains much tougher terrain for empirical analysis”, but, I would add, practices can be as important as formal institutions. In Chapters 4 and 5, I show how regional non-incumbent elites without much legislative influence could shape democratizing practices.

### 1.5 REGIONAL ELITES: WHY ARE THEY DIFFERENT?

As I have advanced in previous pages, and due to their nature as non-incumbent elites, in this dissertation, I focus on a specific type of elite division: regional elites. Regional elites are those who prioritize the interests of their region over the interests of the whole country, and they usually employ regional parties to pursue their political goals (Brancati, 2008). The existence of these types of elites is not straightforward. In many countries, elites are not divided along geographic lines and the presence of regional elites is generally related to political and/or economic differences between the region and the rest of the country. If this is the case, why should we care about regional elites? I argue that the distinctiveness of regional elites can have some disadvantages for their political endeavors; they have a minority status, and they lack access to institutional and bureaucratic resources. Yet, there are also some advantages, and regional elites can easily resort to specific resources. Their regional nature can facilitate access to political mobilization resources or strategies associated with regionally distinct interests or identities. These characteristics make regional elites an interesting case to test how elites with resources but no institutional capacities can shape democratization.

However, I should start by describing what we know about the origins of regional political divides and the politicization of regional identities. Again, industrialization and uneven economic geographies have traditionally been used to explain the persistence of local or regional cultures (Gerschenkron, 1962; Gourevitch, 1979) because industrialization favors economic growth and economic geographic inequalities, which can lead to divergences in political preferences. According to Rokkan and Urwin (1982, 1983), peripheral identities are politically salient in places with distinct characteristics and resource endowments. Nonetheless, the political mobilization of territorial politics only occurs when catalysts turn potential characteristics—language, religion, economic grievances—into movement, organization and demands. Industrialization can be one of these catalysts, given that it makes elites more prone to invest in education or news diffusion, factors related to the politicization of identities (Anderson, 1983; Gellner, 1983). Nonetheless, industrialization-related differences, albeit concentrated in specific regions, are not sufficient to distinguish regional elite struggles from the classical conservative vs. liberal elite divisions prevalent in the intra-elite literature.

The focus on regional elites is theoretically and substantively relevant because, unlike rising liberal industrial elites, regional elites were systematically disadvantaged in access to institutional and bureaucratic capacities. In fact, some explanations of the success of substate national movements have highlighted the role of institutions and institutional capacities. The persistence of distinct regional institutions—mostly through informal practices—and the incapacity to impose institutional uniformity are related to the persistence of distinct regional identities (Harty, 2001). Under these conditions, albeit preserving some of their old institutions, regional elites were generally excluded from state-building initiatives and could not employ the state resources to advance or protect their interests. Regional-oriented differences in political preferences can be appeased if central elites establish institutions aligned with regional elite goals (Garfias, 2019). Nonetheless, discontent among regional elites, especially in industrialized regions, can increase if state-controlling elites do not satisfy their demands and regional elites do not have access to political power.

I argue that elite divisions along a center-periphery dimension are different and a worthwhile case to study the impact of elite conflicts for three main reasons. First, and along with

the previous point, regional elites had no access to institutional manipulation capacities. This factor that has usually been praised as an important tool in the hands of the elites to shape preferences (Riker, 1980) and maintain their political grip, especially in autocratic contexts (Pepinsky, 2014). This makes regional elite divisions a hard case to test the impact of intra-elite struggles. Second, regional elites are a special case of a political actor without institutional manipulation but with access to a large amount of resources, which are crucial for the success of political parties (Boix, 2009). The elite nature of this political group makes them able to control economic resources that can facilitate electoral mobilization strategies. Moreover, their regional nature also facilitates the use of regional identity characteristics to enhance political mobilization in their favor (Hroch, 1985). Third, elite divisions along a center-periphery dimension were in place in numerous countries in Europe—e.g., Ireland (Garvin, 1977) or Bavaria (Mor, 2022)—during crucial stages of the democratization process. Elite divisions beyond the classical landowner vs. industrial elites were common. They may have been related to different conditions or entailed different consequences for democratization that are worth exploring.

Regional elites allow us to test to what extent political actors without institutional manipulation capacities are able to influence democratization practices. We can think of regional elites as an actor with less resources than incumbent elites but more resources than the masses asking for democratization and redistribution. Moreover, they were unable to employ institutional manipulation in their favor, and their legislative bargaining power was insufficient to pass formal institutional changes in democratization practices. We can think of regional elites in industrial areas as sharing some political preferences with liberal elites. However, unlike liberal elites in certain contexts, regional elites systematically remained a minority and lacked access to institutional manipulation. In turn, and unlike emerging working-class parties, these elites could easily resort to a wide variety of resources and well-endowed coordination capacities. In fact, mobilization resources were crucial to reach their goals. Therefore, the focus on regional elites allows us to understand the extent to which mobilization resources can counterbalance institutional manipulation in the democratization process.

## 1.6 A HISTORICAL POLITICAL ECONOMY APPROACH

I use historical lenses to address questions regarding the causes and consequences of regional elite splits. This dissertation fits into the field of historical political economy, an interdisciplinary research area that broadly combines insights from all disciplines in the social sciences but mostly from political science, economics, and history. Historical political economy is characterized by grounding research designs using political science and/or economics theories on a deep and accurate knowledge of the historical context (Gordon & Simpson, 2020; Kocher & Monteiro, 2016). A key characteristic of studies in this field is that they seek causality through causal inference methods on observational data (Bateman & Teele, 2020), with theory being a crucial aspect because, beyond causation, a causal explanation is impossible without theory (Gailmard, 2021). Hence, in this work, I employ historical data to further develop theories on intra-elite competition and democratization.

Empirical historical research in this dissertation fits into the “history as data” category defined by Bateman and Teele (2020). The goal is to exploit suitable historical data to answer relevant questions rather than to understand major historical episodes or study the legacies of these events. History is the laboratory from which I take the data to answer theoretically grounded questions in the political science literature. In this case, the study of regional elite splits benefits from a historical political economy approach for three main reasons.

First, I am mostly interested in understanding democratization and the rise of political competitiveness in contexts of endogenous democratization. This is, where democratic institutions emerged due to internal characteristics of the country. In these settings, the role of elites was especially important because it was in their hands whether to democratize or not.<sup>6</sup> Observing the origins, role, and relevance of regional elites is thus more important in historical settings where elites were the main political actors. Second, a historical approach can provide more detailed evidence on the multiple factors influencing the specific political events or processes we are interested in studying. Historical events have received significant scholarly attention from historians who, with their hindsight, can help us to contextualize better and consider many more relevant characteristics. Third, and according to Capoccia and Ziblatt (2010), historical stud-

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<sup>6</sup> This is not to say foreign electoral interventions did not exist in the past, but these were clearly less influential.



ies on the European democratization processes can provide crucial insights on the factors other than class that are related to transitions to democracy. I am mostly interested in the role a specific type of elites, politically divided along geographical and identity lines, had in endogenous democratization transitions. This division has been traditionally undervalued, and, through a historical study, it can contribute to a better understanding of the early democratization process in Europe.

Beyond its historical relevance, historical political economy studies contribute to important contemporary political science debates. This study can shed light on certain conditions that facilitate or deter democratization in contemporary settings. Having a more detailed picture of the main factors associated with democratization success or failure, related to elite characteristics and the availability of other resources, can help democracy promotion organizations consider regional elite features. Furthermore, and albeit the historical nature of this work, there has been a rising trend in recent years toward decentralization and regional political demands, with more national minorities claiming their political rights and asking for more power devolution or even self-determination (Sorens, 2012). Understanding the origins and consequences of elite splits along regional lines can contribute to a better comprehension of why these tensions emerge and the likely political strengths or weaknesses of regionally aligned political divisions.

Finally, as I detailed earlier, historical political economy works are characterized as relying on detailed micro-level evidence. This work is no exception, and it relies on comprehensive and specific data to contribute to broader theoretical questions. Collecting data, understanding problems of the data, and making sense of these large databases is a common challenge faced by researchers in the field (Cirone & Spirling, 2021). Detailed knowledge of the historical context contributes to overcoming some of these problems (Kocher & Monteiro, 2016). With this goal in mind, in the next section I provide more details on the historical circumstances surrounding the data I employ throughout this dissertation.

## 1.7 CONTEXT

The three papers in this doctoral thesis draw their findings relying on data from Catalonia, which is a suitable case to investigate the origins and consequences of regional elite splits for

five main reasons. First, some regional elites in Catalonia formalized an elite split by creating of a new political party during the early 20th century. Second, this elite division took place in a moment in which Spain was an electoral autocracy, elites were largely influential in politics, and their interactions could shape democratization outcomes. Third, historians have praised the elite division in Catalonia as a fundamental episode to understand subsequent political events. Fourth, the emergence of this regional elite party had important political consequences for the intra-elite political competition dynamics. Finally, the availability of detailed data makes it possible to disentangle the micro-level foundations and consequences of elite splits. Accordingly, Catalonia makes a proper case to study the political dynamics surrounding regional elite divisions and the political consequences.

This section introduces the characteristics of the Spanish political system and describes the main institutions, rules, and political actors of the period known as the Restoration.<sup>7</sup> Then, some socioeconomic context and references to the modernization and nationalization processes complete the sketch of Spain in the late 19th and early 20th centuries. A second part delves into specific features of Catalan society and politics in those years. The region of Catalonia had different social, economic, and cultural characteristics than the rest of Spain, and its political system turned upside down after 1901 with the rise of a regionally oriented elite party. The context in which this new party was born and its characteristics are the focus of the third part of this historical and contextual description of the case.

#### 1.7.1 THE RESTORATION PERIOD IN SPAIN (1876–1923)

The Spanish constitution of 1876 defined Spain as a constitutional monarchy in which the sovereignty was shared between the Crown and the legislative chambers. The executive power was in the hands of the King, who appointed prime ministers and could dissolve the legislative. Spain during the Restoration period is not considered a democracy by Boix et al. (2013), or the V-Dem project (Lindberg et al., 2014). The political system can be defined as a semi-competitive authoritarian regime (Levitsky & Way, 2002) or an electoral autocracy similar to other contemporary countries such as Germany, Italy, or Portugal. From 1876, elections were held on

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<sup>7</sup> The name refers to the restoration of the Bourbon monarchy after the 1873–1875 republican experience.

a regular basis not only to elect members of the Spanish lower chamber but also to elect the representatives to the *Diputaciones Provinciales*—a subnational administrative institution—and to elect municipality representatives.<sup>8</sup> Suffrage was initially limited based on gender, age, and taxes,<sup>9</sup> but universal male suffrage was enacted in 1890.

Despite its *de jure* democratic nature, the political system relied on a fabricated alternation of power, known as *turno pacífico* [peaceful turn]. The executive was not responsive to the legislature; it was only responsive to the King, who systematically alternated the appointment of Prime Ministers belonging to different parties. Then, each new cabinet called for elections to build a parliamentary majority through electoral manipulation and fraudulent practices (Varela Ortega, 2001).

The party system in the Restoration was bipartisan with two main parties, known as monarchist parties: the Conservative and the Liberal parties. Both parties represented the Spanish economic elites, the Conservative being close to landowners and the Church, while the Liberal party was supported by liberal professionals and favored some more restraints to the Crown. However, differences between the two parties were minor since the political preferences of all sorts of elites at that time were very similar (Linz, 1967). Despite some erosion of the political system at the turn of the 20th century, the Restoration system resisted up to the 1923 *coup d'état*, which was backed by the monarchy and led by the military general Miguel Primo de Rivera, who banned all sorts of elections.

In economic terms, Spain remained an agrarian country in those years; in 1900, 70% of its working population were peasants.<sup>10</sup> Based on the same census data, barely 14% of the Spanish workers were employed in industry-related jobs, while in most other European countries, this indicator was 20–36% (Przeworski & Sprague, 1986, p. 35). This is not to say that Spain was completely alien to the industrialization process. There was some industrialization but its development was heterogeneous. Most of the industries were located in the coastal areas in the pe-

<sup>8</sup> Lower chamber MPs were elected in Single-Member Districts (SMDs) in most constituencies and only some urban constituencies were multi-member. Provincial representatives were elected in Multi-Member Districts (MMDs) with a magnitude of four. In all MMDs voters could cast a limited number of votes, always below the total number of seats, to facilitate representation of minority groups.

<sup>9</sup> Only males over 25 years old who paid more than 25 pesetas in properties or 50 pesetas in industrial taxes could vote (Romero Salvador, 2021).

<sup>10</sup> Dirección General del Instituto Geográfico y Estadístico (1907).

ripheries, mainly in Catalonia and the Basque Country, but also in Valencia or Málaga (Nadal, 1987). Moreover, different regions developed different industries and relied on different capital investments. Textile industrialization in Catalonia relied on familiar capital, while steel industries in the Basque Country were based on foreign capital and state investments. According to Díez Medrano (1995), this would have a crucial impact on intra-elite relations.

The uneven geographical economic development was not the only difference between Spanish regions. Spain was (and still is) a culturally diverse and multilingual state. The nationalization process in Spain was weak during the 19th century (Storm, 2004). The Spanish identity was associated with “local traditions, aristocratic values and attitudes and, above all, religion” (Álvarez Junco, 2002, p. 26) rather than liberal-democratic values. According to Álvarez Junco (2002), the weak nationalization of Spain was a consequence of multiple factors. First, the decline in the international relevance of Spain, was exacerbated after the loss of the colonies in 1898 and the lack of shared military goals.<sup>11</sup> The second factor was the absence of a unified market and a weak network of communication infrastructures (roads, mail, telegraphs, etc.) and media. Third, the widespread corruption eroded trust in the state institutions. Finally, he points out the delegation of education policies to the Catholic Church, which hindered nation building because it “did not create ‘Spaniards’ but ‘Catholics’” (Álvarez Junco, 2002, p. 25).<sup>12</sup>

The unsuccessful nationalization of the masses was combined with the unbalanced incorporation of the diverse types of elites into the exercise of political power. While landowning and bureaucratic elites were more common in Castile and had access to political power, most of the bourgeois/industrial elites were settled at the geographic and political periphery. Linz and de Miguel (1966, p. 280) remark that there was a “differential representation of those recruited from different regions in the various elites,” and peripheral elites were clearly underrepresented in top-rank political positions throughout the Restoration period (Cuenca & Miranda, 1992a, 1992b). Given that elites from economically advanced peripheral regions were not involved in the ruling of Spain, it was more difficult to ensure nation-building efforts in regions such as Catalonia would be effective.

<sup>11</sup> On the contrary, three civil wars were fought in Spain during the 19th century.

<sup>12</sup> Along these lines, L. Balcells (2013) has shown how differences in schooling systems influenced different degrees of identity by comparing the Catalan territories in France and in Spain across its shared border.

## 1.7.2 CATALONIA

Catalonia is a territory with a large tradition of self-ruling institutions, a distinct language and traditions compared to Spanish regions. Albeit having a long tradition of parliamentary institutions during the middle ages, the ascent of the Bourbon monarchy after the War of Spanish Succession (1701–1715) dismantled the Catalan political institutions. During the 18th and 19th centuries, there were attempts to homogenize and centralize all institutions and cultural practices in Spain. However, these attempts were not completely successful because some legal institutions and distinct linguistic habits resisted in Catalonia.

Catalonia was, crucially, one of the earliest industrializing regions in Spain. Due to civil law institutions ensuring family wealth concentration and the commercial benefits from distillates exports, some individuals accumulated large sums of capital and invested it in new industries, especially textile industries, making it possible for industrialization to take off in Catalonia (Harty, 2001). Catalonia quickly became the most industrialized region in Spain during the 19th century (Carreras, 2005), and, for instance, in 1856, around 25% of the overall Spanish industrial output was produced in Catalonia.<sup>13</sup>

The textile industry was especially relevant for the economic growth and modernization of the Catalan economy. The industrialization in Catalonia was led by the development of a set of—mostly cotton—textile industries that, over the 19th century were established and grew mostly by the mighty rivers,<sup>14</sup> whose hydraulic force was converted into energy to activate the looms. Catalonia was thus a region in which textile, wood/cork, and paper industries were expanding during the 19th century. The situation in 1900 showed a consolidation of Catalan's leading position in industrialization: Catalonia produced 40% of the total industrial output and 80% of the overall textile production (Nadal, 1987).

Parallel to industrialization, Catalan culture and language were revalued by a rising intellectual movement known as “*Renaixença*.” Catalan literature was revived, singing choirs in Catalan among working classes were widespread, and Catalan history was divulged through romanticist lenses (Fontana, 2014). These artistic and humanistic activities had in common the

<sup>13</sup> The total surface of the region barely represents the 6.5% of the Spanish peninsular territory, and its population in 1856 represented slightly less than 11% of the Spanish population.

<sup>14</sup> In fact, many of the factories were established in small factory towns near these rivers (A. Balcells & Serra, 2019).

core role of the Catalan language (Laitin, 1989). This cultural movement was led by a series of intellectual elites, which did not necessarily coincide with the rising industrial elites. There was some overlap, but it is important to note that most industrialists in the mid-19th century were not champions of this cultural revival.

In spite of the Catalan identity renaissance, bourgeois elites in Catalonia remained relatively alienated from political representation during the Restoration period (de Riquer, 1977). The economic influence of the region clearly outweighed its political clout, and most of the Catalan political influence was not conveyed through typical parliamentary means but mostly through lobby organizations (Ehrlich, 1998).<sup>15</sup> In the early Restoration period, Catalan elites supported one of the two main Spanish-wide political parties. In those years, electoral fraud and manipulation techniques were as widespread in Catalonia as they were in Spain. The electorate remained apathetic and alienated from politics (Rubí & Armengol, 2012) despite the implementation of universal suffrage in 1890. The political scenario would start to change with the turn of the century and an elite split led by certain regional elites would formalize through the creation of a new political party.

### 1.7.3 LLIGA REGIONALISTA

In 1901, a new elite-led political party, the Lliga Regionalista, or simply Lliga, was created in Catalonia (de Riquer, 1977; Molas, 1973). Catalan elites saw a suitable environment in which to promote a new political party. On the one hand, industrial elites had specific political interests; they demanded protectionist policies, and, together with the middle classes, they were afraid of social conflict and working-class demands. On the other hand, they could appeal to Catalan traditions, language, and identity to seek the support of a wide cross-class coalition of voters. The Lliga Regionalista was created in 1901 due to a joint effort by Catalan economic elites and the intellectual intelligentsia. In fact, according to Ehrlich (2004), the Lliga was a coalition between two different elements. On the one hand, there were economic lobbies whose influence had declined in recent years and/or who had been affected by the loss of the colonies in 1898. These elites were mostly composed of industrialists, shopkeepers and petty bourgeoisie,

<sup>15</sup> Examples of these organizations were the employers organization *Foment del Treball*, or organizations promoting economic interests such as the *Societat Econòmica Barcelonesa d'Amics del País*.

and some landowners with overlapping interests with industrialists.<sup>16</sup> On the other hand, the Lliga was impelled by some young professionals, most of them recently graduated journalists or lawyers who had shown mobilizing capacities and were committed to Catalan nation-building.

In order to grow and consolidate as a new party, the leaders of the Lliga built a political discourse based on two main characteristics. The first was democratization of the political system. They fought the idea of Spain being a corrupt country where elections were meaningless. The Lliga leaders knew that the party could only grow and become a relevant political actor if they achieved cleaner elections, so they fought for transparent elections (Cambó, 1981; Pla, 1973). The two monarchist parties did not need to mobilize the electorate because they controlled the administrative apparatus and could rig electoral results. The Lliga could not rely on administrative capacities, and they had to confide in their—broadly understood—mobilization resources.

Second, the Lliga promoted economic modernization and human capital investment. One of the goals of the Lliga leaders was to modernize Catalonia and equate it to the most advanced European standards. This implied a focus on infrastructure investment, social services, education, and technification. These policies were meant to improve industrial productivity and please Catalan industrialists, and they sought to modernize the country and prevent social unrest. The elite nature of Lliga leaders, combined with their limited access to tools of law and order, made them seek the appeasement of social tensions through other means. Overall, the Lliga was an elite-led party, and it was limited due to its regional nature and the absence of institutional manipulation control. Yet, as I will show, the Lliga was able to mold the political competition and, to a certain extent, the democratization path in Catalonia. The next section briefly summarizes the main analyses I perform to prove this.

## 1.8 DISSERTATION STRUCTURE

This dissertation is a paper compilation thesis that has benefited from a large data collection effort. Chapter 2 summarizes the data, and it includes parts of a published research note detailing

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<sup>16</sup> These landowners were grouped in the Institut Agrícola Català de Sant Isidre (IACSI), and the preferences of these landowners were different to landowners in Spain, since they possessed smaller areas of land, and they had an interest to modernize agriculture techniques (Simpson & Carmona, 2020). Moreover, many of these landowners were also industrialists (Segura, 1993).

the contents of a novel historical electoral election database; it also presents the most important methods employed throughout the three papers. The main analyses regarding the origins and consequences of elite splits are presented in Chapters 3, 4, and 5. Finally, Chapter 6 outlines the main conclusions. I briefly summarize the contents of the three papers to conclude this introductory chapter.

### 1.8.1 THE ORIGINS OF ELITE SPLITS

The first paper<sup>17</sup> (Chapter 3) delves into the conditions under which regional elites decide to split from central elites and pursue their political goals through independent political parties. Complementary to the large body of literature pinpointing the consequences of intra-elite conflicts, I focus on the circumstances that facilitate the formalization of elite divisions. The previous explanations of general political divisions have been mostly related to either predefined social characteristics or cleavages (Lipset & Rokkan, 1967) or economic geographic differences (e.g., Rickard, 2020), but these theories have more difficulties explaining the timing of the formalization of political splits. Building upon some of these classical contributions, I combine the economic aspects related to political divisions with political mobilization factors, whose relevance was highlighted by Kalyvas (1996), to specify the conditions under which elite splits take place. Going beyond mere cultural or economic differences, I specify the mechanisms leading to political divisions. I argue that elites only push to split when they are subject to sudden changes in their economic preferences *and* when they have mobilization capacities to win elections.

In Chapter 3, I show the factors behind the heterogeneous deployment of the Lliga Regionalista across Catalonia. To explain these differences, I employ a shift-share instrument to account for the exogenous economic impact of the 1898 Spanish colonial loss. I combine these data with identity-related mobilization resources in the hands of regional non-incumbent elites. The empirical analyses support the idea that regional elites only pushed for an elite-led regional party in areas where the colonial economic shock was substantial and the mobilization capacities were large. Hence, this paper advances new explanations regarding the conditions conducive to

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<sup>17</sup> This article has been accepted to *Comparative Political Studies*, see Vall-Prat (in press).



elite splits, which helps in understanding when elite political conflicts formalize, which is a precondition to observe intra-elite competition and may enhance democratizing reforms.

### 1.8.2 ELITES AND ELECTORAL FRAUD

The second paper (Chapter 4) focuses on the role of intra-elite competition in electoral fraud. A key precondition for non-incumbent elites' access to formal representation is the absence or changes in the nature of electoral fraud. Under autocratic electoral institutions, it is usual to observe instances of fraud, but we lack explanations regarding when blatant electoral fraud practices disappear. Variations in fraud characteristics and extent have been related to the competitiveness of the elections (Lehoucq, 2003; Simpser, 2013) or institutional factors (Birch, 2007). Mares (forthcoming) has combined the fraud and the intra-elite competition literature to advance the factors behind individual MPs' decisions on whether to support electoral reforms to prevent fraud. However, I argue that fraudulent electoral practices are not only eroded through formal institutional reforms but also through informal practices on the ground. In Chapter 4, I advance new arguments regarding the electoral fraud literature by showing that fraudulent practices are not only contingent upon institutional factors but also the mobilization of resources at the disposal of each of the different contending actors. Endogenous democratization processes not only unleash when different elites compete in parliament but also when non-incumbent elites are interested in combating electoral fraud to increase their chances of winning elections.

By exploiting the emergence of a regional elite party, I analyze the consequences the presence of the Lliga Regionalista party had on the extent of electoral fraud. In this paper, I employ different electoral forensic techniques and causal inference methods to analyze whether indicators of electoral fraud were more or less likely when regional non-incumbent elites were competing for office. The main results indicate that electoral fraud practices decreased when these elites stood for office. This finding does not preclude the possibility that elites still resorted to other forms of electoral manipulation, such as coercion and clientelism, but at least regional elites contributed to reducing the extent of electoral fraud, opening a democratization path toward cleaner and competitive elections.

## 1.8.3 ELITES AND TECHNOLOGICAL CHANGE

Finally, the third paper<sup>18</sup> (Chapter 5) focuses on the role of new communication technologies to explain political competitiveness and the electoral rise of non-incumbent elites. There are contradictory findings in the literature regarding whether new technologies enhance incumbents' coercive capacities (Martinez-Bravo et al., 2017) or, in turn, whether technology facilitates the mobilization efforts of the opposition (Dasgupta, 2018). In this dissertation, I argue that technological and modernization changes can empower non-incumbent elites, who can more easily combine these new tools with mobilization and coordination resources. This contributes to breaking electoral barriers and easing electoral victories of non-incumbent elites. Overall, technology and telecommunication advances expedite the transmission of messages between elite members and facilitate the coordination between non-incumbent elites and their mobilization agents or brokers. When combined with preexisting mobilization capabilities, new technologies enhance the effectiveness of mobilization strategies and contribute to elite replacement.

I relate the variations in the support for incumbent elite parties, regional elite parties, and working-class parties to the extension of a public telephone network in Catalonia in the 1910s. Through a difference-in-differences strategy, the results show that technological change benefited the non-incumbent elites and contributed to elite replacement. The effect of new telephone connections was especially large for regional elite candidates in places where they had previous strong mobilization capacities and in places where local elites had a predominant power. Telephones facilitated the substitution of incumbent elites by non-incumbent elites through reinforcing existing mobilization resources and increasing the coordination between local elites and regional party leaders. This paper advances our knowledge regarding the mechanisms that facilitate increases in support for opposition, and especially non-incumbent elite, candidates.

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<sup>18</sup> This paper is a co-authored work with Francesc Amat (Universitat de Barcelona–IPErG).



## 2

# Data and Methods\*

*“Data! Data! Data!” he cried impatiently. “I can’t make bricks without clay.”*

Sir Arthur Conan Doyle  
*The Adventure of the Copper Beeches*

To analyze intra-elite conflicts and, more specifically, how did regional elites influenced political competition and democratization dynamics, it is necessary to have detailed historical micro-level data. The recent rise of historically oriented works in comparative politics and political economy (Capoccia & Ziblatt, 2010; Finkel et al., 2019), has entailed an increase in the availability and the use of these type of data. Micro-level historical data can play an essential role to answer relevant social science puzzles. Along the lines of recent contributions in the field of historical political economy, this dissertation relies on novel and original historical data. In fact, one of the contributions of this dissertation is precisely the compilation of a new database comprising detailed historical micro-level data in Catalonia during the Restoration period. Most of the data I use in this dissertation have been originally collected through archival research, which I combine with data from secondary sources taken from historians or other social scientists works. Following the best practices in the field of historical political economy, throughout this thesis I combine theoretically grounded questions, detailed contextual information, exhaustive historical data, and causal inference methods (Bateman & Teele, 2020; Gordon & Simpson, 2020) in the analyses. In this chapter, I provide more details on the data collection process and I outline some of the causal inference methods that I will employ in the upcoming papers in this dissertation.

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\* Parts of this chapter were published as a research note in *Data in Brief*, see Vall-Prat (2021).

## 2.1 DATA

Historical political economy research requires detailed and diverse data reflecting the political, social, and economic characteristics of the context of interest. These data—which are too often buried in dusty folders—are not easy to systematize and assemble, and it usually requires to use multiple coding techniques and to tour a wide range of archives. At least, this has been the case for the data I exploit in this dissertation. The database I employ in the three different pieces of this thesis covers multiple areas—from electoral to infrastructure data—and variations on the same data are employed in each of the separate studies presented in Chapters 3, 4, and 5. Most of the data have been compiled through a combination of archival research and the digitization of secondary sources such as official gazettes or newspapers. In the following pages, I describe some details on the data collection process for the main variables employed throughout the different papers. I devote the largest part of the chapter to describe the electoral data. This is because electoral variables are the main dependent variable I use throughout the paper, but I also describe the data collection process for socioeconomic and for geographic information system (GIS) data. I describe in more detail in each chapter the other covariates that I employ only in specific papers.

### 2.1.1 ELECTORAL: DATASET OF HISTORICAL ELECTIONS IN CATALONIA

In Spain, micro-level historical electoral data have been scarce and mostly focused on the Second Republic period (1931–1939),<sup>1</sup> the first time Spain was considered a full democracy (Boix et al., 2013; Coppedge et al., 2021). However, Spain had a long tradition of elections before the 1930s (Villa García, 2016). Some of these elections were rigged, coercion was recurrent, and fraud was widespread (Varela Ortega, 1977) like in many other European countries. Data on elections in Catalonia during the Restoration period had mostly been compiled at the constituency-level by A. Balcells et al. (1982) for lower chamber elections, while there were some fragmentary works on the results for other elections. Electoral data at the micro-level, i.e., municipality or census tract levels, was mostly missing for this period. The only exceptions were the works by Mir (1985) for legislative elections in the province of Lleida and Gustems Tor-

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<sup>1</sup> See, for instance, the work by Vilanova (1986).

TABLE 2.1 Regular Election Date

Date	Type of Elections	Date	Type of Elections
07/12/1890	Provincial	21/04/1907	Lower Chamber
01/02/1891	Lower Chamber	24/10/1909	Provincial
11/09/1892	Provincial	08/05/1910	Lower Chamber
05/03/1893	Lower Chamber	12/03/1911	Provincial
09/09/1894	Provincial	09/03/1913	Provincial
12/04/1896	Lower Chamber	08/03/1914	Lower Chamber
06/09/1896	Provincial	14/03/1915	Provincial
27/03/1898	Lower Chamber	09/04/1916	Lower Chamber
12/09/1898	Provincial	11/03/1917	Provincial
16/04/1899	Lower Chamber	24/02/1918	Lower Chamber
10/03/1901	Provincial	01/06/1919	Lower Chamber
19/05/1901	Lower Chamber	06/07/1919	Provincial
08/03/1903	Provincial	13/12/1920	Lower Chamber
26/04/1903	Lower Chamber	12/06/1921	Provincial
12/03/1905	Provincial	29/04/1923	Lower Chamber
10/09/1905	Lower Chamber	10/06/1923	Provincial
10/03/1907	Provincial		

rent (1985) for provincial elections in Girona. Building on the works of these historians, I have used primary and mostly archival sources to reconstruct—as far as possible—the census tract electoral results in Catalonia for the period between 1890–1923 in the Dataset of Historical Elections in Catalonia (DHEC).

The DHEC contains electoral data at the census-tract level for all elections comprised between the enactment of universal male suffrage (1890) until a military coup put an end to regular elections and the Restoration period (1923). Table 2.1 provides a detailed list of all regular elections included in the DHEC database.<sup>2</sup> The DHEC comprises not only electoral returns, but it is also associated with candidate-level data and geographic indicators. In fact, the DHEC database is available at two different levels of geographic aggregation (census-tract and municipality). This is because, when there were no primary sources to retrieve electoral results, I have relied on secondary sources that only provided municipality level data. To keep most of the information, the DHEC data is available at these two different geographic levels—census tract and municipality. I also present the electoral data in two different formats: one observation per

<sup>2</sup> By-elections were also included in the DHEC but dates are not specified in Table 2.1.

geographical unit and electoral contest (wide format) or one observation per geographical unit, electoral contest, *and* candidate (long format).

I combine this originally collected micro-level data, with constituency level data. As I have previously detailed, constituency level data for lower chamber elections was mostly available from the work by A. Balcells et al. (1982). These authors coded all lower chamber elections in Catalonia between 1869 and 1923 from official constituency level tallies and electoral results available in the Spanish lower chamber archives. In their work, they included data regarding the number of registered voters, voters, votes to candidates, blank and/or null votes, and party affiliation for each candidate at the electoral district level. All this information is included in the DHEC and it has been useful to double check the aggregation of micro-level electoral results. It is important to note that, in many instances, the aggregation of micro-level results at the constituency level do not perfectly match the results presented by A. Balcells et al. (1982). This is most likely because a few census tracts results were invalidated or because of human errors when transcribing electoral results. Yet, changes are minimal and the DHEC results aggregated from micro-level results do not change the rank of candidates.

The DHEC data does not only include information on lower chamber elections but also on provincial elections. Aggregate level electoral results for provincial elections were not compiled in a single secondary source and partial information was available in the works of de Riquer (1987) for Barcelona, Gustems Torrent (1985) for Girona, and Mir (1985) for Lleida. In those elections and constituencies for which there were no aggregate figures in secondary sources, I simply aggregated constituency electoral results from micro-level data.

## SOURCES

To compile all the available electoral results at the lowest level of aggregation possible, I usually had to retrieve primary sources of electoral information. In many cases, this required an effort to unearth pieces of information that had been hidden in a large set of archives for a long time-period. I have constructed micro-level electoral data mainly from official gazettes (most of them digitized), electoral tallies, and census books preserved in archives, but also from secondary sources such as local newspapers when the former sources were not available. The pri-





ever, not all provincial archives kept all the election documents. The Girona provincial archive hosts the most complete records and almost all files are available; in Tarragona there are tallies (after 1914) and census books (only for certain years); in Lleida, all census books are available (and digitized)<sup>3</sup> but no tallies are available; in Barcelona, neither tallies nor census books are kept for the period of interest. Despite the absence of some of these documents in provincial archives, some electoral data remain in local archives and I have been able to complement the DHEC with information from some of these archives. The complete list of archives where information was checked is detailed in Appendix A.1.

Finally, if none of the previous sources was available, secondary sources such as local newspapers were employed to complete the DHEC dataset. Although information might be inaccurate or politically biased, I tried to double check several secondary sources where possible. These local periodicals have been consulted through multiple online repositories where historical newspapers or magazines are digitized and publicly available.<sup>4</sup> In the days following the election, it was usual to find detailed summaries of electoral results in these local newspapers. Hence, for the elections I could not access primary sources of information, I checked whether local newspapers in the constituency were digitized and then whether they published a detailed summary of electoral results.

Beyond the pure electoral information, the DHEC database also includes candidate-level information data, which has been one of the most difficult pieces of information to retrieve. Political parties at that time were weak—the two predominant monarchist parties were notable parties—and party affiliation was not straightforward to determine. I have mainly relied on the candidate data described in A. Balcells et al. (1982), Gustems Torrent (1985), and Mir (1985) and, in order to fill the gaps regarding candidate level affiliation, I have used other secondary sources—for specific time-periods (Pujol & Santesmases, 2019) or electoral districts (e.g., Rubí, 2006)—to complete the DHEC. Overall, these multiple sources have allowed me to construct a comprehensive database of the electoral results in Catalonia. In the next section, I detail the information included in this database.

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<sup>3</sup> Available in this link: <https://www.diputaciolleida.cat/publicacions-i-bases-de-dades/arxiu/censos-electorals/>.

<sup>4</sup> See Appendix A.2.

## CONTENTS

Table 2.2 displays all the variables included in the DHEC database. The table briefly describes each variable, the type of data, whether the variable is available at the census-tract (CT) and/or municipality (M) level, and whether it is available in the long (L) and/or wide (W) database format. Finally, it also specifies the source from which I obtained the data.

TABLE 2.2 DHEC Description of Variables

Variable	Type	Dataset	Source
<i>Electoral Data</i>			
Type of Elections	Categorical	CT/M; L/W	A. Balcells et al. (1982) and primary sources.
By-election	Categorical	CT/M; L/W	A. Balcells et al. (1982) and primary sources.
Election Date	Date	CT/M; L/W	A. Balcells et al. (1982) and primary sources.
Article 29	Categorical	CT/M; L/W	A. Balcells et al. (1982) and primary sources.
Census Year	Ordinal	CT/M; L/W	Archival.
Number of Registered Voters	Numeric	CT/M; L/W	Primary sources: census books, gazettes, or tallies.
Number of Voters	Numeric	CT/M; L/W	Primary sources, or calculated from votes casted (if Magnitude equals one).
Turnout	Numeric	CT/M; L/W	Calculated: $\frac{\text{Voters}}{\text{Census}} \times 100$
Votes to Candidate <sub>i</sub>	Numeric	CT/M; W	Primary sources.
Votes to Candidates	Numeric	CT/M; L/W	Calculated: $\sum \text{Votes Candidate}_i$
Number of Candidates Voted	Numeric	CT/M; L/W	Calculated: number of candidates receiving 1 vote or more.
Votes to Other Individuals	Numeric	CT/M; L/W	Primary sources.
Blank Votes	Numeric	CT/M; L/W	Primary sources.
Null Votes	Numeric	CT/M; L/W	Primary sources.
Blank and Null Votes	Numeric	CT/M; L/W	Calculated: blank votes + null votes.
Votes cast	Numeric	CT/M; L/W	Calculated: votes to candidates + votes to other individuals + blank and null votes.
Calculated Number of Voters	Numeric	CT/M; L/W	Calculated: $\frac{\sum \text{Votes Candidates}_i + \text{Other Votes}}{\text{Max. Num. Votes}} + \text{Blank/Null}$
Calculated Turnout	Numeric	CT/M; L/W	Calculated: $\frac{\text{Calculated Voters}}{\text{Census}} \times 100$

(continued)

TABLE 2.2 DHEC Description of Variables (*continued*)

Variable	Type	Dataset	Source
<b><i>Candidate Data</i></b>			
Candidate Name	Text	CT/M; L	Primary sources.
Candidate Id	Categorical	CT/M; L	Own.
Number of Votes Received by the Candidate	Numeric	CT/M; L	Primary sources.
Votes to candidate over votes to all candidates (%)	Numeric	CT/M; L	Calculated: $\frac{Candidate_i}{\sum Candidate_i} \times 100$
Elected Candidate	Categorical	CT/M; L	A. Balcells et al. (1982) and other secondary sources.
General Political Affiliation	Categorical	CT/M; L	Own.
Further Political Affiliation Details	Categorical	CT/M; L	Own.
Government Party Candidate	Categorical	CT/M; L	Own.
<b><i>Constituency Data</i></b>			
Number of Candidates Standing	Numeric	CT/M; L/W	A. Balcells et al. (1982) and other secondary sources.
District Magnitude	Numeric	CT/M; L/W	A. Balcells et al. (1982) and other secondary sources.
Maximum Number of Votes Allowed per Voter	Numeric	CT/M; L/W	1890 Electoral Law and 1907 Electoral Law.
Number of Registered Voters in the Electoral District	Numeric	CT/M; L/W	A. Balcells et al. (1982) and other secondary sources.
Number of Voters in the Electoral District	Numeric	CT/M; L/W	A. Balcells et al. (1982) and other secondary sources.
Turnout at the District Level	Numeric	CT/M; L/W	Calculated: $\frac{District\ Voters}{District\ Census} \times 100$
<b><i>Geographic Data</i></b>			
Electoral District	Text	CT/M; L/W	Own.
Municipality	Text	CT/M; L/W	Own.
Municipality Id	Categorical	CT/M; L/W	Centre d'Estudis Demogràfics (2002).
Local District	Ordinal	CT; L/W	Own.
Local District Tract	Ordinal	CT; L/W	Own.
Locality Census Tract Id	Text	CT; L/W	Own.
Province	Text	CT/M; L/W	Own.
Province Id	Categorical	CT/M; L/W	Own.
Lower Chamber District	Text	CT/M; L/W	Own.
Lower Chamber District Id	Categorical	CT/M; L/W	Own.
Provincial District	Text	CT/M; L/W	Own.
Provincial District Id	Categorical	CT/M; L/W	Own.
Judiciary Party	Text	CT/M; L/W	INE Census.
Judiciary Party Id	Categorical	CT/M; L/W	INE Census.
County (Comarca)	Text	CT/M; L/W	(IDESCAT, 2020).
County (Comarca) Id	Categorical	CT/M; L/W	(IDESCAT, 2020).

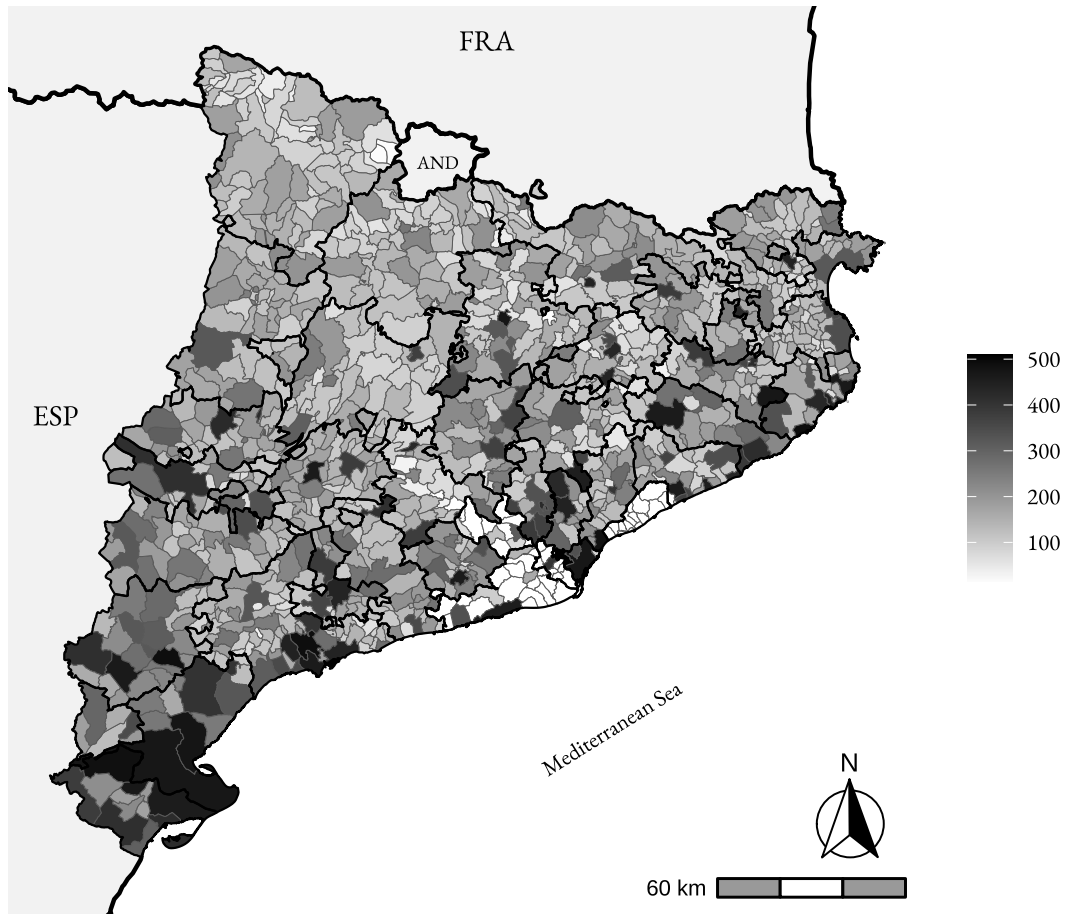


FIGURE 2.2 Mean Number of Registered Voters per Census Tract in each Municipality (1898 Census)

*Note:* Blank municipalities depict missing census data.

Table 2.2 includes four different types of data. First, election data describes all relevant electoral data describing the type of election (lower chamber or provincial), whether the election was regular or a by-election, the date, the number of registered voters (see Figure 2.2 for a map on the density of registered voters per municipality), the number of voters, the number of votes in support to each candidate, the number of blank or null votes, etc. Election data also include some easily calculated variables such as turnout (see Figure 2.3) or the total number of votes to candidates. It is important to note that some electoral variables were not available in any primary source but can be approximated. For instance, in those elections in which the magnitude of the district, i.e., the number of seats to be elected, was larger than 2, each voter could cast votes for more than one candidate. Thus, the number of voters cannot be simply calculated from all votes cast, but it can be approximated,<sup>5</sup> and results are also included in the database.

<sup>5</sup> Following Vilanova (1986), I use the formula  $\frac{\sum \text{Votes Candidates}_i + \text{Other Votes}}{\text{Max. Num. Votes}} + \text{Blank/Null}$

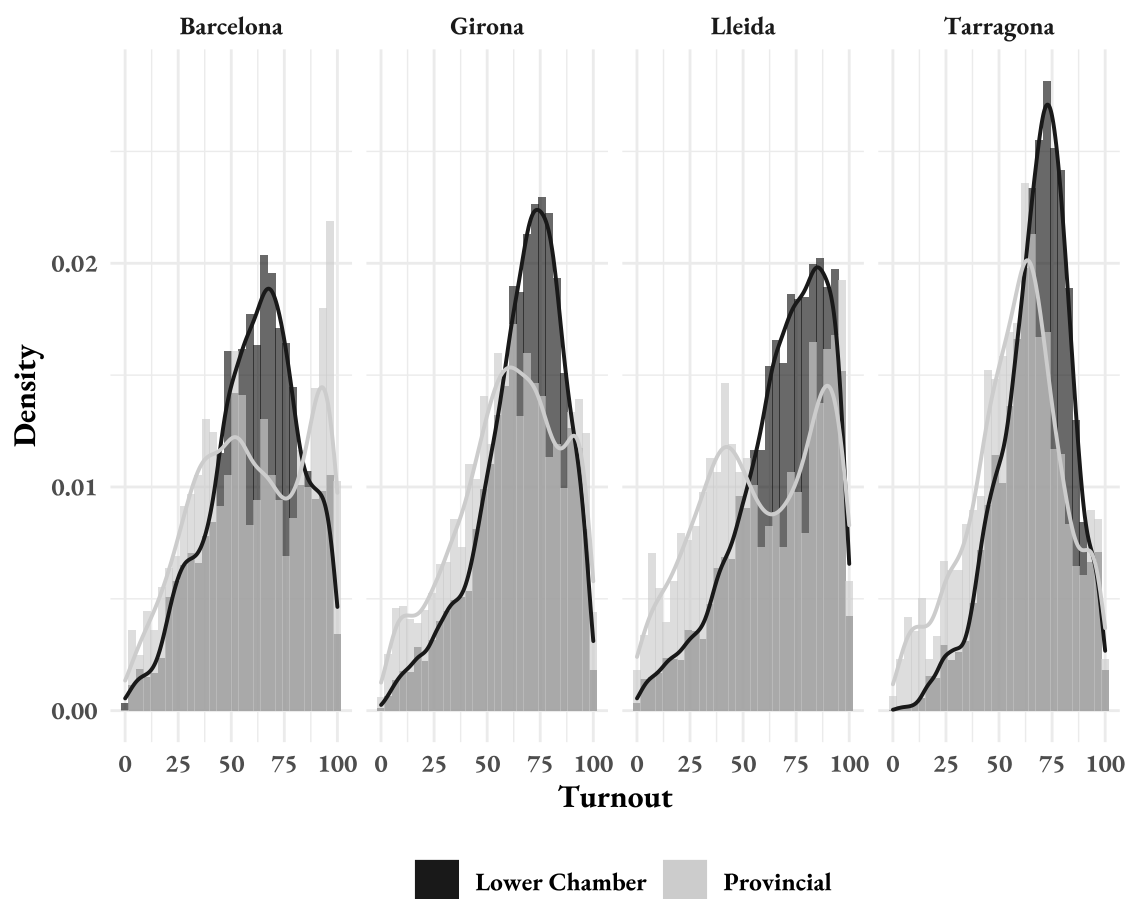


FIGURE 2.3 Turnout by Province and Type of Elections from 1890–1923

Table 2.3 displays the extent to which the different electoral level variables are comprehensive. This table describes, for the most important electoral variables and type of elections, to what extent census-tract data are available in each Catalan province. Completeness is almost perfect in the province of Girona, in Lleida, the only large gap regards the number of voters in provincial elections, and in Barcelona and Tarragona, completeness is lower due to partial availability of Census Books and tallies in the archives.

The second type of data included in the database relates to candidate-level data. These variables are only available in the long-format databases and include information regarding the number of votes received by each candidate and his personal characteristics (name, unique ID, partisanship, etc.). The number of missing data for candidates is low and almost all candidates have been assigned to a political party: more than 98% of legislative candidates and 93% of provincial candidates were assigned to a party.

TABLE 2.3 Completeness of the DHEC

Province	Variable	Lower Chamber		Provincial	
		Obs.	Complete %	Obs.	Complete %
Barcelona	Census	3,671	27.65	2,004	25.53
	Voters	8,448	63.62	1,443	18.38
	Votes to Candidates	12,061	90.83	6,542	83.34
	Blank/Null	12,061	90.83	6,542	83.34
	N	13,279		7,850	
Girona	Census	5,960	99.83	3,465	100.00
	Voters	5,863	98.21	2,790	80.52
	Votes to Candidates	5,863	98.21	3,236	93.39
	Blank/Null	5,863	98.21	3,236	93.39
	N	5,970		3,465	
Lleida	Census	6,065	100.00	3,513	99.97
	Voters	5,346	88.15	309	8.79
	Votes to Candidates	5,346	88.15	2,733	77.77
	Blank/Null	5,346	88.15	2,733	77.77
	N	6,065		3,514	
Tarragona	Census	3,253	58.73	1,915	59.60
	Voters	4,837	87.33	1,190	37.04
	Votes to Candidates	5,338	96.37	3,003	93.46
	Blank/Null	5,338	96.37	3,003	93.46
	N	5,539		3,213	

Third, the DHEC database includes variables covering constituency level data for the elections. These variables describe the magnitude of the district, the number of candidates standing, the overall census and turnout, among others. When possible, these variables were coded from secondary sources (A. Balcells et al., 1982; Gustems Torrent, 1985; Mir, 1985) and from the aggregation of micro-level electoral data if secondary electoral data were not available.

Finally, the DHEC also comprises geographic variables to link all the electoral data to specific geographical units. These variables include both text information and categorical IDs to classify each census tract into a municipality, county, electoral district, judiciary party, and province. These variables allow to match electoral information to GIS shapefiles.<sup>6</sup>

<sup>6</sup> See more details in Section 2.1.5.

## 2.1.2 MOBILIZATION RESOURCES

Beyond the electoral data, there are other necessary covariates to analyze the role of regional non-incumbent elites in the democratization process. In this thesis, I argue that mobilization resources play a key role regarding intra-elite competition. In the different papers in this dissertation I employ different proxies for mobilization resources; I briefly outline the sources and characteristics of these variables.

First, I argue that mobilization along identity lines can be relevant to understand the rise of regionally aligned elites. By identity mobilization, I mean the presence of prominent individuals who are known to be agents of mobilization through key characteristics of identity—e.g., language or history—equivalent to the concept of identity agitators developed by Hroch (1985). To capture the presence of these local leaders, I employ indicators reflecting the presence at the municipality level of individuals involved in proto-nationalist Catalan movements during the latest decades of the 19th century. At that moment, regional pro-Catalan movements had not yet considered running for elections but some political organizations were created and promoted meetings to discuss the roadmap of catalanism. The data for this indicator is collected from Llorens i Vila (1992), who provides a complete summary indicator at the locality level describing how many individuals signed certain petitions and participated in each of the different Catalan nationalist assemblies. More specifically, I rely on an indicator capturing delegates to the 1892 Manresa Assembly, which has been praised by historians as a foundational event for the Catalan nationalist movement (Costafreda, 1996).

Second, and given that Catalonia was still a quite rural region during the Restoration period, I focus on other types of elite-related mobilization possibilities. Based on previous literature highlighting that landownership can be a good proxy for local elite predominance (e.g., Ziblatt, 2008), I rely on land taxes (*contribució rústica*) from original archival data to capture the degree of land inequality (see Figure A.1). From the municipality-level summary of these taxes, it was possible to grasp the absolute number of landowners paying land taxes within a given range—e.g., below 10 *pesetas*, between 10 to 20 *pesetas*...—, and the total amount of taxes paid in each range. These data were collected at a single point in time for the earliest year available in

archival sources, most of them around 1914.<sup>7</sup> This source allows to construct a Gini index on land inequality for each municipality in Catalonia that captures to what extent local elites were powerful enough and could be an asset for political mobilization in the hands of regional elites.

Finally, I also employ proxies for political mobilization resources in the hands of other non-incumbent political actors. It is possible to capture whether local elites were organized or faced organized contestation by non-elite groups through data collected by Pomés i Vives (2000). This author mapped all municipalities in which there was a local organization associated with landowners organizations (IACSI)<sup>8</sup> or with land laborers trade unions. Another data source for alternative mobilization considers the absolute number of working-class workers in each municipality according to the 1920 census (Gabriel, 1985). These data are proxies for the strength of the working-class organization. I employ many of these variables to show the relevance of mobilization resources in the hands of elites for intra-elite political competition.

### 2.1.3 SOCIOECONOMIC

This dissertation also uses multiple socioeconomic indicators to take into account the conditions in which the key political and economic events took place. These data are drawn from official statistical sources. I use the census data collected in Spain in 1887, 1897, 1900, 1910, 1920, and 1930, which are publicly accessible from the Instituto Nacional de Estadística.<sup>9</sup> Fortunately, census data for Catalan municipalities have been digitized and are free to download in the Centre d'Estudis Demogràfics (2019) website. Census data provide not only the absolute number of people living in each municipality but also detailed information regarding gender composition, marital status, and literacy. Some other variables such as the birth origin or profession are sometimes available at a larger aggregation unit, the Judiciary Party—similar but not exactly corresponding to constituencies.

Beyond census characteristics, I also take into account the level of economic development and economic activities through originally collected taxation sources. I use industrial or economic activity taxes (*contribució industrial*). All business-owners paid these taxes and the levied

<sup>7</sup> The timing should not be a concern since historians consider land property did not change much during these years (Segura, 1993).

<sup>8</sup> See footnote 16 on page 26.

<sup>9</sup> Available at the website: <https://www.ine.es/inebaseweb/libros.do?tnp=71807>.



amounts depended on the type of machinery—for industrialists—, or the type of economic activity—for merchants, liberal professionals, and artisans—they employed. In the Provincial Official Gazettes, the municipality level total figures were released periodically. To reconstruct detailed individual level data of industrial and economic sector composition at the local level, I also compiled comprehensive records of this tax for the earliest year available. This allowed me, not only to know how economically active was each municipality but the type of industries present—see more details in Paper 1 (Section 3.4).

#### 2.1.4 OTHER

I also collected some data to capture other aspects that were relevant for each specific study. Although I will develop these data more in detail in each chapter, I briefly summarize the main characteristics of these data.

To capture the heterogeneous impact of a trade shock, beyond detailed local level tax records, I rely on aggregate export data from statistical yearbooks detailing all the exported and imported products to and from Spain in a given year (*Estadística de comercio exterior*). The detailed categorization of all products allows to capture very well the trade between Spain and every country in the world. Not only this, but when comparing these yearbooks over time it is possible to pick up the variations in the Spanish trade relations with other countries. Chapter 3 details the specific procedures regarding how these data was combined with micro-level fiscal data to capture exposure to a trade shock.

In Chapter 5, I employ evidence of a new technology implemented in Catalonia during the early 20th century: the telephone. For this study I have compiled a yearly panel information detailing whether each municipality was connected to the telephone network. This information was obtained from archival data and secondary sources released by the promoters of the public telephone network. I also complemented this information with data published in yearbooks between 1896 and 1924.<sup>10</sup>

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<sup>10</sup> More information in Paper 5 (Section 5.4.1).

### 2.1.5 MAPS AND GEOGRAPHY

This reconstruction has been based on old digitized maps displaying the original borders between municipalities (Institut Cartogràfic i Geològic de Catalunya, 2020). I started the map construction employing current day municipality borders and then I reconstructed the mergers and segregations of municipalities that took place over time. Finally, I adjusted the old borders between municipalities based on the ICGC digitized maps.

Once I had all yearly municipality maps, I could generate constituency-level maps based on locality aggregations. Figure 2.4 displays the map of Catalonia—using municipality borders in 1899—with each municipality colored according to the lower chamber constituency to which it belonged and thin black lines delimiting provincial constituencies. Although there were some changes in boundaries during the 1890s, constituency borders remained mostly stable throughout the 20th century, with only a very minor change after 1918. Overall, the maps presented throughout this dissertation facilitate the observation of the geographical distribution of the relevant covariates in the different studies in this thesis.

## 2.2 METHODS

As I detailed at the beginning of this chapter, historical political economy analyses require not only of grounded theoretical contributions and detailed historical data, but studies in this field also rely on causal inference methods (Bateman & Teele, 2020). Assessing causality and causal mechanisms is an inherent aspect of historical political economy research. This implies the use of different methodological strategies to determine the causal impact of a given factor on a variable of interest. Among the different causal inference methods I apply, here I only present briefly the main strategies; I will outline more specific methodological details in each paper. In this dissertation I rely on several different strategies.

First, I take advantage of the occurrence of exogenous or quasi-exogenous events. In Chapter 3, I resort to the exogeneity of a trade shock and I construct a shift-share indicator along the work by Autor et al. (2013). By combining exogenous variations in exports at the national (macro) level and micro-level economic composition characteristics, I can generate an exogenous indicator of exposure to the trade shock.

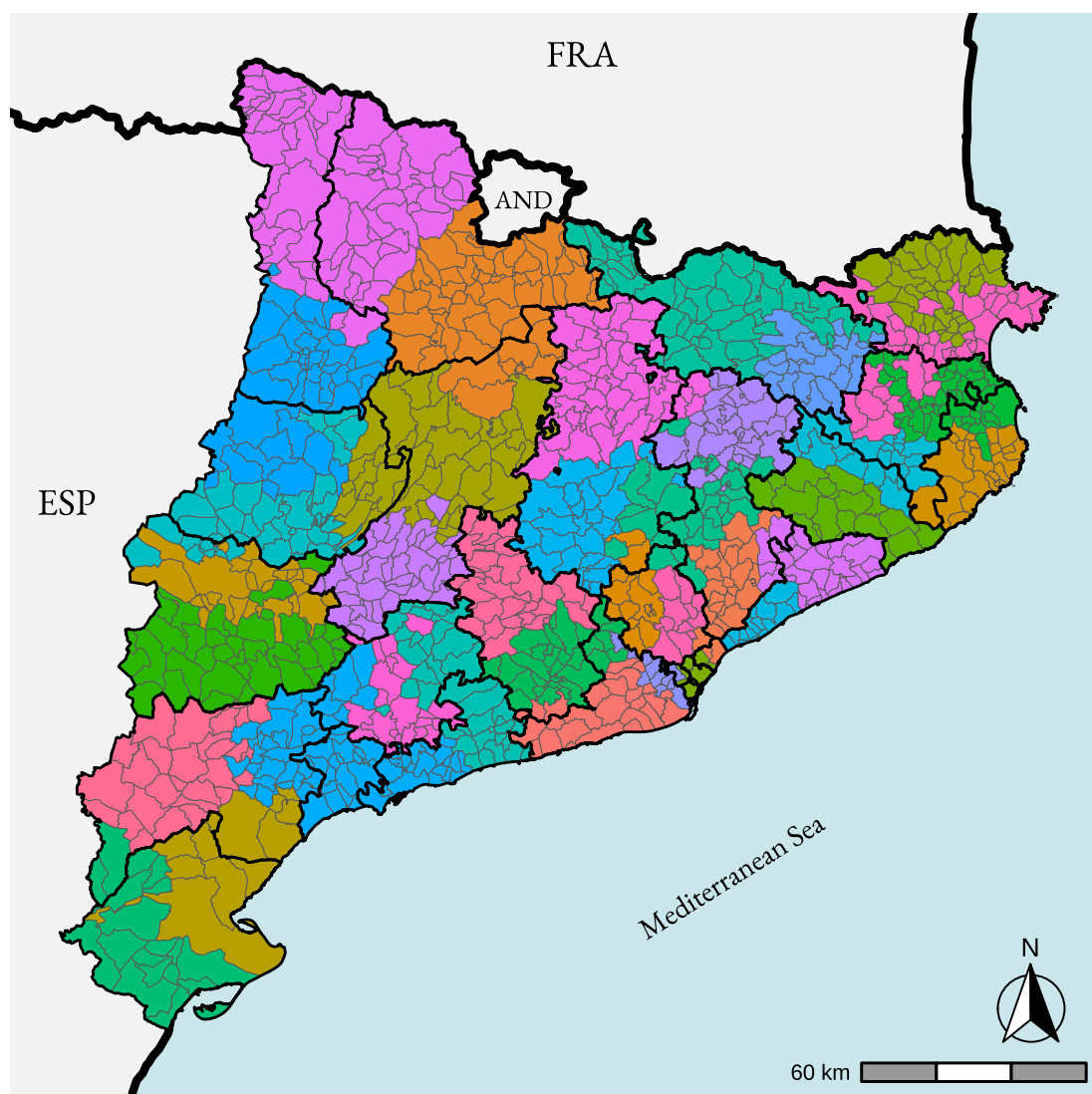


FIGURE 2.4 Electoral Constituencies in Catalonia (1899–1918)

*Note:* Municipalities are colored according to the lower chamber constituency to which they belong. Black lines delimit constituencies for provincial elections.

Second, I employ the timing of events to evaluate the impact of specific changing conditions. In these cases—either for the first time a Lliga candidate stood for office or for the extension of telephone networks—I employ some of the latest advancements in staggered difference-in-difference methodologies—e.g., the ones developed by Liu et al. (2020). These methods allow to test whether the timing of these events had an impact on an outcome of interest.

Finally, in spite these are not causal inference methods, I also employ some of the most recent advancements in electoral forensic techniques in Chapter 4. I present a wide array of techniques that capture different types of electoral fraud. Some of these techniques are simpler,

such as looking at last digit distribution or differences in margins of victory, while others rely on more sophisticated Bayesian simulation techniques combining turnout and support for the winning candidate. Overall, these different methods contribute to present a complete picture on the likelihood of electoral fraud.

In sum, in this chapter I have shown the different sources I rely on to build a historical micro-level database reflecting the political and socioeconomic characteristics in Catalonia during the early 20th century. These different sources allow to capture quantitatively different phenomena of interest for this dissertation. Moreover, I have also shown the main causal inference methods that I employ. All in all, in the three papers I combine the theoretical grounds outlined in Chapter 1 and the micro-level data and causal inference methods I detailed in this chapter. The following chapters detail the theoretical arguments and the empirical analyses to answer three different but related research questions regarding intra-elite competition.



### 3

## Paper 1

# Economic Shocks, Mobilization, and Regional Elite Splits<sup>†</sup>

*We already pay too much in Spanish, let us at least protest in Catalan.*

Anonymous Tax Striker (1899)  
Quoted in de Camps i Arboix (1961, p. 20)

### 3.1 INTRODUCTION

When do elites remain united and which processes and preconditions lead to elite splits? Why do some regional elites remain loyal to central peers while other regional elites prefer confrontation through the creation of a new political party? Classical accounts have focused on modernization processes and the existence of cultural or linguistic characteristics to explain the existence of political divisions (Lipset & Rokkan, 1967). From this perspective, political (and elite) divisions have usually been taken for granted as an inescapable consequence of social and economic preconditions. However, the cleavage theory is not able to explain *when* and *why* certain elites decide to support an elite split.

In this paper, I propose a theoretical framework describing under which conditions regional elites break away from central elites by creating a new, regional political party. As such, I answer a classical Rokkanian question (Rokkan, 1970) employing a novel historical trade shock approach that allows to test the mechanisms driving elite splits. Through this approach, I show the micro-level mechanisms behind the political division of elites.<sup>†</sup>

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<sup>†</sup> Paper accepted for publication in *Comparative Political Studies*.

Elite divisions and competition are essential to understand the configuration of political institutions and party systems, and divisions generate long-lasting consequences (e.g., Ansell & Samuels, 2014; Beramendi et al., 2019). Hence, it is important to dig deeper to better understand the conditions under which certain regional elites choose to break away from central elites. This paper contributes to the literature by clarifying the factors that lead to elite divisions. My main claim is that elites split along (and politicize) a political cleavage when they suffer economic grievances, *and* they have the capacity to mobilize likely supporters. If both conditions are met, we can expect an elite division to take place. Grievances can foster popular demand for an autonomous political party, and through appealing to these grievances party elites who control mobilization tools can maximize electoral support. Thus, mobilization capabilities are not only relevant to understand democratization (Ziblatt, 2017), but also to understand the origins of elite divisions.

This article focuses on the origins of elite splits along the center-periphery conflict dimension. The rise of center-periphery cleavages has been thoroughly explored by Rokkan and Urwin (1982), who considered their emergence a consequence, on the one hand, of divergent economic development and, on the other hand, of distinct identities. It is undeniable that economic geography and economic asymmetries lead to political differences and territorial tensions (Rickard, 2020) and drive decentralization demands and even secessionism (Sorens, 2012). The materialization of center-periphery elite splits do not automatically occur in contexts with diverging economic conditions or identities, but are related to grievances (Mor, 2022). Regional elites in territories that would later herald their difference, usually stood together with central elites during initial steps of economic divergence.

To better understand the timing of political decisions, recent literature has focused on trade shocks as plausibly exogenous factors influencing political dynamics (Colantone & Stanig, 2018). A sudden—and geographically uneven—change in economic conditions produces different patterns of political behavior among voters, but also among elites, and it can pave the way for the rise of new political actors (Rodrik, 2018). However, without the capacity to mobilize large segments of the electorate, economic grievances might not suffice to explain the emergence of a

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<sup>1</sup> Elite splits, elite divisions, and elite fragmentation are used interchangeably, see Section 3.2.1.

center-periphery cleavage. Political mobilization is a key factor that determines the rise of new parties (Boix, 2009; Kalyvas, 1996) and political entrepreneurs ponder all available possibilities before engaging in party formation (Tavits, 2008).

I test under which conditions center-periphery elite divisions materialize focusing on the case of Catalonia. During the 19th century, Catalonia was the most industrialized region in a mostly rural country (Nadal et al., 1988), and it was, in addition, a region with a distinct language and a past record of self-governing institutions. The preconditions for the emergence of a center-periphery cleavage were already in place in the 19th century, then why did Catalan elites remain politically aligned with Spanish elites until the early 20th century?

Catalonia is a suitable case to explore the origins of elite divisions because of its internal heterogeneity in the extent and types of industrialization (Carreras, 2019). The leading textile sector grew extensively during the 19th century, favored by the Spanish colonial market. The loss of the overseas colonial territories in 1898 had large economic repercussions (Maluquer de Motes, 1999), especially for the Catalan economy and its industrial elites, and it was a traumatic critical juncture that compelled Spanish elites to rethink the international role of Spain as well as its political institutions (Álvarez Junco, 2002). The colonial shock was not only exogenous, but its impact was also heterogeneous across regions and industrial sectors across Catalonia (Harrison, 1974). Moreover, the intensity to which Catalan identity was being revived by an intellectual intelligentsia was also geographically disparate.

In this paper I employ a novel dataset that combines data on electoral returns, industrialization, exports, mobilization tools, and other socioeconomic indicators. My dependent variable captures whether regional elite candidates stood for office at the constituency level. To account for economic grievances, I measure constituencies' exposure to the colonial trade shock using an indicator similar to the shift-share instrument developed by Autor et al. (2013). I proxy political mobilization capabilities of regional elites through the georeferenced origins of delegates attending an important pro-Catalan assembly that took place in 1892.

I argue that the estimates of my analyses can be interpreted causally because the effects of the colonial shock were unexpected and exogenous to the preferences of Catalan industrial elites, and I provide evidence that colonial shock exposure was uncorrelated to previous political out-



comes. The results I obtain support the idea that regional elites decided to split from central elites when economic grievances were deeper *and* elites could resort to identity-based mobilization. I provide evidence on plausible mechanisms and I show that results were stronger in export-oriented constituencies (e.g., those with a large presence of cotton textile), for years shortly after the colonial defeat, and in legislative (first order) elections.

Although the analyses focus on the Catalan case, other regions, such as Ireland or Bavaria in the late 19th century, or the Basque Country in the early 20th century also saw the emergence of powerful regional elites. Despite the existence of economic and identity preconditions, the differences in timing of these regional elite splits cannot be explained by extant theory. The framework and explanation exposed here thus contribute by shedding new light on when regional elites emerge, beyond the case of Catalonia.

The rest of the paper proceeds as follows. In the next section I conceptualize elite splits, and I dialogue with the main literature regarding center-periphery tensions, elite fragmentation, and the impact of trade shocks; I conclude the section by presenting the main expectations to be tested. The third section describes the main characteristics and key historical events of 19th and early 20th centuries Catalonia. After that, I describe the data set and the operationalization of the main variables, and I detail the empirical strategy. In the following section, I present the main results, followed by complementary analyses that show the specific mechanisms and the robustness of the findings. I end up by summarizing the results and discussing its implications.

### 3.2 THEORETICAL FRAMEWORK

In this section I first define the concept of elites and elite splits, I describe the different available strategies for elites, and I show the relevance of intra-elite splits for different sorts of political outcomes. Subsequently, I overview previous literature on the origins of political cleavages and on elite heterogeneity. Finally, I outline the main hypotheses.

## 3.2.1 ELITES AND ELITE CONFLICT

## DEFINITION AND STRATEGIES

I broadly define elites as small group of individuals in society who have disproportionate access to political offices, resources, influence, or power (Mosca, 1939). Hence, I consider elites to be economically well-off individuals—e.g., industrialists or owners of large companies—, individuals with large political influence—e.g., MPs or high level bureaucrats—, or individuals with social influence—e.g., intellectuals or aristocrats—, to name just a few. The canonical literature on elites has highlighted their unitary nature, even though elites can be heterogeneous in the field in which they are powerful (Mills, 1956; Putnam, 1976).<sup>2</sup> However, elites do not always remain united, and their divisions can lead to relevant social and political changes. Therefore, I focus on elite splits—elite divisions or elite fragmentation are employed as synonyms.

I conceptualize an elite split as the development of a new organization involving a subset of elites. An elite split requires two elements: a) the preexistence of formal elite organizations, b) the shift of individuals from these preexisting groups into the new organization. Examples of elite splits could be the creation of a new political party by elites belonging to previous elite parties or the creation of a new employers' organization by members of existing employers' organizations. This definition does not imply that all members of the new elite organization had to be related to existing elite groups—the new organization can be created to attract different elite groups—, but at least part of the members should shift allegiances in order to consider it an elite split.

The previous definition of elite divisions highlights how elite struggles do not always entail the formation of new organizations; before engaging in elite splits, dissenting elites have multiple available strategies. First, they can remain silent and conform to the existing elite groupings, probably in exchange for perks such as political offices. Second, discontent elites can choose to remain in existing organizations if differences can be accommodated in the existing institutional set up through the development of factions (Kam, 2009). On the one hand, this can be a strategy for existing organizations to attract new emerging elites (e.g., Fresh, in preparation). On the

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<sup>2</sup> For a review of elite-related literature, see Ricart-Huguet (2019).

other hand, existing elites who are increasingly discontent can choose to remain in an existing organization and create a faction if either the benefits of breaking the elite agreement are too low or the costs are too high (Weingast, 1997). Finally, if internal factions are insufficient and the benefits of an elite split are higher than the status quo, we should expect the discontent elites to formalize elite divisions—for instance, through the creation of a new political party (Tavits, 2008). Although the existence of factions would also reflect divisions or fragmentation within elites, this paper is only interested in formal elite divisions.

### CONSEQUENCES OF INTRA-ELITE STRUGGLES

Formal elite divisions have had important consequences throughout history. For instance, the rise of industrial elites—economically powerful but initially politically weak—strained the autocratic nature of many 19th century Western polities. Among many others, intra-elite conflicts have been employed to explain the transitions to democracy (Ansell & Samuels, 2014) or franchise extensions (Lizzeri & Persico, 2004) that eroded plutocratic rule. Moreover, different types of elite coalitions had long-lasting consequences for democratic transition and consolidation (Luebbert, 1991). A growing stream of literature has also recently delved into the consequences of intra-elite conflicts for institutional developments (Paniagua & Vogler, 2021), increases in state capacity (Garfias, 2018), or changes in fiscal institutions and taxes (Beramendi et al., 2019; Mares & Queralt, 2020).

The previous findings show that intra-elite competition is a powerful engine of institutional change. Nonetheless, a shortcoming of this literature is that it always considers intra-elite divisions as given. Although it is plausible to think that conflicts among elites were related to institutional and economic preconditions, it is necessary to endogenize the relationship between the political and economic consequences of elite fragmentation. Elite divisions do not develop equally across countries, and the manifestation of elite splits might also be strategic and conditional upon elites' available resources.

For intra-elite clashes to have political consequences, however, elites that seek political influence need first to gain access to institutionalized political power. Discontent elites need to be formally grouped in new organizations, such as political parties, to be decisive in decision-

making processes. Hence, it is important to understand *why* and *when* intra-elite divisions are formalized.

### 3.2.2 ELITE HETEROGENEITY

An initial account to understand political and elite heterogeneity relies on the influential cleavage literature introduced by Lipset and Rokkan (1967). In their work, societies have more-or-less fixed characteristics that determine the social lines of conflict, which have the potential to produce political and elite divisions. Social and individual characteristics define the political preferences and the behavior of actors and, although changes are possible, new cleavages can only emerge in the long-term after processes of profound social transformation.

Similarly, the economic geography literature considers heterogeneity in political preferences to be influenced by differences in economic geography endowments. Given that different territories are subject to distinct resources, structures and dynamics, and sociodemographic compositions, political actors should have different preferences and behaviors (Rickard, 2020). Hence, based on the cleavage and the economic geography literature, intrinsic and almost-fixed factors seem to determine the preferences and the behavior of elites.

A missing aspect in previous studies is the lack of information on when elites decide to break away. According to Weingast (1997), elite unity is generally based on implicit pacts and disadvantaged elites can only break the pacts when the status quo changes, for instance when there are technological changes (Boix, 2015) or sudden economic shocks (Reuter & Gandhi, 2011). Rokkan and Urwin (1982) posited that regional or peripheral identities were politicized in times of industrialization because of geographically uneven economic development.<sup>3</sup> Hroch (1985), in turn, emphasized the role of identity awareness and signaled the crucial role played by “national activists” (p. 13) to understand the revival of national movements.

However, less is known about the conditions under which differences in economic preferences or identity lead to party divides. Rokkan and Urwin (1982) defended that modernization, when coupled with a different identity, can generate the division of elites and the emergence of center-periphery cleavages. Unfortunately, the previous literature did not test when the over-

<sup>3</sup> Siroky et al. (2020) find that cultural distinctiveness is associated with support of Corsican political parties in municipalities less dependent on central-state public funds, which supports Rokkan and Urwin’s ideas.

lap between economic grievances and distinct identity boosts the emergence of center-periphery tensions.<sup>4</sup> Uneven economic development and distinct identity are not sufficient, as these factors were already in place in many territories—such as Catalonia, Scotland, or Corsica—much before than center-periphery tensions were politicized by elites. I argue that, beyond the factors considered before, disruptive economic shocks and mobilization capabilities are fundamental to understand the origins of elite splits.

### 3.2.3 EXPECTATIONS: ECONOMIC SHOCKS AND POLITICAL MOBILIZATION

A sudden change in international trade can entail a significant economic shock with large political effects. For instance, actors exposed to international trade demand compensation for the negative consequences of trade disruptions, usually through larger public investments (Rodrik, 1998). Moreover, recent contributions have shown that trade exposure is related to changes in party systems (Calca & Gross, 2019) and the ascent of new populist political actors (Rodrik, 2018).

To assess the effects of trade shocks, a novel identification strategy based on the use of shift-share instruments has allowed to explore the political effects of these shocks (Autor et al., 2013). These instruments permit to infer the exposure to trade at micro-level units despite the lack of disaggregated trade data. Different papers using these instruments have shown that exposure to import trade shocks has had important effects on individual level political preferences and behaviors (Colantone & Stanig, 2018).

Sudden changes in economic conditions, influence elite preferences and can challenge incumbent elites (Reuter & Gandhi, 2011). This is especially true for changes in trade, since many ascending elites rely on commerce to climb the social ladder. Hence, trade shocks have a large historical relevance that can contribute to explain key historical processes and events (Scheve & Serlin, in preparation), such as elite fragmentation in electoral autocracies.

*Hypothesis 3.1* A larger exposure to trade shocks increases the likelihood of a regional elite split.

The split of certain elites and the emergence of a new political party does not only depend on economic conditions. Political entrepreneurs consider not only the benefits—e.g., more

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<sup>4</sup> Only very recently, Mor (2022) has developed some work on the origins of center-periphery tensions.

freedom to demand better suited policies or many offices—but also the costs of elite divisions—the efforts to mobilize the electorate (or to overcome institutional hurdles) to win seats (Cox, 1997; Tavits, 2008). Elites always consider the extent of uncertainty—political, economic, or institutional—before deciding whether to split elite unity and create a new political party (Lupu & Riedl, 2013).

The ability to mobilize voters is a widely acknowledged factor reducing the extent of uncertainty and it is connected to party formation (Kalyvas, 1996; Ziblatt, 2017); similarly, the existence of national agitators or agents of identity-based mobilization is associated with national revival movements across Europe during the 19th and 20th centuries (Hroch, 1985). Hence, it is important to focus on mobilization capabilities when trying to understand the logic of elite splits. Therefore, I hypothesize the following.

*Hypothesis 3.2* Larger mobilization capacities in the hands of elites facilitate the emergence of regional party candidacies.

Beyond the main effects of trade shocks and political mobilization, I argue that both factors should reinforce each other. The main economic geography literature has always highlighted that economic and political factors are intertwined and it is important to take both elements into account (e.g., Beramendi, 2012). In my argument, what matters is not only the economic impact of the colonial trade shock or the political influence of mobilization agents. I argue that it is the combination of both elements what lies behind regional elite strategic decisions to break away from central elites. Regional elites in places largely exposed to the colonial shock required mobilization tools to be competitive in elections, while a lack of mobilization capacities made it less likely to consider engaging in elite fragmentation. The impact of an economic shock is contingent on the availability of political mobilization tools, and vice versa.

*Hypothesis 3.3* Mobilization capacities magnify the effect of asymmetric economic differences across elites.

Overall, I consider that regional elites will have incentives to break their relations with central elites under certain specific conditions. The existence of asymmetric economic preferences is essential, but it will only be relevant when asymmetries are deeper and/or more salient, as

it happens after a trade shock. This, coupled with the availability of mobilization tools in the hands of regional elites, should lead to the emergence of a center-periphery elite divide. Without relevant changes in the economic, political, or institutional conditions, and without the possibility to mobilize voters, regional elites would not engage in the formation of a new party. I will test my argument and specific hypotheses by analyzing the case of Catalonia in the early 20th century.

### 3.3 THE ARGUMENT IN CONTEXT

There are two key elements that make Catalonia a suitable case to study the origins of elite fragmentation. First, Catalonia was much more industrialized compared to other Spanish regions. Catalonia was, nonetheless, heterogeneously industrialized (Carreras, 2019); while some areas were highly industrial, others remained essentially rural. This allows me to leverage differences in economic preference divergence and exposure to economic trade shocks.

Second, efforts to build a shared and strong Spanish identity failed in the 19th century, partially due to an ineffective mass schooling system (L. Balcells, 2013). Although language or identity had not significantly divided regional and central elites until the 20th century, it was a visible and distinctive trait to be employed as a mobilization device if necessary. Whereas identity characteristics were quite homogeneous across Catalonia, the capacity of elites to activate voters on the basis of identity was not and there was variation in the presence of local leaders engaged in Catalan culture and language revival.

The previous elements assure enough internal variation within Catalonia to test whether economic grievances and mobilization capacities are related to the formalization of an elite split. Economic conditions and mobilization capacities should also explain the rise of regional elites in other regions—e.g., Ireland, Bavaria, or Scotland—with identity-related and economic disparities between the region and the rest of the country. I focus, nonetheless, on Catalonia because the large internal heterogeneity within the region makes it the perfect case to test my hypotheses. In the upcoming sections I briefly summarize the main economic and political characteristics of this territory.

## 3.3.1 PRECONDITIONS

## ECONOMIC CONTEXT

The 19th century Spanish economic geography was heterogeneous: most areas remained almost entirely agrarian, while in a few—including Catalonia—industrialization was taking off (Prados de la Escosura, 2003). Catalonia consolidated its preeminent industrial position throughout the 19th century and by the end of the century it produced 40% of the country's industrial output and around 80% of the overall textile production (Nadal et al., 1988).<sup>5</sup>

Textile industries were predominant in Catalonia and the cotton sector was the largest, followed by the wool sector (Nadal et al., 1988). Despite their shared industrial nature, both sectors had different characteristics. Almost the entire cotton production was based in Catalonia and depended on imported raw materials, while wool textiles were also manufactured in other areas of Spain because Castile was an important wool producer. Moreover, the cotton industry was larger, as cotton industrialists paid 6 times the amount of taxes paid by wool industrialists. Within Catalonia, each type of industrialization predominated in different areas and, as noted by Díez Medrano (1995), the specialization in different industry types influences intra-elite relationships. Finally, and key to my argument, different types of industries also meant different exposure to international trade.

## POLITICAL CONTEXT

Since 1876, Spain was an electoral autocracy. Regular elections were held but these elections were neither free nor fair. Two notable parties, known as monarchist parties, systematically controlled over 80% of seats in parliament and perfectly alternated in power thanks to fraud and electoral manipulation practices, which persisted even after universal male enfranchisement in 1890.<sup>6</sup> A majoritarian electoral system was in place for lower chamber elections and most MPs were elected in Single-Member Districts. Monarchist parties had a strong top-down control of

<sup>5</sup> Catalonia represented around a 6.5% of the Spanish territory, its population less than 11%, and the overall collected taxes around 20% in 1856.

<sup>6</sup> Alternation in power was based on a system known as pacific turn [*turno pacífico*]. This system was an informal mechanism ensuring systematic political alternation in Spain; when a new prime minister was named by the King, he then called for elections to build a parliamentary majority and made sure most MPs supported his party.



the administrative electoral procedures (Villa García, 2016), which explains why non-monarchist candidates were almost never able to win seats. It was even difficult for non-monarchist candidates to win seats in other types of elections, such as subnational (provincial) assemblies, where constituencies were multi-Member and candidates were elected through panachage (A. Balcells et al., 1982).<sup>7</sup> Overall, this context represents a hard case to test the hypotheses of elite divisions, since winning seats against the will of incumbent elites in electoral autocracies is harder.

Political dynamics in Catalonia in the late 19th century did not differ from the rest of Spain, with large majorities of seats won by the monarchist party calling for elections. Bourgeois elites in Catalonia supported monarchist parties but remained relatively alienated from formal political representation.<sup>8</sup> Catalan elites conveyed their political influence mostly through economic societies or employers' organizations lobbies (de Riquer, 1977). However, the way Catalan elites engaged in politics changed by the turn of the century.

### 3.3.2 ELITE SPLIT: KEY EVENTS

In the late 19th century, there were two key events that had an important impact on Catalan elites and influenced the creation of the first regional political party in Catalonia in 1901. On the one hand, the increasingly structured organization of certain regional elites—mostly intellectual—along identity and language. On the other hand, the loss of the Spanish overseas colonies in 1898, which had important economic effects for Catalan industrialists (de Riquer, 1977). I will briefly describe the main historical events (see Figure 3.1) that influenced the decision of some Catalan elites' to politically split from existing political organizations and to promote a new regional elite party.

#### IDENTITY-BASED MOBILIZATION

Catalan culture and language were being revitalized from the mid-19th century by a rising intellectual movement known as *Renaixença* [Rebirth], whose goal was to enhance the prestige of the Catalan language. A classical romanticist movement, their members were also very keen

<sup>7</sup> Two lower chamber constituencies in urban areas were also multi-Member.

<sup>8</sup> As an example, just 5 of the 117 ministers (4.27%) between 1875–1902 were of Catalan origins (Cuenca & Miranda, 1992b). To appreciate the under-representation, see footnote 5.

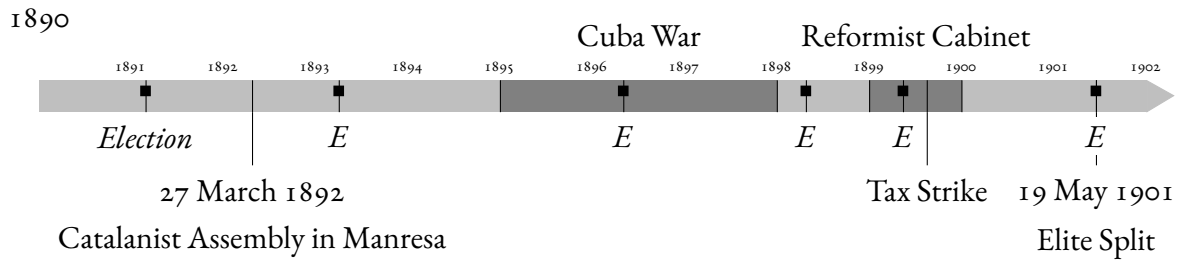


FIGURE 3.1 Main Historical Events

on disseminating Catalan history and they defended the revival of Catalan self-government institutions. Although increasingly influential in society, intellectual elites were not strongly organized until the 1890s, when a new organization, the *Unió Catalanista* was created. This organization's goal was to unite all individuals committed to enhance Catalan culture beyond their other political allegiances, and to lobby political institutions in favor of Catalan identity. One of their first activities was to organize a series of assemblies to debate about Catalonia's future and its political organization, and to decide which issues had to be prioritized.

The first and most important assembly was celebrated in 1892 in the city of Manresa, and it gathered 237 delegates from all over Catalonia (Llorens i Vila, 1992). The assembly concluded with the approval of a document—praised by historians as a landmark for political catalanism—proposing the bases on how political relations between Catalonia and Spain should be structured. The Manresa meeting delegates were not secessionist, and most of them were liberal professionals and intellectuals, with very few industrialists among them. It was a sample of local elites who proselytized the revival of Catalan culture and political institutions, always within the Spanish monarchy. It is important to note that the meeting was not meant to lay the foundations for the formation of a political party but all the delegates were influential local leaders who were likely to promote any initiative that would enhance Catalan identity. Most delegates were not politicians, although some delegates would become prominent regional elite party leaders in the 20th century. Overall, we can think of the Manresa delegates as a network of activists promoting Catalan identity.

## HISTORICAL TRADE SHOCK

Later in the decade, in 1898, a critical juncture for intra-elite relationships took place. The Spanish defeat in the Cuban War of Independence represented the loss of colonial possessions and “the complete collapse of the nation ...[N]ot only the institutions of the oligarchic parliamentary monarchy, but the very idea of ‘Spain’ came under criticism.” (Álvarez Junco, 2002, p. 32) After the defeat, some elites—Catalan industrialists among them—demanded modernization reforms to “regenerate” the country but also to compensate the economic losses related to the sudden drop in colonial exports. The 1898 defeat had economic consequences and led towards a more general crisis that highlighted the need to introduce political reforms in Spain.

Colonial trade had been a key factor explaining the rise of Catalan industrialization. Preferential access to the colonial market was an effective compensation mechanism to facilitate the growth of Catalan textile industries given the low purchasing power of peninsular Spanish citizens. The access to the colonial market for Catalan industrialists ensured a larger market that was protected from international competitors through tariffs, therefore contributing to elite unity during the late 19th century (Nadal et al., 1988). As long as central elites supported protectionist policies facilitating commerce with the colonies and hindered the entry of textile products from other European countries, Catalan industrial elites had no incentives to split from central elites.

The loss of the colonies had large economic effects for certain economic sectors in Catalonia. Aggregate economic data reflect that the consumer price index (CPI) increased in Spain in the last years of the 19th century (Prados de la Escosura, 2003). Moreover, micro-level evidence from the city of Barcelona after 1898 has also proved a slight CPI increase after the war, which, combined with stagnated salaries, had important economic effects (Maluquer de Motes, 1999). The most compelling evidence of the economic effects of the colonial loss is the fact that taxpayers in industrial areas in Barcelona and surrounding areas engaged in a tax strike in 1899. This strike was a response to increases in taxation aimed to balance public accounts after the colonial loss and it clearly reflects the largely noted economic effects of the 1898 colonial defeat. Nevertheless, the colonial shock did not affect all economic sectors equally.

In 1895 the Catalan textile industrial sector exported around 25% of its production. However, while around 96% of all cotton textile exports were directed towards the colonies, the same figure for wool exports represented a mere 23.6% (Dirección General de Aduanas, 1900; Harrison, 1974). The 1898 colonial loss drastically reduced the demand of textile products from the colonies and forced textile producers—especially cotton ones—to try to relocate a large part of their sells in the Spanish internal market. Catalan wool industrialists were less affected than cotton industrialists, and Spanish agrarian elites—mostly landowners—, even less so, given that agriculture products were not massively exported to the colonies. The 1898 defeat had relevant economic consequences and it was a catalyst for political realignments among those actors most affected by the colonial losses

#### THE FORMATION OF A REGIONAL ELITE PARTY

To cope with the impact of the 1898 crisis, a “reformist” cabinet was formed with the initial support of the Catalan industrial bourgeoisie. However, when the new cabinet raised commercial and industrial taxes in order to balance public accounts, support among Catalan industrialists was largely lost and, as described previously, a tax strike was organized. This episode—as highlighted by this article’s opening quote—represented the first step taken by certain Catalan economic elites to break away from central elites.

Historians contend that, after being unable to influence Spanish politics—either through lobbying or through traditional political parties—, industrial elites opted to organize a new political party with the support of the already organized intellectual intelligentsia (Ehrlich, 2004). The new party was called Lliga Regionalista—or Lliga—and it fits the definition of elite split presented in Section 3.2.1: it was a new formal organization and some of their members had previously been affiliated with the two main Spanish-wide elite parties in the past.<sup>9</sup> The Lliga stood for elections for the first time in 1901 and it was a quite modern political party: it accepted individual membership and created a stable network of party delegations in multiple cities, the party was backed by a widely diffused newspaper, and it was able to organize large rallies (Molas, 1973). The Lliga expected to mobilize heterogeneous groups of voters—from upper and mid-

<sup>9</sup> For instance, Leonci Soler or Carles de Camps had been Conservative MPs, while Albert Rusiñol had been a Liberal MP before becoming Lliga members and MPs.

dle classes to rural peasantry—through appeals to Catalan identity and to impede fraudulent electoral practices by promoting large scale political mobilization.

Overall, the historical details presented above show how certain Catalan elites experienced an asymmetric economic shock after the 1898 colonial loss, which coincided with the appearance of a new network of identity entrepreneurs. All this resulted in the formation of an elite split through the creation of an elite-led regional party.

### 3.4 DATA AND RESEARCH DESIGN

I explore the preconditions leading to a regional elite split by analyzing a dataset that combines electoral, economic, mobilization, and sociodemographic data. The data is novel, it was compiled at the most micro-level possible (census tract or municipality) and then aggregated at the constituency level.

#### 3.4.1 ELECTORAL DATA

I employ election data at the constituency level for the period between the creation of the Lliga (1901) until a military coup put an end to the Restoration period and regular elections (1923). The data include elections to the Spanish Lower Chamber and to Provincial (subnational) Assemblies, which had different characteristics—e.g., district magnitudes and boundaries.<sup>10</sup> I rely on constituency level electoral returns collected by historians, complemented with originally collected data.<sup>11</sup>

The main dependent variable is a dichotomous indicator capturing whether any candidate of the Lliga was running for office in each electoral contest.<sup>12</sup> The dependent variable captures the elite split for each constituency. Figure 3.2 displays the number of regional elite candidacies per constituency and reflects that center and north-eastern Catalonia were the strongholds of regional elites. Finally, the analyses also include electoral variables capturing the type of elections, by-elections, and the magnitude of the electoral district.

<sup>10</sup> See Figure 2.4.

<sup>11</sup> Legislative electoral returns were collected by A. Balcells et al. (1982), and provincial electoral data from Mir (1985) and Gustems Torrent (1985). When results were not available in the previous sources, I relied on constituency level data aggregated from originally collected micro-level data (Vall-Prat, 2021).

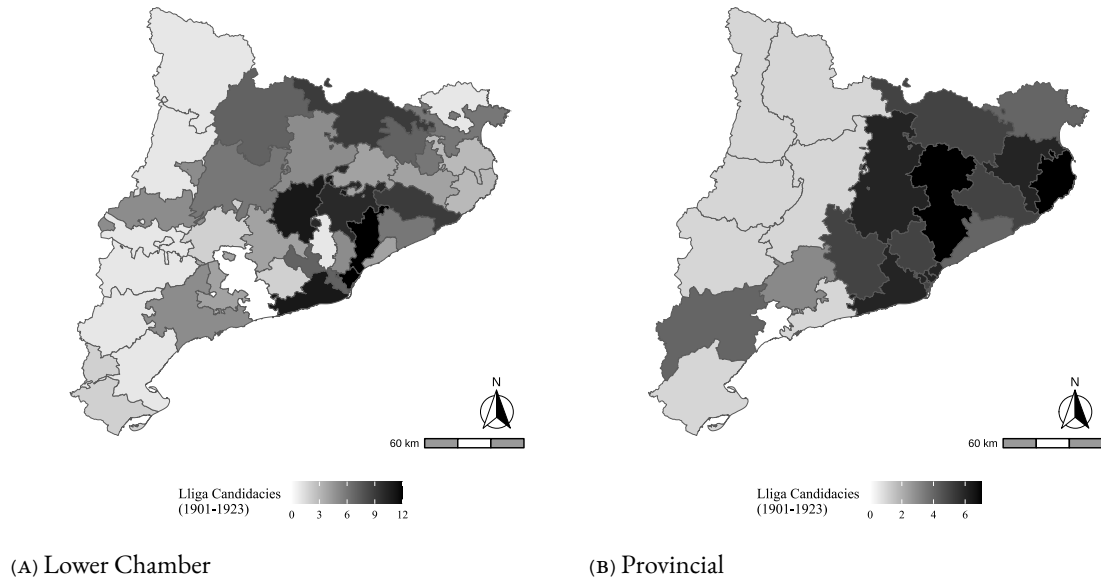


FIGURE 3.2 Number of Lliga Candidacies per Constituency

### 3.4.2 EXPOSURE TO COLONIAL SHOCK

One of the main independent variables captures the economic impact of the 1898 crisis through an indicator of the colonial trade shock. The estimation of this measure combines two different sources and I employ procedures inspired by the Autor et al. (2013) shift-share instrument. On the one hand, I employ the change in exports—the variation in the values of exported products—to the Spanish overseas colonies at the national level between 1895 and 1900 from Dirección General de Aduanas (1900).<sup>13</sup> On the other hand, I capture industrialization tax records from archival data, to measure how relevant each economic sector was at the municipality level.<sup>14</sup> Tax records have been compiled for (almost) all municipalities in the earliest available year possible in each province,<sup>15</sup> and detail the taxpayers and the amount of taxes paid for non-agricultural economic activities. Once municipality level data was available it was possible to aggregate taxation data at the constituency level.

<sup>12</sup> In cross-section robustness analyses, I employ the number of electoral races in which at least one Lliga candidate was running for office in each constituency to capture how strong the elite break in each constituency was.

<sup>13</sup> Figure B.5 displays a sample of the original source.

<sup>14</sup> Figure B.6 shows an example of this data source. Taxation codes were assigned to economic sectors through official reports (Dirección General de Contribuciones, n.d.).

<sup>15</sup> Unfortunately, industrialization data are only partially available for the 20th century. The data cover the provinces of Barcelona (1914), Girona (1920), Lleida (1926), and (partially) in Tarragona (1917)—only localities whose name started with an “S” or subsequent alphabet letters were found in the archives, which provides a randomly selected sample of municipalities.

The construction of the exposure to the colonial trade shock indicator is based on the following steps.<sup>16</sup> First, all typologies of exported products are matched to taxation classes. Since there is no perfect corresponding match between the two, most export product categories are linked to multiple taxation classes.<sup>17</sup>

Second, I calculate the national level variation of exports towards the colonies for each product between 1895—the year the Cuba War started—and 1900—two years after the colonies gained independence. Third, I calculate exposure to the colonial shock ( $ECS$ ) by each tax class ( $q$ ) as a function of the different exported products associated with the tax class, as described in Equation 3.1.

$$ECS_q = \sum \frac{\Delta_p \times Value_{p1895}}{Value_{q1895}} \quad (3.1)$$

$\Delta_p$  represents the variation in the values exported for each category product ( $p$ ) between 1895 and 1900,  $Value_{p1895}$  represents the value of all exports of product  $p$  in 1895, and  $Value_{q1895}$  denotes the value of all products associated with each tax class  $q$ . These calculations give us a measure of exposure to the colonial shock per tax class.<sup>18</sup>

Finally, a similar procedure is applied to calculate a weighed measure of exposure to the colonial shock for each constituency ( $j$ ). The procedure is detailed in Equation 3.2.

$$ECS_j = \sum \frac{ECS_q \times Taxes_q}{Taxes_j} \quad (3.2)$$

$ECS_j$  represents the exposure to the colonial shock in each constituency and it is calculated by weighting the colonial shock exposure for each tax class ( $ECS_q$ ) according to the relative size of taxes paid for the tax class ( $Taxes_q$ ) over the total amount of taxes paid in the constituency ( $Taxes_j$ ).<sup>19</sup> Figure 3.3 displays the geographic distribution of exposure to the colonial shock at the constituency level.<sup>20</sup>

<sup>16</sup> More details in Appendix B.2.

<sup>17</sup> This is because taxes were paid according to means of production. For instance, the exports of “white cotton fabrics” were linked to all cotton-related tax categories.

<sup>18</sup> Table B.1 displays an example of the calculation of tax class exposure.

<sup>19</sup> Tables B.2 and B.3 display examples of two real municipalities for which exposure was calculated: one was largely exposed to the trade shock (Table B.2), as most taxes were paid by cotton industries, while in the other exposure was minimal (Table B.3).

<sup>20</sup> Figure B.1 displays locality level colonial shock exposure.

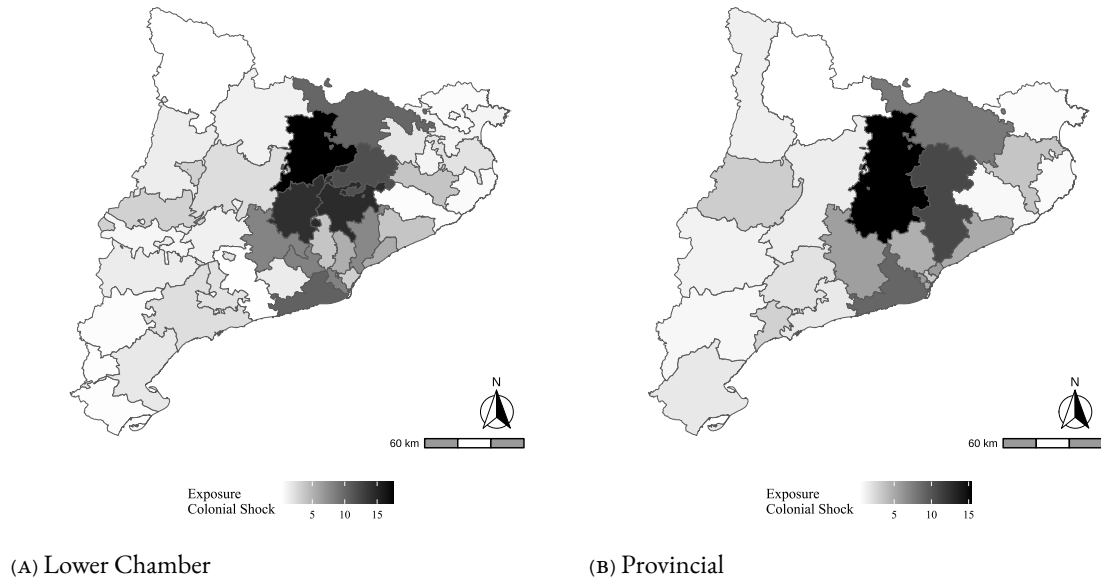


FIGURE 3.3 Constituency Exposure to the Colonial Shock

### 3.4.3 IDENTITY MOBILIZATION

The second pillar of the theory regards the mobilization capacity of regional elites. Along the lines of Hroch's (1985) contribution, the presence of local identity-committed leaders was a signal for regional elites regarding their chances of mobilizing voters through identity appeals. The 1892 assembly in which intellectual elites discussed about the future of Catalonia provides information on who these relevant local leaders were. The presence of these delegates was used as a shortcut to assess whether an elite split along identity lines would be sufficiently supported in each constituency. Large numbers of these agents of mobilization meant that previous efforts to increase the salience of identity in social debates had been made, and that the likelihood of electoral success was higher.

Data on Catalan agents of mobilization in the 1890s from Llorens i Vila (1992) provide geo-referenced information regarding the municipality of origin—the locality where they lived or where they had ties—for all delegates attending the 1892 Manresa Assembly. Municipality level data are then aggregated at the constituency level. Identity-based mobilization capacity is thus proxied by the total number of delegates from each constituency that attended the Manresa Assembly. Since 20% of the delegates were based in the capital-city of Barcelona, I employ the logged number of delegates in the analyses.<sup>21</sup>



### 3.4.4 OTHER VARIABLES

#### ECONOMIC AND INDUSTRY INDICATORS

In the mechanisms and robustness sections I employ alternative measures to account for the exposure to the colonial shock. For instance, considering that municipality level industrialization data are posterior to the colonial shock, I employ data on industries in Catalonia in 1861 (based on Jiménez Guitiérrez, 1862) to account for pre-colonial trade shock levels of industrialization. These data can be calculated separately for different types of textile industrialization (cotton and wool), that were differently exposed to the colonial shock to test the impact of the shock with data before the shock. Similar data for 1931 are also available and allow to interpolate industrialization characteristics around 1900.

The analyses also include controls for the overall economic activity at the constituency level through aggregate data on the global amount of industrialization taxes. Municipality level tax data have been collected at (approximately) 5 year intervals and interpolated to obtain yearly data, which were aggregated at the constituency level. The logged value of overall taxes is employed as proxy for economic development.

#### CONTROLS

The analyses include variables to consider other relevant social characteristics. These data include yearly interpolated census data accounting for total population, gender composition, literacy, marital status, and the percentage of people born in a different province—only available for the 1887 census.

Economic controls beyond industrialization taxes include an indicator for land ownership inequality, which accounts for the power of landed elites.<sup>22</sup> I also account for alternative political mobilization mechanisms through an indicator on the presence of landowner associations (Planas, 2006) and for the presence of peasant associations in the municipality (Pomés

<sup>21</sup> Figure B.2 displays the geographical distribution of the (logged) delegates across constituencies. Robustness analyses in Appendix B.5.4 show that the results are not driven by the transformation of the independent variable.

<sup>22</sup> Based on the earliest data available, mostly around 1910s and 1920s and, only captured at one point in time—landownership structure was stable over time.

TABLE 3.1 Constituency Level Summary Statistics

	No	Mean	SD	Min.	Max.
Lliga Candidate	586	0.45	0.50	0.00	1.00
Colonial Shock	586	4.28	4.33	0.40	17.49
(log) Identity Mobilization	586	1.83	0.75	0.00	3.83
(log) Population	586	10.91	0.69	10.11	13.59
Literacy (%)	586	49.03	10.67	19.46	74.31
Not Born Province (%)	586	6.39	4.28	1.17	20.44
(log) Industrialization	586	11.86	1.38	9.39	16.63
Land Gini	586	72.81	5.30	61.75	81.04
Peasants Association	586	6.81	11.33	0.00	49.00
Landowner Mobilization	586	29.20	23.98	0.00	100.00
Constituency Magnitude	586	1.90	1.49	1.00	7.00
By-election	586	0.08	0.27	0.00	1.00
Distance to Manresa (Km)	586	70.12	35.72	0.00	158.01

i Vives, 2000). Finally, the analyses include spatial controls such as the distance between the constituency's centroid to the city of Manresa. Table 3.1 summarizes the descriptive data.

### 3.4.5 EMPIRICAL STRATEGY

I analyze the origins of elite splits in Catalonia employing constituency-election data between 1901 and 1923. I rely in a logistic estimation model in which the dependent variable is the presence or not of a regional elite candidate (*Lliga*) in each constituency ( $j$ ) and election ( $t$ ). The main independent variables capture the uneven exposure to the 1898 colonial shock (*Colonial Shock<sub>j</sub>*, or  $CS_j$ ) and the mobilization capacity of regional elites (*Mobilization<sub>j</sub>*, or  $M_j$ ). The model also includes a vector of controls  $X'_{jt}$  (election type, population, literacy rates...) and a time trend ( $\lambda_t$ ) to account for time-variant characteristics that are constant across all districts. Since within-district changes are not of main interest and many of the explanatory variables are constant over time, the models do not include constituency fixed effects. The model is summarized in Equation 3.3.

$$Lliga_{jt} = \beta_1 Colonial\ Shock_j + \beta_2 Mobilization_j + \beta_3 CS_j \times M_j + \beta_4 X'_{jt} + \lambda_t + \varepsilon_{jt} \quad (3.3)$$

To provide more evidence that the colonial shock was the effective trigger of the regional elite split I probe the plausibility of the shock by looking at different key aspects in the mecha-

nisms section. For instance, I provide a rough test in which I compare the prevalence of different textile sectors—cotton vs. wool—that were differently exposed to colonial trade. I also look at other elements, such as relative timing with regards to the colonial shock or the type of elections. Although my design is not a difference-in-differences (DiD)—regional elites did not run for office before the shock—I examine whether the colonial shock is correlated with previous political dynamics. Along the lines of parallel trends assumption, differences across constituencies should be uncorrelated to their exposure to the shock to claim that it was the shock what made them politically different after 1898. Finally, I show the robustness of the findings by employing alternative variables and estimation models.

### 3.5 MAIN RESULTS

Table 3.2 displays the results of logistic estimates assessing the likelihood to observe a regional elite candidate—the proxy for elite split—based on exposure to the colonial shock and mobilization capacities. The estimates account for other covariates and include time trends and province fixed effects to adjust for specific factors that might have affected constituencies over time or within provinces.

According to the expectations, the constituencies that were more affected by the colonial shock were more likely to see a regional elite candidate running for office.<sup>23</sup> The effects reported in Table 3.2 are substantively large: in those constituencies least affected by the colonial shock, the probability of a Lliga candidate standing was around 30% and for those largely affected it was around 80% (Figure 3.4, left panel). Overall, the results confirm Hypothesis 3.1.

The main effect for the mobilization variable in Table 3.2 is also consistent with Hypothesis 3.2: the effect of identity-based mobilization agents is positive and statistically significant. Differences are also substantive in size. The likelihood of the presence of a Lliga candidate almost doubles when the (log) number of attendants to the 1892 Manresa Assembly is at its mean compared to those constituencies with a minimal number of attendants (Figure 3.4, right panel). Regional elites were sensitive to the availability of mobilization agents when deciding whether to split or not with central elites.

<sup>23</sup> Simple bivariate estimates relating colonial shock exposure and the presence of Lliga candidates are positive and statistically significant. See Appendix Table B.7.

TABLE 3.2 Baseline Results on Regional Elite Fragmentation

	(1)	(2)	(3)	(4)
Colonial Shock	0.27*** (0.07)	0.23*** (0.07)	0.20*** (0.06)	0.07 (0.08)
(log) Identity Mobilization	0.96** (0.42)	1.12** (0.50)	1.00*** (0.35)	0.64* (0.35)
Colonial Shock × (log) Identity Mobilization				0.08** (0.04)
Constant	−9.18 (6.46)	−4.83 (7.05)	−5.24 (4.12)	−3.58 (4.37)
Controls	Yes	Yes	Yes	Yes
Time Trend	No	Yes	Yes	Yes
Prov FE	No	No	Yes	Yes
Observations	586	586	586	586
Pseudo R <sup>2</sup>	0.25	0.28	0.35	0.35

Logistic Estimation. **DV**: Binary, regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | **(Std. Err.)**: Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Finally, the heterogeneous effect is positive and statistically significant.<sup>24</sup> This suggests that both elements—an exogenous economic shock and mobilization capacities—reinforced each other, in line with Hypothesis 3.3. As displayed in Figure 3.5, the impact of the colonial shock on the likelihood of regional elites standing for office was null for lower values of the mobilization variable. However, in those places where regional elites had more capacity to mobilize voters, the effects of the colonial shock on the likelihood of regional elites standing became positive.

### 3.6 MECHANISMS

To prove that elite fragmentation occurs when regional elites have both the incentives (economic grievances) and the opportunities (mobilization capacity) to split from central elites, I present plausibility probes on the specific channels through which regional elite fragmentation should operate. I focus on three different aspects: constituency specific industry composition,

<sup>24</sup> Results are robust to Hainmueller et al. (2019) sensitive tests in Figure B.12.

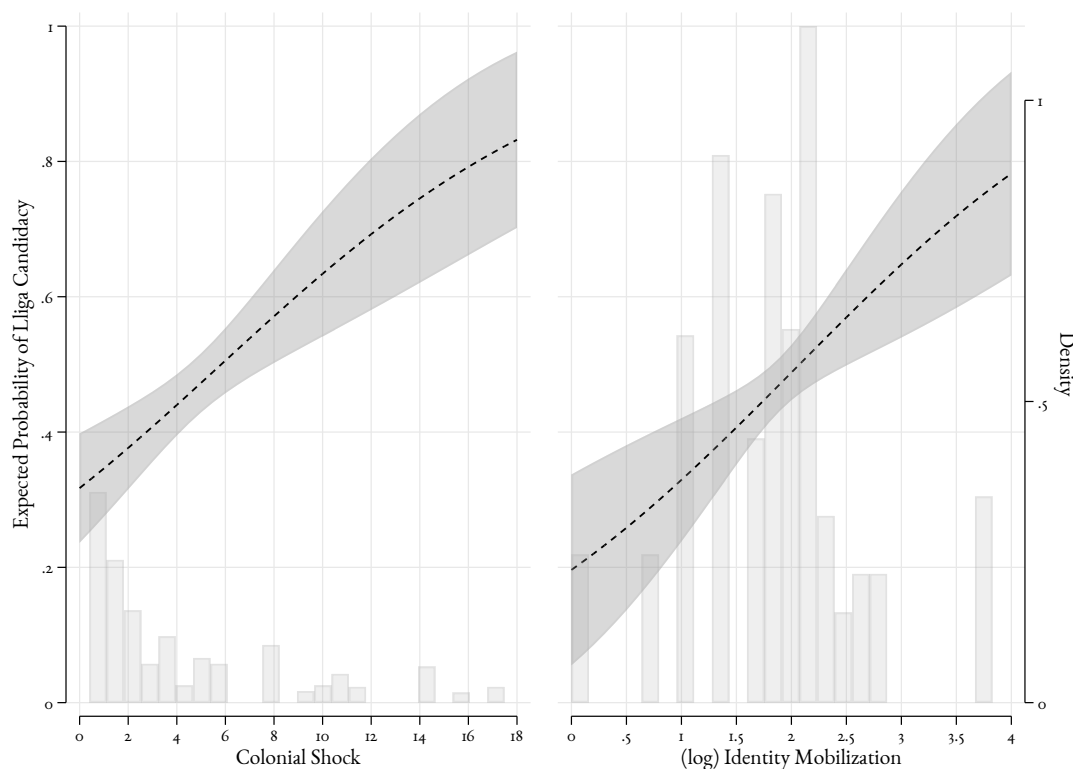


FIGURE 3.4 Probability of Lliga Candidate Standing (95% CI)

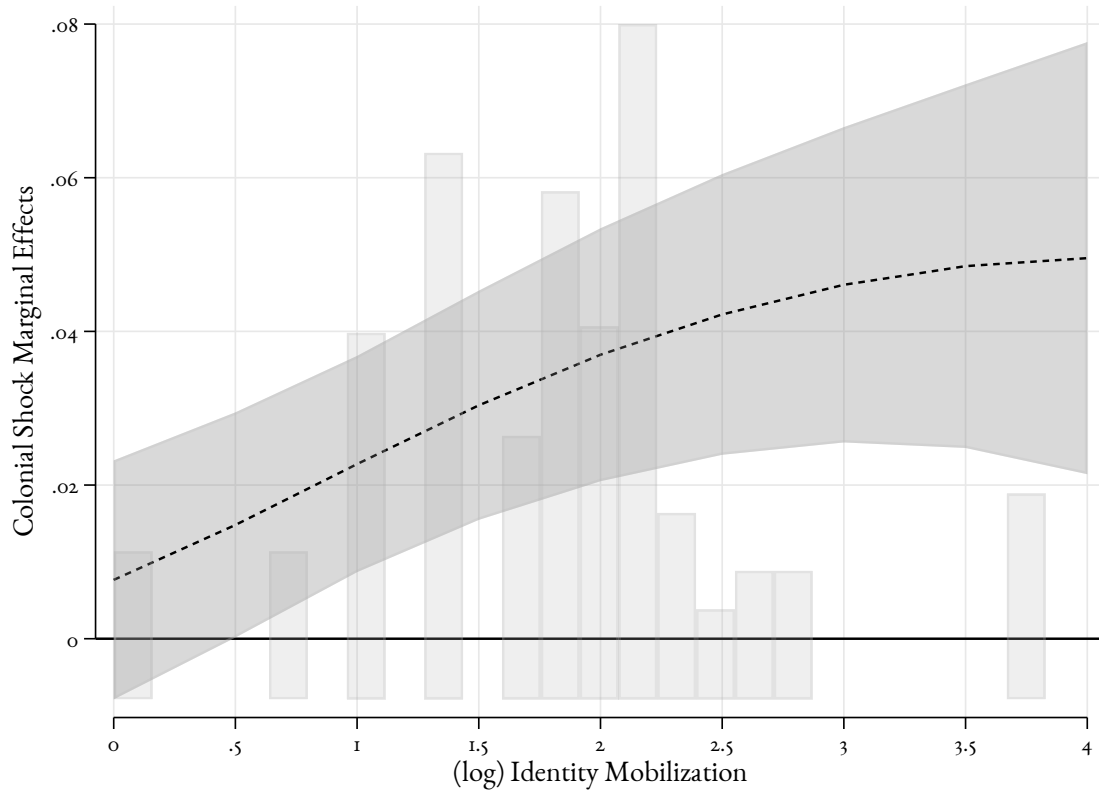
*Note:* Based on Model 3 in Table 3.2

timing, and strategic political considerations based on different types of elections. Appendix B.3 displays all estimates.

### 3.6.1 INDUSTRY COMPOSITION

In order to confirm that economic grievances brought about by the colonial shock influenced regional elite decision to engage in elite fragmentation, I compare the relevance of two different textile industrial sectors (cotton and wool) on the presence of regional elites candidacies. Cotton was the textile industry most exposed to the losses of the colonial shock, while other textile sectors—like wool—were less affected by the decline in exports after 1898. According to Figure 3.6 (and Table B.4), the presence and relevance of cotton textile industries increased the likelihood of Lliga candidates.

While measures related to cotton textile industries in Figure 3.6 behave as expected in Hypothesis 3.1–3.3, placebo tests capturing the presence of wool and other types of textile industrialization are not associated with an elite split. This test shows that the constructed measure

FIGURE 3.5  $\Delta$  Probability of Lliga Candidate Standing for Office (95% CI)

Based on Model 4 in Table 3.2

of exposure to the colonial shock is not reflecting the effect of industrialization *per se*, but the intensity of economic grievances affecting regional elites after 1898.

This evidence supports the idea that winners and losers from the economic shock responded differently to the 1898 crisis. In similar tests, constituencies where industrial exporting sectors were stronger, were more likely to see an elite split, while for non-exporting sectors the impact was null or even reversed (see Appendix B.5.5). Hence, incentives to engage in elite splits only materialized in those areas where industrialization was associated with economic grievances from the colonial trade shock.

### 3.6.2 TIMING

Another way to show that exposure to the colonial shock was driving the elite split is by taking timing into consideration. The effects of trade shocks should not last forever, as political actors adapt their preferences and strategies over time. Hence, we should expect to see larger effects of trade shock exposure shortly after the colonial loss. Figure 3.7 displays the results when split-

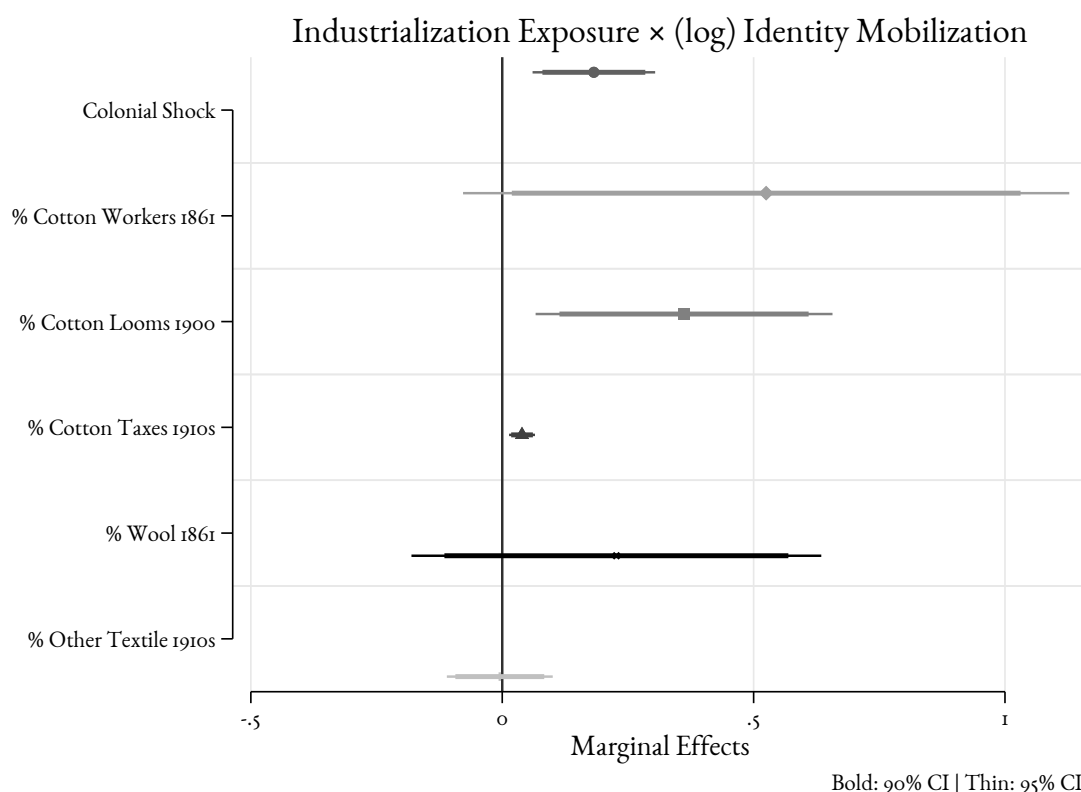


FIGURE 3.6 Alternative Measures of Exposure to the Colonial Shock

ting the sample by time periods (see also Appendix Table B.6).<sup>25</sup> Results show large and positive effects of colonial shock exposure on the presence of regional elites in the initial period. The effects vanish in the decade between 1908 and 1917 and reappear—albeit smaller in size—starting in 1918, probably because of a similar exogenous trade shock associated with a drop in cotton textile exports to World War I belligerent countries.

### 3.6.3 TYPE OF ELECTIONS

Table 3.2 reports findings for two kinds of elections that were subject to distinct dynamics. Lower chamber elections were first order elections, and MPs in the Spanish Congress decided on important issues such as tax and tariff legislation. Provincial elections, on the other hand, elected subnational assemblies. These assemblies had certain spending capacities, but their po-

<sup>25</sup> Period categorization is grounded on work by historians (Ehrlich, 2004). Between 1901–1907 the Lliga was gradually developing and expanding, coinciding with the period in which cotton textile producers were adjusting to the colonial shock effects. After 1907, regional elites faced a crisis with internal party dissent, which was overcome after 1913, when a self-government political institution was created in Catalonia. Finally, after the end of the I World War, Catalan textile producers were hit (again) by a drop in exports to belligerent countries, economic grievances resurfaced, and industrialists faced a period of increased political and social instability.

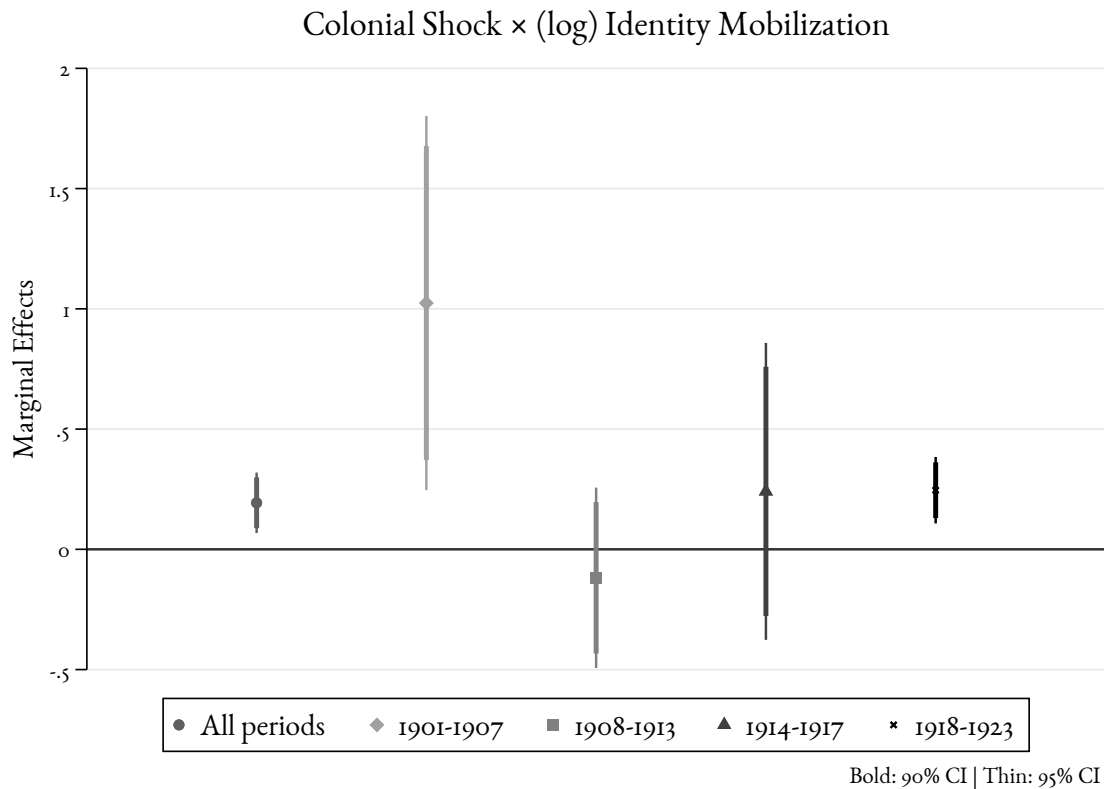


FIGURE 3.7 Heterogeneous Effects by Time Periods

litical clout was clearly smaller. Although provincial assemblies were important for regional elites, provincial elections were less of a priority and their decisions to run in these constituencies should therefore be less influenced by exposure to the colonial shock.

According to the theory previously outlined, we should expect that economic grievances would make regional elites more interested in being elected to the lower chamber. This was also, however, the most demanding type of elections because of the first-past-the-post system, and because there was more at stake for central elites. If regional elites were interested in influencing tax decisions and minimizing economic grievances, we should see larger effects of colonial shock exposure in lower chamber constituencies. Results in Table B.5 show that exposure to the colonial shock had an important effect on the presence of regional elite candidates in legislative constituencies but not in provincial ones.



### 3.7 ROBUSTNESS

#### 3.7.1 TESTING PRE-TREATMENT DIFFERENCES

It is important for the credibility of the previous results to provide evidence that, along the lines of parallel trend assumptions, the treatment variables are uncorrelated with pre-treatment political outcomes. That is, that absent the colonial shock, regional elites would have stood for elections at the same rates across all constituencies.

The only way to show this is to provide evidence that key pre-treatment political indicators—i.e., before 1898—were not affected by the economic consequences of the 1898 colonial shock. By focusing on pacific turn dynamics,<sup>26</sup> I construct an indicator that measures the percentage of elected MPs who were members of the ruling party calling for elections in all elections between 1876 and 1898—data by Varela Ortega (2001). Higher values of this indicator reflect higher alignment between Catalan elites and ruling elites before the colonial shock as Catalan elites conformed with Spanish-wide political dynamics.

The relationship between exposure to the colonial shock and pacific turn is weakly positive and not statistically significant at the 95% confidence level (Figure 3.8, left panel). If anything, the positive correlation reveals that constituencies hardly hit by the shock complied more with pacific turn dynamics, which should reduce the likelihood to see elite splits in these constituencies. Compliance with pacific turn dynamics represent a hard test for the theory, given that this indicator reflects the strength of elite alliances.

Appendix B.4 shows evidence of the nonexistent relationship between exposure to the shock and two other pre-1898 political outcomes. On the one hand, there is no correlation between colonial exposure and the percentage of non-monarchist MPs elected between 1876 and 1923, which captures levels of political contestation. On the other hand, there is no relationship between the colonial shock impact and mean turnout between 1890 and 1898.<sup>27</sup>

Finally, there is no statistically significant correlation between identity mobilization patterns in the 1892 Manresa meeting and exposure to the colonial shock in 1898 (Figure 3.8, right

<sup>26</sup> As detailed in Section 3.3.1, this refers to the fact that most elected MPs belonged to the party calling for elections.

<sup>27</sup> Between 1876–1890 elections had restricted franchise and turnout data is not available.

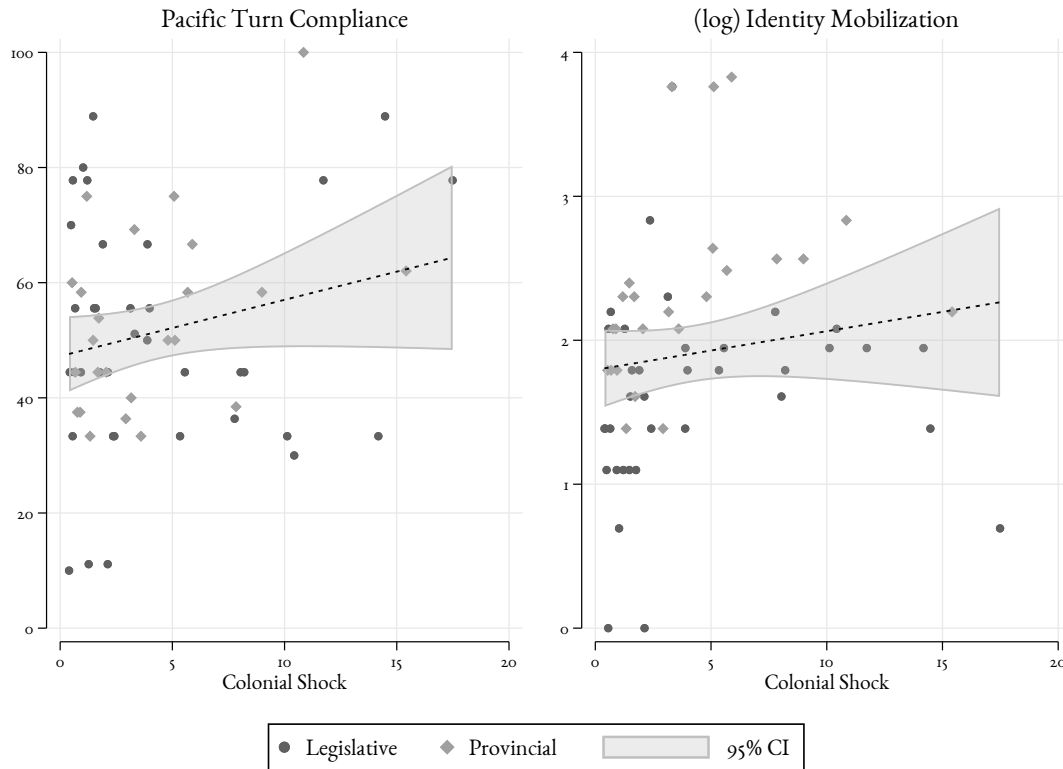


FIGURE 3.8 Colonial Shock vs. Pre-1898 Outcomes.

panel). This is crucial to argue that both indicators are capturing different constituency level characteristics. In other words, that exposure to the colonial shock is not capturing constituencies that were already more mobilized around identity lines. Moreover, identity mobilization levels are similarly unrelated to pacific turn dynamics before 1898 (Figure B.10). Hence, the previous tests point out that colonial shock and identity mobilization indicators were uncorrelated with previous political outcomes.

### 3.7.2 SHOCK VALIDATION EXERCISES

To disentangle whether my measure of exposure to the colonial shock is capturing the economic impact of the colonial trade shock, I present alternative ways to categorize industrial sectors. To this end, I classified the different industrial activities into exporting or non-exporting (more accurately, less-exporting) sectors based on the amounts exported towards the colonies. This measure should validate the colonial shock indicator and provide further evidence that it is a good proxy for the economic impact of the colonial losses.

Figures B.13 to B.16 test the robustness of the interaction term when distinguishing between export oriented or non-export oriented sectors, and across specific industrial sectors. Results show the robustness of the measure by revealing that positive effects only hold for exporting industries —those losing the most from the 1898 shock—, while for non-exporting sectors the effect is null or even negative.<sup>28</sup>

### 3.7.3 FURTHER TESTS

Several robustness checks support the strength of the main findings presented in Table 3.2.<sup>29</sup> First, results hold when excluding elections in Barcelona, which had very idiosyncratic characteristics (Table B.8), and when excluding constituencies for which the construction of colonial shock exposure was based on fragmentary municipality level data (Table B.9).<sup>30</sup>

Second, I show the robustness of the variable accounting for regional mobilization agents. I employ alternative identity mobilization measurements and equivalent results are obtained when employing the absolute number of Manresa delegates, the percentage of localities with at least one delegate, or the number of delegates per ten thousand inhabitants in the constituency (Tables B.10 to B.12). Regardless of the indicator employed, the effect of the availability of mobilization agents is consistent with Hypotheses 3.2 and 3.3.

Third, I test whether the usage of different types of time controls changes the results. Results remain when replacing the time trend by year fixed effects (Table B.13). Moreover, robustness tests also confirm that the colonial shock exposure had the largest positive effects in the early 20th century and its impact decreased over time. Positive effects of exposure to the colonial loss were at maximum levels after the trade shock (see Figure B.17) but the positive effect was mitigated by the 1910s.

Fourth, results hold when considering not only support but regional elite electoral victories (Table B.14). This confirms the strategic evaluations of Lliga candidates, who decided to run mostly in those constituencies where they had larger chances of winning.<sup>31</sup>

<sup>28</sup> More details in Appendix B.5.5.

<sup>29</sup> Empirical evidence in Appendix B.5.

<sup>30</sup> See footnote 15.

<sup>31</sup> Figure B.4 shows the geographic distribution of elected MPs.

Fifth, I reestimate the models changing the unit of analysis and employing cross-sectional constituency data. I estimate OLS models with the dependent variable being the total number of elections in which regional elite candidates had run for office until 1923. In Table B.15 the number of observations drops substantially, but evidence supporting the expectations remains, at least for legislative constituencies, which is consistent with the mechanism described in Section 3.6.3.

Finally, also using cross-sectional data, I show the robustness of the historical trade shock mechanism by employing different measures of industry specialization at the constituency level. Multiple alternative variables accounting for cotton industrialization are positively related to the number of regional elite candidates, which confirms the reliability of this indicator despite being constructed using industrialization data from the 1910s.<sup>32</sup> Overall, all robustness checks display a substantive effect along the lines of the effects shown in Table 3.2.

### 3.8 CONCLUSION

Intra-elite conflicts have crucial political consequences for democratization (Ansell & Samuels, 2014) or fiscal institutions (Mares & Queralt, 2020), but the origins and materialization of elite divisions have remained relatively unknown. The cleavage theory (Lipset & Rokkan, 1967), or theories of economic geography (Rickard, 2020) cannot explain the timing of elite ruptures because economic asymmetries and fixed social characteristics in most cases preceded elite splits. Discontent elites need to possess both the incentives and the opportunities to engage in the uncertain enterprise of modifying the elite stability pact (Weingast, 1997). Incentives to split materialize when elite differences are intensified (Mor, 2022), and opportunities arise when disadvantaged elites have mobilization resources at hand (Kalyvas, 1996).

In this paper I departed from the longstanding Rokkanian question (1970) regarding the origins of center-periphery elite tensions. The goal was to unearth the micro-foundations that lead certain regional elites to embrace the risky and uncertain process of elite division. I provided evidence that elite divisions along territorial lines occur when both economic grievances and the

<sup>32</sup> Industrial activities did not disappear after the colonial shock and we should expect to see geographical continuities in industry composition (Nadal et al., 1988). This is confirmed in Figure B.18, showing that cotton textile looms in 1831 were highly correlated with looms in 1931.

ability to mobilize the electorate are available to regional elites. By exploiting a historical trade shock, I have shown that exogenous economic shocks exacerbating economic differences can trigger elite divisions.

I have explored the formalization of elite divisions along a center-periphery dimension in early 20th century Catalonia, where the emergence of regional elites was not homogeneous across its territory (Molas, 1973). Neither Catalonia's economic geography, nor its distinct identity can account for the heterogeneous presence of regional elite candidates across constituencies. On the one hand, regional elites were unable to win seats in some highly industrialized areas; on the other hand, despite Catalan identity and language were homogeneous across Catalonia, elite fragmentation did not occur everywhere.

The elite split was associated with a large economic shock and to the availability of mobilization resources. Catalan regional elites mainly sought an autonomous political path in those constituencies that were largely hit by the effects of the colonial trade shock *and* where they could resort to identity-based mobilization. According to many historians (e.g., de Riquer, 1977; Harrison, 1974) the 1898 colonial trade shock intensified economic grievances and political and economic divergences between some regional and central elites. The colonial loss produced the necessary incentives for regional elites to break the existing equilibrium, but only in those places where mobilization capacities were already in place. The availability of identity-based agents of mobilization was necessary for industrial elites to successfully initiate a new political project that enhanced both the interests of intellectual and industrial elites.

The results show that elite divisions are rooted in economic heterogeneity, as advanced by Rokkan (1970). However, it is only when these disparities are suddenly experienced (or amplified) *and* elites can activate enough supporters that regional elites consider breaking away from central elites. These results underscore the need to better understand the origins of intra-elite conflicts and provide evidence on how (or when) certain political divisions are able to structure dynamics of political competition. Digging into the origins of different dimensions of elite competition can also contribute to fathom why certain institutional reforms were implemented in some countries and not in others as a consequence of intra-elite competition (Ansell & Samuels, 2014).

This work has focused on the center-periphery political divide, which is highly salient in contemporary research on decentralization and secessionist demands. Recent contributions have highlighted the role of economic factors to explain individual political preferences and behaviors along a center-periphery political dimension. For instance, Hierro and Queralt (2021) have demonstrated that in contemporary settings voters employed in export-oriented economic sectors are more likely to support independence. Along similar lines, Rickard (2021) has shown how support for state-wide incumbent political parties declined when voters were exposed to offshoring events, while support for the only regional party in cabinet received larger support rates after these events. The conclusions in this paper are congruent with the findings on voters' political behavior. Regional elites in the early 20th century also responded to an economic trade shock based on their exposure to international trade dynamics: the more they depended on foreign markets, the more likely they were to emphasize their regional identity.

This paper contributes to the literature by improving extant understandings of the consolidation of political disputes along a territorial dimension, and detailing the circumstances under which regional elites reinforce their claims. The previous findings are consistent with new research on the origins of center-periphery divides and the rise of distinct political identities. For instance, Mor (2022) highlights the important role of unintended religious grievances for the development of a Catholic party in 19th century Prussia. Hence, the findings in this paper can be generalizable to other cases in which center-periphery tensions emerged—and cases where these divisions did not arise. The theoretical framework could be applied to many other cases where regional parties gained prominence, such as Ireland, Scotland, the Basque Country, or Flanders. For instance, while Ireland went through a series of famines during the 19th century, Scottish regional elites were not exposed to specific grievances and/or heterogeneous economic shocks compared to England. These factors can be relevant to understand why Ireland developed regional parties in the 19th century, much before the Scottish National Party was formed in the 1930s. Nevertheless, the importance of economic and mobilization factors can also be informative for contemporary settings. For instance, Siroky et al.'s (2020) contribution confirms the relevance of economic relations between the center and the region to explain the success of regional parties in Corsica.

Future work should explore whether elite divisions along other lines of political conflict were also influenced by shocks exacerbating elite level tensions and the availability of mobilization tools. Additionally, new research on micro-level data for the early electoral success of regional elite parties could contribute to better understand the mechanisms at work in the consolidation of elite divisions and regional political parties. Further research is also required on the consequences entailing intra-elite divisions along center-periphery lines.

Regarding the origins of elite divisions, other factors could also account for the rise of center-periphery tensions. However, this work has shown that economic shocks and mobilization capacities are crucial aspects, and that elite tensions do not come out of the blue. A better understanding of the origins of intra-elite center-periphery tensions is the first step to further analyze the consequences of this divide in the regions where it materialized.

# 4

## Paper 2

### Intra-Elite Competition and Electoral Fraud

*Electoral struggles...were not for the conquest of votes, but for the possession of tallies.*

Amadeu Hurtado i Miró (1964, p. 46)

#### 4.1 INTRODUCTION

Under what circumstances do elections transition out of fraudulent practices? Why countries holding non-democratic and fraudulent elections start to observe less fraudulent and more competitive elections? Almost all countries in the 19th century were “competitive authoritarian” polities (Levitsky & Way, 2002) or, in other words, electoral autocracies (based on data by Coppedge et al., 2021). Despite holding elections, these polities were autocratic because elections were subject to electoral manipulation and deviated from an ideal type of democratic elections (Simpser, 2013). Elections were held on a regular basis but the outcomes of these elections could not be considered to fulfill democratic standards due to the pervasiveness of fraudulent practices. Fraudulent elections were recurrent in the 19th century Great Britain (Kasara & Mares, 2017), Germany (Ziblatt, 2009), or Sweden (Teorell, 2017), but electoral fraud strategies and practices gradually disappeared.

In electoral autocracies, the main formal components of elections are present—there are voting booths, ballots, and results are (formally) counted—but, following Schedler’s (2002) definition, there are breaks in the chain of democratic choice. Electoral manipulation practices, such as electoral fraud, vote-buying, coercion, or disenfranchisement were widespread phenomena in the early phases of democratization processes (Bateman, 2018; Kasara & Mares,



2017). There were regular calls to vote but these were controlled by certain political elites, who made sure electoral results would fit their interests, usually resorting to electoral fraud practices. Nonetheless, the factors behind transitions out of fraudulent elections are not yet clear, especially in those cases where the democratization of elections emerged endogenously, rather than as a result of international democratization promotion efforts (Bjornlund, 2004). A crucial question, then, is what are the factors that make it possible for elections under electoral autocracies to escape from the control of incumbent elites—and from blatant fraudulent strategies—to become electorally competitive.

In the early democratization phases, elite decisions regarding institutional reforms played a crucial role. For instance, electoral rules reforms were intended to halt the rise of new opposition parties (Boix, 1999) and counter-majoritarian institutions were established to prevent democratization reforms to go too far (Przeworski, 2018). Regarding why there was less fraud in elections, most explanations have focused on institutional reforms such as franchise extensions or the introduction of secret ballots (Aidt & Jensen, 2017; Mares, 2015, *forthcoming*). While these reforms had an undeniable and substantive effect by shaping political actors expectations, institutional explanations cannot explain how political groups that would benefit from cleaner elections won seats in parliament in the first place. Before being able to support and vote in favor of institutional modifications in parliament, candidates first had to win office in contexts of pervasive electoral fraud.

Can the rise of new politically organized elites be an important element in explaining transitions out of electoral fraudulent practices? In this paper, I argue that intra-elite competition can be an important factor to understand when, how, and to what extent, does electoral fraud vary over time, even before institutional reforms are implemented. Previous work has shown that intra-elite struggles were an important engine for the adoption of different types of institutional reforms (e.g., Beramendi et al., 2019; Lizzeri & Persico, 2004; Mares & Queralt, 2015; Paniagua & Vogler, 2021). However, I argue that intra-elite conflicts can have an impact on elite practices and strategies, even when non-incumbent elites do not have access to formal political posts or when their influence is insufficient to prompt institutional reforms. By deploying a

new set of electoral strategies, new elites can force incumbent elites to modify their electoral (fraudulent) strategies.

In the upcoming pages, I present evidence relating the rise of new elite candidates to variations in the extent of electoral fraud. I do not argue that these new elites need to be democratically motivated actors, but these elites, by seeking to increase their political clout, can contribute to erode fraud practices. Different elite groups possess different resources that shape their electoral strategies; while incumbent elites can resort to institutional manipulation and control of the bureaucracy, non-incumbent elites do not, but they usually have access to other types of economic and/or mobilization resources. Non-incumbent elites need to overcome the existing electoral fraud dynamics to gain access to political power; when they employ the resources in their hands, this unleashes changes in electoral manipulation strategies. These elites use their resources to advance their interests and, if it is in their benefit, they make investments to prevent the prevalent electoral fraudulent practices and to win elections. Electoral manipulation may not disappear when these non-incumbent elites run for office, but their presence and their resources should influence the reach of electoral fraud.

Blatant forgery of election tallies becomes a much less feasible option and the capacity to influence a change in fraud pervasiveness, I argue, should be conditional to the resources in the hands of challenger political actors. On the one hand, if non-incumbent elite challengers have mobilization or economic resources, tampering of tallies and flagrant fraud by incumbent elites should be less likely because these new competitors can invest in electoral surveillance. On the other hand, the presence of competitors without mobilization and/or economic resources should be less threatening for incumbent elites. In this case, the new competitors would not have the means to deter the falsification of electoral returns and incumbent elites would not feel compelled to restrain themselves from unabashed electoral fraud practices.

I test this argument empirically using the emergence of a regional elite party, the *Lliga Regionalista*, in 20th century Catalonia. In 1901 the *Lliga Regionalista* won its first seats and it gradually became more electorally successful all over Catalonia, especially during the 1910s. Until then, two main Spanish-wide monarchist political parties—Conservative and Liberal—representing the incumbent elites won almost all seats. Their victories were based on a strict

system of political alternation that relied on blatant electoral fraud techniques, such as census manipulation, impersonation of voters and ballot-stuffing, or the forge of tallies (Villa García, 2016). Lliga party leaders were aware that, to win seats, they had to confront these techniques. This is why, according to most historians, during the early 20th century the levels of electoral fraud in Catalonia decreased widely and the electoral system became much more competitive (Rubí & Armengol, 2012). However, in most Spanish regions elections remained under the control of monarchist parties through larger levels of electoral fraud.

In this paper I combine anecdotal evidence and quantitative empirical analyses from a wide array of electoral forensic techniques. Most of this evidence shows that when regional elites stood for office, the likelihood to observe electoral fraud indicators was lower. The results in this paper point out that intra-elite competition reduced the intensity and the reach of certain electoral fraudulent strategies such as the tampering of tallies. Indicators capturing blatant forms of electoral fraud are lower when incumbent elites competed against regional elites, but not when they were competing against other less-resourced opponents. These results point out that intra-elite competition had an impact on electoral fraud.

This paper is structured as follows. First, I introduce the definitions and debates on electoral fraud techniques and its impact on political systems, and I present the literature on intra-elite competition and the expectations relating intra-elite struggles and electoral fraud. Second, I outline the electoral characteristics of Catalonia in the early 20th century and I provide some qualitative and anecdotal evidence on the pervasiveness of electoral fraud in the elections taking place in Catalonia. Third, I describe the electoral data to test the existence of electoral fraud and I present the main electoral forensic techniques. Fourth, I present the main empirical analyses using the multiple forensic techniques. Finally, I discuss the main findings and present avenues for future research.

## 4.2 THEORETICAL FRAMEWORK

Elections are a necessary but insufficient condition for democracy because, to be considered democratic, elections need to be free and fair (Dahl, 1971). This requires certain preconditions such as freedom of organization and expression, freedom to choose, periodical elections, or that

all votes are weighted equally. Since freedoms are never absolute, the ideal type of free and fair elections is always unattainable, but it is possible to establish a “chain of democratic choice”<sup>1</sup> based on Dahl’s definition of democracy. We can consider elections to be democratic if all elements in this chain are found in an election (Schedler, 2002), while the break of any element in the chain converts any election into a non-democratic election. This is why international democratic promotion policies focus on minimizing the possibilities for electoral fraud (Bjornlund, 2004) emphasizing, for instance, third-party monitoring.<sup>2</sup>

A defining characteristic of non-democratic elections is that there are (more or less) hidden activities to influence electoral results (Lehoucq, 2003). There are multiple ways to denominate non-democratic elections, ranging from non-clean, manipulated, or fraudulent but, following Simpson (2013), any behavior that represents a breach in the chain of democratic choice can be considered as an act of electoral manipulation. The definition of a manipulated election is thus a procedural one. Some of these behaviors might be listed as against the law, but others—e.g., voter intimidation—are more difficult to be subject to legal sanction. Hence, it is not the consequences what determines manipulation, but the breach in the democratic procedures. Electoral manipulation can exist even when the consequences of these manipulation acts have no direct effects on electoral results (Simpson, 2013).

There is a wide menu of electoral manipulation practices, ranging between direct manipulation of electoral results to practices involving coercion or conditionality, such as clientelism or political violence. Although in this paper I focus on the most extreme and blatant form of electoral manipulation, electoral fraud, it is relevant to clearly define the different typologies of manipulation and what is and what is not electoral fraud.

#### 4.2.1 FRAUD: WHAT IT IS AND WHAT IT IS NOT

There are multiple types of electoral manipulation. One of the many goals of these manipulation practices is to modify the expression of political preferences in the ballot boxes through practices that break the chain of democratic choice defined by Schedler (2002). Nonetheless,

<sup>1</sup> The seven elements of the chain are the following: empowerment, freedom of supply, freedom of demand, inclusion, insulation, integrity, and irreversibility. (Schedler, 2002, pp. 39–41)

<sup>2</sup> There is evidence that close monitoring and the presence of international observers (Enikolopov et al., 2013), or the formation of an independent electoral commission (Magaloni, 2010) contributes to democratic elections.

from a theoretical perspective it is not the same to engage in ballot stuffing or tampering counts than manipulating electoral results through coercion or vote-buying. Both types of activities breach the chain of democratic choice but they are associated with different elements in this chain; while ballot-stuffing affects the aggregation of preferences, coercion affects the expression of preferences (Schedler, 2002).

#### ELECTORAL FRAUD

I define fraud, according to the canonical definition of (Lehoucq, 2003, p. 233), as “clandestine efforts to shape election results”. Hence, in this paper fraud refers to manipulation techniques of electoral results that *only rely on elite efforts* and that are usually related to the falsification of electoral results. Electoral fraud refers to electoral strategies and behaviors in which parties, candidates, or elite goals meddle with elections without the need to modify the behavior of voters. It only involves politicians, top officials, civil servants, or electoral administration members but never voters. This type of fraud is associated with almost complete “turnout” and overwhelming supports for the winning candidate (Ferrari et al., 2018; Klimek et al., 2012). Voters and/or candidates can only protest once the manipulation has already taken place, and it is not possible to amend the situation and allow voters to freely express their preferences in the ballot.

There are multiple examples of electoral fraudulent practices. First, the manipulation of electoral census lists. This activity allows to exclude (or include) individuals who would (not) be able to cast their vote on election day (Fukumoto & Horiuchi, 2011). When this decision is based on the political sympathies of these individuals, this is an electoral fraud practice. Second, ballot stuffing. Through this practice it is possible to adulterate the electoral results by including a large number of votes in favor of certain candidate(s) to secure their electoral victory (Klimek et al., 2012). Third, and somehow similar to the previous one, forging tallies. Electoral managers can also directly manipulate electoral tallies—for instance rounding up some numbers or by adding figures to existing tallies—and fabricate the electoral results more convenient for the interests of a certain candidate (Cantú, 2019). Again, this requires controlling the electoral managers at each voting center and/or the individuals in charge of the final election count.

## OTHER ELECTORAL MANIPULATION STRATEGIES

There are other manipulation techniques influencing electoral returns and mostly associated with a substantial reallocation of votes in favor of the winner. In this case, non-fraudulent manipulation techniques are those strategies that modify electoral results and that require *the concurrence of both elites and non-elites*. These electoral strategies and behaviors imply that elites influence voters' behavior through coercion or conditionality (Mares & Young, 2019), which affects the free expression of voters preferences. Clientelism is a clear example of these electoral manipulation practices since it implies a contingent exchange of goods for political support (Kitschelt & Wilkinson, 2007, p. 10) or, in other words, a distribution of non-programmatic benefits combined with conditionality (Stokes et al., 2013). This type of manipulation requires the involvement not only of elites and candidates interested in winning the election, but also the voters, who exchange the free expression of their political/electoral preferences in return for material goods, or to prevent reprisals (Mares & Young, 2016).

Another example of these electoral manipulation techniques involving both elites and voters is electoral violence (Chaturvedi, 2005; Wilkinson, 2004). In this case, elites can strategically promote violence to decrease the likelihood of opposition voters from casting their vote, very often based on the extent of popularity of incumbent parties (Hafner-Burton et al., 2014). As in the previous example of clientelism, violence contributes to manipulate elections by extremely coercing voters, thus elites exert or promote violence hoping to demobilize voters.

All sorts of electoral manipulation contribute to modify the electoral results that would occur if elections were free and fair. However, there are crucial differences between electoral fraud and clientelism, vote-buying, or political violence strategies. While fraud only involves the elites will, the latter are a bilateral relationship in which political elites must modify voters behavior to ensure their preferred electoral results.

The distinction between different electoral manipulation techniques is relevant because resources are crucial to understand the different manipulation strategies. While fraud requires an important bureaucratic control, e.g., to modify census lists or to force electoral officials to directly manipulate electoral results, the rest of manipulation techniques are more associated with

access to other types of resources, either monetary—to buy votes—, goods or jobs provision, or control of hit men. Although I do not delve into the strategic use of different electoral manipulation techniques, I argue that focusing on intra-elite competition and access to resources is essential to understand the existence of electoral fraud. While fraud requires elites to control bureaucratic resources, non-incumbent elite contenders—without access to administrative manipulation capacities—need to confront these strategies with a different set of tools to win seats and access representative posts. The main objective of this paper is to elucidate to what extent intra-elite competition influences electoral fraud strategies.

#### 4.2.2 THE LIKELIHOOD OF ELECTORAL FRAUD

Previous research on the variations in the extent of electoral fraud has delved into the main factors that facilitate or deter electoral fraud. The type of institutions in place has received a large attention, given that institutions shape expectations and preferences of all political actors. For instance, if there are independent institutions in charge of supervising the whole electoral process and rules enforcement is credible, the likelihood to observe electoral fraud decreases (Magaloni, 2010). The electoral system can also make the difference given that fraudulent practices are most likely in plurality single-member districts (SMDs) rather than in proportional representation multi-member districts (Birch, 2007). Beyond institutions, socio-demographic characteristics of the electorate, or the extent of the media to report fraud can also be relevant to understand whether electoral malpractices take place. Lehoucq and Molina (2002) find that in Costa Rica most fraud allegations took place in poorer and less populated areas. Without disdaining any of these explanations, given a context in which institutions remain stable, electoral competition plays a much important role on the extent and different forms of electoral fraud.

Until now there have been two main competing explanations on whether electoral competitiveness fosters or deters electoral fraud. On the one hand, Lehoucq (2003) argues that under conditions of high competitiveness we find larger probabilities to observe electoral fraud. Related to the previous argument of institutions influencing fraud, Lehoucq (2003) argues that in contexts where turnout is lower, e.g., in SMDs vs. PR, electoral competitiveness is higher; hence, a handful of voters is more likely to have a large influence in electoral results. The main

argument of Lehoucq is that when elections are tight and a few voters can influence the result, there should be more electoral fraud.

On the other hand, Simpson presents evidence on the opposite direction. Based on a large number of cross-country executive-level elections, he finds “no support for the claim that electoral manipulation is more likely in tight races” (Simpson, 2013, p. 70). Clean elections are more likely in elections with small margins of victory, and when pre-electoral differences between parties are larger. Simpson argues that electoral fraud is not only employed to win elections, which fits better the idea of fraud under tight elections; rather, he argues that fraud can be used to show the strength of the ruling party, which explains why there is fraud even under less competitive electoral settings. Beyond these divergent explanations, I argue that the role of elite competition and their resources endowment is pivotal to understand variations in the extent of electoral fraud.

#### 4.2.3 ELITES, DEMOCRATIZATION, AND FRAUD

There is a large literature highlighting the crucial role of elites in the democratization process. While some authors have emphasized the implementation of democratic institutions as a consequence of elites feeling threatened by the masses (Acemoglu & Robinson, 2006; Boix, 2003), others have emphasized the importance of intra-elite struggles to explain franchise extensions (Lizzeri & Persico, 2004) or democratization (Ansell & Samuels, 2014). Albertus and Menaldo (2012) have focused on the resources in the hands of incumbent autocratic elites, especially on the coercive capacity of elites, to better understand under which conditions does democratization take place. The previous contributions, have dealt with the role of elites in the democratization process, without delving into the specific changes in the functioning of elections or on the extent of electoral fraud.

Going beyond the institutional factors facilitating electoral fraud, and building on the intra-elite conflict literature, Mares (*forthcoming*) provides one of the first explanations on the motivations of elites to prevent electoral fraud. According to Mares, political decisions on whether to engage on electoral fraud were dependent on political elites being able to benefit (or not) from electoral fraudulent practices. For example, company owner MPs were less likely to support a



reform preventing vote-buying because it was the type of electoral fraud to which they used to resort, while company owner MPs were less worried about reforms authorizing the presence of electoral controllers in polling stations. Yet, the argument advanced by Mares focuses only on contexts in which elites have access to political posts and legislative influence, thus being able to resort to institutional manipulation capacities. In this paper I argue that, even when elites do not have direct access to institutional manipulation, intra-elite interactions can lead to changes in electoral fraud practices.

*Hypothesis 4.1* Intra-elite competition decreases the likelihood to observe electoral fraud strategies.

Intra-elite competition has an influence because, generally, elites are well endowed with resources. Resources available to the different groups of elites determine how do they react to social changes (Boix, 2015) and it is when elites possess or can resort to mobilization that they contribute to democratization (Ziblatt, 2017). Resources—and especially mobilization resources—are a key factor for non-incumbent elites, because it is through these resources and their associated mobilization capacity that non-incumbent elites can condition and threaten the position of incumbent elites.<sup>3</sup> Elites are rational actors making utilitarian calculations, and when elites without access to political power decide to run for office they consider they have sufficient—and large—chances to win (Tavits, 2008).

Under electoral autocracies, non-incumbent elite chances of winning are always contingent to their capacity to prevent or minimize the ability of incumbent elites to rely on electoral fraud. Hence, when incumbent elites face an opponent with access to resources and mobilization capacity, this is likely to limit the room of manoeuvre of incumbent elites to resort to extreme fraud. Incumbent elites have access and control the bureaucratic apparatus, which is essential for extreme fraud, but the presence of opponents with access to resources makes it more difficult to directly manipulate electoral results and, crucially, leave no trace of it. Either because incumbent elites will anticipate mobilization by non-incumbent elites, or precisely because these elites will use their resources to invest on surveillance of elections, we should expect to see a decrease in

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<sup>3</sup> Resources are also relevant to understand the mobilization and electoral success of non-elite political groups (e.g., Przeworski & Sprague, 1986).

the extent of electoral fraud practices—e.g., tampering of tallies. However, if incumbent elites only face an opponent endowed with a feeble capacity to mobilize the electorate or to supervise the electoral procedure, then they will still employ blatant electoral fraud strategies.

I argue that political competition dynamics and the characteristics of parties/candidates standing for office are a key factor to be taken into account. In electoral autocratic contexts in which institutions are permissive (formally or informally) with electoral fraudulent practices, availability of resources and coordination capacities can be crucial to halt the most extreme electoral fraud; furthermore, these resources will also serve to these opponents to be able to compete effectively with the incumbent candidates. The rise of new opposition parties, especially if they are led by elites and possess mobilization and coordination capacities, should be taken into account to understand variations in electoral fraud strategies by existing dominant political elites. The emergence of powerful competitors might help us to understand why elites who had traditionally resorted to ballot stuffing or tally manipulation became less able to engage in these fraudulent practices when new competitors with resources started to compete for office.

*Hypothesis 4.2* If non-incumbent elites have larger access to resources, they will be more able to deter electoral fraud practices.

I posit that electoral victories by members of non-incumbent elites were not a consequence of blatant electoral fraud but rather of preventing fraudulent strategies and, probably, of engaging on other types of electoral manipulation. A political actor endowed with resources in an electoral autocracy can use these resources for two purposes: a) to deter their opponents to steal elections through surveillance, and b) to mobilize (and/or coerce) voters in their favor. This paper only focuses on the first element. Despite it presents some hints on the second aspect, this is beyond the scope of this study.

Overall, I expect electoral fraud strategies to vary as a consequence of the characteristics of the contending parties. In an autocratic electoral context, incumbent elites with access to institutional manipulation and the control of the bureaucratic apparatus can easily resort to blatant electoral fraud to win elections. However, electoral fraud in these contexts is only possible if there is no surveillance and there are low levels of electoral mobilization. If non-incumbent elites do not compete, electoral fraud can survive. I contend that intra-elite competition should

be associated with larger surveillance efforts by the non-incumbent elites, at least, of the formal and legal aspects of the electoral procedure, which should lead to less electoral fraud. Intra-elite competition, should deter (or reduce widely) the extent of electoral fraud, while incumbent elites will still employ fraud against non-elite candidates who lack resources to combat electoral fraud. Being able to resort to resources is thus crucial for my argument: only when non-incumbent groups are endowed with resources they will be able to use them to deter electoral fraud. In the next section I present some details regarding the specific setting where I test my hypotheses.

### 4.3 CONTEXT

Electoral manipulation was a widespread phenomenon in most European countries during the 19th and early 20th centuries. Despite a process of democratization in which voting rights were progressively extended and political competitiveness was on the rise, different electoral manipulation practices persisted across the different Western countries (Cox & Kousser, 1981; Kasara & Mares, 2017; Lehoucq, 2003; Ziblatt, 2009). Spain was not an exception to this whole process and most elections in the 19th and early 20th centuries were subject to electoral fraud practices (Varela Ortega, 1977; Villa García, 2016). However, electoral fraud was not equally likely in all the country. Catalonia was one of the areas where electoral competition was more vibrant and electoral fraud was less prevalent over time (Rubí & Armengol, 2012). In this section, I describe how did elections work in Spain and Catalonia, and which were the main political actors at that time.

#### 4.3.1 ELECTIONS AND MANIPULATION IN SPAIN

During the Spanish Restoration period (1876–1923), elections in Spain were not that different to the those in other European countries such as Portugal, or Imperial Germany. To ensure political stability, the Restoration of the Bourbon dynasty in 1876 entailed an agreement between the major elite groups to share power. Two main political parties—Conservatives and Liberals, also known as monarchists—were formed, emulating the British political system, and they agreed to share power and to systematically alternate in power through periodical elections (Varela Ortega, 1977).<sup>4</sup> The Crown acted as the moderating power and it was in its hands to

appoint prime ministers and to determine when the turn between parties should take place. When the King appointed a new Prime Minister, he usually called for elections to build a new parliamentary majority in its favor (Villa García, 2016). In a quid pro quo compromise, both the Conservative and Liberal party renounced to use elections as a means to effectively compete for power. Both parties accepted to lose elections because they knew that in a short period of time the King would appoint a new PM from their party and they would regain access to power through pacific means. Hence, elections took place periodically and fraudulent electoral practices were the norm to secure electoral victories.

The most common electoral fraud practice when suffrage was still limited according to wealth (until 1890), involved census manipulations (Romero Salvador, 2021). The bureaucratic apparatus continued to exert electoral fraud practices, even after the extension of suffrage to all men in 1890. The fundamental element ensuring electoral fraud practices would work was the control and supervision of the organization of elections through the Home Affairs Minister (*Ministro de Gobernación*) (Villa García, 2016). This minister appointed gubernatorial delegates in each province who, in turn, could appoint mayors. The mayors, not only were influential personalities in their localities, but they also were the presiding officers in polling stations, thus controlling the local-level electoral procedures. Considering that mayors were subject to the will of the government (or at least could feel the threat of removal if they disobeyed), it was not uncommon to observe electoral fraud strategies such as the direct manipulation of tallies or ballot stuffing directed by public officials (Mir, 1985; Romero Salvador, 2021; Varela Ortega, 2001). This clearly reflects that, when they hold cabinet positions, the two monarchist parties had a direct control of the bureaucratic apparatus of the state. Clientelism was also present in Spain and big industry owners could influence the vote of their employees<sup>5</sup> (A. Balcells & Serra, 2019) and public officials sometimes acted as electoral brokers (Romero Salvador, 2021). Nonetheless, electoral fraud practices were the most prevalent strategies during the early Restoration period.

Despite the multiple allegations of electoral fraud and the wide anecdotal evidence, there has been no attempt to empirically disentangle the causes behind variations in electoral fraud

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<sup>4</sup> This pacific alternation system was known as *turno pacífico* [pacific turn].

<sup>5</sup> This is consistent with Mares (2015) findings.

dynamics in the elections during the Restoration. The two monarchist political parties—representing incumbent elites—alternated in power for almost 50 years, but their margin of victory and their parliamentary majorities were narrower over time. Historians have outlined two explanations to explain this tendency. On the one hand, more MPs were able to create personalistic and clientelistic networks to secure their seat independently on the will of the government (Moreno-Luzón, 2007). On the other hand, the expansion of universal suffrage and the modernization and industrialization processes in certain areas of Spain facilitated the rise of new parties—some of those led by elites—whose leaders and candidates had access to resources to overcome electoral fraud practices (e.g., Rubí, 2019, p. 80). Although the first explanation would be very interesting to explore—and along the lines of the intra-elite conflict expectations—, in this chapter I mostly focus on the second argument. More specifically, I focus on whether the emergence of elite-led political parties and the rise of intra-elite competition influenced electoral fraud.

#### 4.3.2 ELECTIONS IN CATALONIA

I focus on the case of Catalonia, because the presence of a regional elite-led political party, the *Lliga Regionalista*—or simply *Lliga*—, makes this case suitable to test the influence of intra-elite conflicts on the extent of electoral fraud. Electoral competition in Catalonia initially mirrored the existing competition in the rest of Spain: mostly Conservative and Liberal candidates competed for the seats, and only in some specific constituencies there were some republican (working-class) candidates. These candidates were tolerated and, sometimes, a few were elected with the acquiescence of incumbent elites—generally in largely industrial constituencies. Nonetheless, in 1901 the emergence of a challenging elite party—the *Lliga*—turned the electoral competition scenario upside down (Molas, 1973; Rubí & Armengol, 2012).

The most salient elections in Catalonia at that time were legislative elections. Catalonia was then divided in 36 constituencies and all but two were SMDs,<sup>6</sup> which according to Birch (2007) should facilitate electoral fraud. After 1890 all males aged 25 or above were granted the right to vote in elections and there were very few requirements to stand for office. The electoral

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<sup>6</sup> The city of Barcelona elected 7 MPs and the district of Tarragona-Reus-Falset elected 3 MPs.

competition in Catalonia during the initial Restoration period has usually been characterized as a period of political apathy (Rubí & Armengol, 2012) because political mobilization was very low until the turn of the century. Multiple historians (e.g., A. Balcells et al., 1982; de Riquer, 1977; Ehrlich, 2004; Molas, 1973) agree that the rise of regional elite parties was a crucial event that contributed to increase the competitiveness of elections and to reduce the falsification of electoral results.

Before the emergence of the Lliga, most elections pretended to confront different monarchist candidates although the one backed by the government almost always won. There were some opposition candidacies by republican—working-class—candidates, but they were almost never able to win seats. These working-class candidates had programmatic claims and tried to win offices but in most of the constituencies they were powerless to prevent electoral fraud practices by supervising polling station or through mobilization of the electorate. In fact, in the few constituencies where they were able to be elected it was either because incumbent parties did not effectively run or because incumbent parties granted them the seat (Hurtado, 1964).

In turn, the rise of a new elite-led party, promoted by regional elites with access to multiple resources and with the possibilities to deploy a large network of collaborators, represented a real challenge to the existing electoral fraud practices. As I show in the next section, Lliga leaders emphasized the need to “ensure the purity of the vote” and electoral procedures and, crucially, they had the means to do so effectively. The Lliga relied on the political support of middle and some upper-classes, with connections all over the Catalan territory and could effectively supervise elections. The resources in the hands of the Lliga political entrepreneurs facilitated investments in electoral supervision, but also in electoral mobilization. The opposition of the Lliga, endowed with resources, to the monarchist parties was a deterrent for the recurrent electoral fraud practices employed by incumbent elites. In the next section, I provide some qualitative evidence on how the rise of regional industrial elites forestalled the existing electoral fraud strategies.

## 4.3.3 ELECTORAL FRAUD: QUALITATIVE AND ANECDOTAL EVIDENCE

There is multiple evidence pinpointing that electoral tallies were usually forged, even after the enfranchisement of all male voters over 25 years old in 1890. Parties made *ex ante* agreements, and blatant electoral fraud was widespread in Catalonia to ensure the election of the desired MPs. The legislative elections of 1896 in the municipality of Alcover provide a good example of this. In this election, a monarchist candidate was competing with a republican working-class candidate and a local newspaper highlighted that, although real turnout was very low in this municipality—only local politicians, civil servants and their subordinates turned out to vote—the initial vote count resulted in 173 votes supporting the monarchist candidate. Not only this, but the numbers kept growing in the final official count, which detailed that 406 votes were cast in favor of the “official”—monarchist and incumbent—candidate although the real turnout during the election day was of barely a handful of voters (Cavallé, 1987, p. 20).

In another instance, during the 1891 elections in the village of Navarcles, the mayor opened the ballot station facilities late and expelled the individuals officially recognized as party controllers, making sure the development of the election day would completely be under his designs (Rubí, 2003, p. 562). This did not only happen in small rural towns, but also in the city of Barcelona similar behaviors took place; according to Ametlla (1963), for instance, the leaders of the main political monarchist parties “substituted the lazy citizens of their civic duties” (p. 125). Among the multiple electoral fraudulent strategies in Catalonia, Rubí (2003, p. 560) details the following: sending blank tallies to be filled by provincial bureaucrats supervising the elections, manipulating clocks at ballot stations, irregular composition of polling officers, census manipulations, and tampering electoral results. In fact, according to Varela Ortega (1977) politicians’ goals in the initial years of the Restoration period was not about maximizing corruption, but on consensuating “massive electoral fraud”.<sup>7</sup>

Most historians agree that after 1901, the year in which the Lliga was created, electoral competition in Catalonia began to “democratize”. In his memoirs, Claudi Ametlla (1963, p. 124) describes very succinctly that in 1901 voters “learned how to vote”. This was even more exacerbated after 1907 when a coalition between members of the regional elites and republicans made

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<sup>7</sup> Cited in Rubí (2003, p. 34).

an electoral coalition (Solidaritat Catalana) that extended non-fraudulent electoral practices to the vast majority of Catalan constituencies. According to Mir (1985), describing the 1901 elections in the constituencies of the rural province of Lleida, it was probably the first time in which elections took place *de facto* and votes were effectively counted in many localities. What seems clear is that, over time in Catalonia electoral fraud practices were declining and this coincided with the rise of a new opposition political parties and, especially, with the emergence of a new regional elite party.

The rise of the Lliga was clearly associated with new political and electoral strategies. The Lliga employed new techniques, such as individual membership or an intensive use of media and propaganda (Ehrlich, 2004; Molas, 1973), but it was also a very well endowed and structured organization. The main promoters of the Lliga were members of the middle classes and industrialist elites, who committed to this party by providing resources to the party. Joseph i Mayol (1970, p. 117), for instance, details how constituency-level leaders of the party contributed with large sums of money to make the party machinery work, especially during elections. Moreover, the party activists in the Lliga employed door-to-door electoral campaigns, and the main leaders of the party moved often to campaign in rural districts (Izquierdo Ballester, 2002, p. 182). Regional elite party leaders were aware that, if they wanted to win elections, their first goal was to deter blatant electoral fraud, and they invested many resources on electoral surveillance and to ensure the pulchritude of formal electoral procedures. A clear example of this was the first election in which Lliga candidates were able to win seats.

#### THE FIRST CLEAN ELECTIONS IN CATALONIA: 1901 BARCELONA

In 1901 the Lliga was able to win 6 seats to the Spanish lower chamber, 4 of them in the urban constituency of Barcelona. As we saw, Ametlla (1963) defined these elections as the first in which people “learned how to vote” and A. Balcells et al. (1982) provide a detailed description of how this election in the Barcelona constituency took place, remarking the regional elites contribution to the deterrence of electoral fraud practices.<sup>8</sup> Francesc Cambó, then a young leader of the Lliga, details in his memoirs how did the party face these elections. The initial

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<sup>8</sup> See also Pla (1973) or Cambó (1981) for first-hand details.



goal of the Lliga was to review the electoral census and to “organize a perfect group of electoral controllers”—which Cambó later defines as a corps of “electoral aristocrats”—“to combat the machinery and audacity of the caciquist organization” (Cambó, 1981, p. 73). Cambó and his collaborators created an “Electoral Dictionary” to supervise the accuracy of the whole census and to guarantee, for instance, that dead people were no longer registered to vote, or that each individual was only registered in a single census tract. Moreover, they launched campaigns to encourage voters to cast their vote early in the morning to avoid identity thefts.<sup>9</sup> On top of that, the Lliga established electoral offices in multiple locations all over the city of Barcelona to help voters to find the polling station where they were assigned to vote, and coordinated a campaign with the newspaper *La Veu de Catalunya* to enhance turnout. In 1901 the Lliga led and organized the first modern political campaign in Catalonia.

The large mobilization made pro-monarchist agents and controllers to take a more prudent and cautious attitude regarding their electoral fraud strategies. According to Hurtado (1964), most of them did not dare to forge tallies in voting stations and they trusted to be able to falsify electoral results later. Once the polling stations closed, the large networks of electoral supervisors deployed by the Lliga reported detailed descriptions of electoral results obtained in each polling station. With these results, Lliga leaders enthusiastically celebrated the election of their candidates. However, the initial official results released by public officials reflected a completely different picture: only one Lliga candidate was among the elected candidates. The discrepancies in the electoral returns were a consequence of forged tallies; some presiding officers in multiple polling stations presented falsified tallies in which they modified the electoral results. After a period of allegations, and thanks to the large organizational resources deployed by the party and its surveillance efforts, Lliga leaders were able to prove that multiple tallies had been falsified and to secure the seats of the Lliga candidates (A. Balcells et al., 1982). For the first time, the monarchist parties and their electoral fraud machinery were electorally defeated in the constituency of Barcelona.

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<sup>9</sup> In *La Veu de Catalunya*, the newspaper diffusing the ideas of the Lliga, there was a recurrent slogan during the electoral campaigns: the good voter, votes early in the morning. See Figure C.1.

## THE LLIGA ELECTORAL STRATEGIES

The example of Barcelona was not an exception but in other constituencies similar anecdotal evidence points in the same direction. For instance, in 1905 pro-Catalan activists in the constituency of Granollers spent the whole day going from town to town making sure elections were taking place according to legal provisions. In some localities they stayed until the end of the election day to make sure tallies were not sent in blank—a common practice allowing government officials in the constituency capital city to write down their preferred results (Planas, 2004, ft. 75). This qualitative evidence reflects that the emergence of a new party endowed with enough resources, backed with sufficient electoral support, and the presence of a large network of electoral controllers could defeat the government electoral fraud machinery. Lliga candidates had no access to bureaucratic capacity, meaning that Lliga members had lesser possibilities to threaten or induce provincial delegates and/or mayors to falsify electoral tallies or engage in ballot stuffing in their favor. Nonetheless, they had resources and incentives to invest in electoral surveillance to win elections.

At the individual level, a few Lliga candidates had the temptation to resort to tally manipulation by reaching agreements with monarchist elites. This was, for instance, the case of Josep Pella i Forgas, who commissioned some electoral fraud to ensure he would be elected. The reaction of the Lliga, however, was drastic and, despite his justifications (Pella i Forgas, 1905), he was relentlessly expelled from the party (Cambó, 1981). The official position of regional elites was that their political success could only be associated with their stance against electoral fraud practices.

This is not to say that Lliga candidates, who were members of economic elites, were never able to resort to certain electoral manipulation strategies. The Lliga leaders were not pure democratic champions but they employed a different set of resources to win elections. Historians such as Gemma Rubí (2003) and Conxita Mir (1985) defend that it was precisely around 1901 when vote-buying practices extended. These practices “before were unnecessary because the government controlled caciquism” (Mir, 1985, p. 105) but after 1901 vote-buying generalized. Similarly, Rubí (2003) portrays a situation in which, since votes were more difficult to control using the usual electoral fraud techniques, vote-buying practices rose (p.618). Finally, and

from a contemporary source, Ametlla (1963, p. 319) emphasizes the capacity of Enric Prat de la Riba—the main leader of the Lliga for several years—to attract local elites to its political project; Prat de la Riba knew that if the Lliga confronted these local-level elites, they risked losing votes and harming the regional elites political project. The Lliga, to some extent, attracted and coordinated with social and economically influential local elites to exert other forms of electoral manipulation. Historians have thus highlighted that the transition out from electoral fraud was not directly to pure democratic practices but rather there was an intermediate stage in which clientelistic and coercive practices were the norm. Regional elites in Catalonia seem to have played an important role in this transition.

I can present some anecdotal evidence supporting the idea that industrial and cultural elites behind the Lliga sought to influence voters through vote-buying. There are examples from constituencies, such as Manresa in 1916 or Sort-Vielha in 1918, in which the candidate of the Lliga was reported for buying votes, and these accusations were usually more likely when Lliga candidates were competing against a monarchist candidate. Also, Joseph i Mayol (1970) in his description of regional elites in the constituency of Granollers highlights how members of the Lliga used to send money, goods, or other resources to be distributed among the electorate during election campaigns. Finally, multiple cartoons in satiric weekly journals depicted elites—including Lliga leaders—as engaging in vote-buying practices.<sup>10</sup> Anecdotal evidence, thus, suggests that intra-elite competition was no longer associated with forged elections, but rather with clientelistic and coercive electoral practices.

A final example,<sup>11</sup> based on a detailed explanation of the 1916 elections in the constituency of Granollers, can contribute to clarify the existence of different electoral manipulation practices in Catalonia. In this election there were two candidates: Bonaventura Plaja, for the Lliga, and Andreu de Boet, for the monarchists. According to Joseph i Mayol (1970), the day before the elections, the government provincial delegate—the maximum representative of the Spanish government in the province—summoned all the mayors of the Granollers constituency to his office. Once there, he announced he had decided to host them in the government facilities until the elections were over to “preserve their safety”. According to Joseph i Mayol (1970), at that

<sup>10</sup> See Figures C.3 and C.4.

<sup>11</sup> This example is drawn from the memoirs of Miquel Joseph i Mayol (1970, ch. 12).

time some mayors were close to the Lliga candidate and they would have been an impediment to forge tallies and to ensure the monarchist candidate was elected. Despite the kidnapping attempt, early in the morning of the election day, the mayors were able to escape and return to their villages.

Joseph i Mayol (1970) then details how the mayor of Lliçà de Vall arrived to his town by mid-morning and he found that the polling station was closed. This was against the law, because during election days polling stations had to be open from 8am to 4pm. When the mayor arrived at the city hall, he found out that two subordinates of the provincial delegate were forcing a local civil servant to forge an election tally. The document, obviously, recounted a large majority of supports in favor of the monarchist candidate. The mayor sent the local policemen to arrest the offenders and then the polling station was opened to ensure all enfranchised citizens were able to cast their vote. So far, this example presents the monarchist political actors as engaging (or trying to engage) in blatant electoral fraud while local Lliga-related elites being able to prevent fraud.

Nonetheless, the anecdote is richer and it also points out to other aspects that are worthwhile to note. Joseph i Mayol (1970) also mentions that the mayor of Lliçà de Vall used to provide food and drinks in front of the polling station during election days. The author says that everyone was invited to eat and drink regardless of their political orientation, but we might think that the Lliga mayor was engaging in clientelistic—vote-buying—practices.<sup>12</sup> Overall, I think this anecdote illustrates very well the different strategies and resources in the hands of elite parties in the elections during the Restoration period.

Overall, the previous examples have shown how electoral practices worked in Catalonia between 1890–1923 and how the different actors were related to electoral fraud. This qualitative evidence is only an initial sketch and a more complete picture should be drawn through empiri-

<sup>12</sup> The anecdote reported by Joseph i Mayol (1970) also mentions that the day after the elections, the tallies from a neighboring municipality—Bigues i Riells, where the highest municipal civil servant was close to the monarchist candidate—were missing. Then, a delegation of local leaders went to pick up the election tally. When they arrived at the town hall, they found three different electoral tallies on his desk: one with a large majority for the Lliga candidate, another with a majority for the monarchist candidate, and a third one with balanced supports for both candidates. Joseph i Mayol does not detail which tally the delegation pick up but, according to the official electoral returns they chose the one benefiting the Lliga candidate; results in Bigues i Riells display an 80% of support to the Lliga candidate. Lliga elites were against of blatant electoral fraud, but they used to engage in clientelistic practices and would take advantage of any opportunities to enhance their electoral supports.

cal analyses of electoral returns. Electoral results are never random, but there are some data distributions that are less likely to happen under free and fair conditions. Uncovering unexpected and deviant vote patterns can point out to the existence of electoral fraud and there are certain methodological strategies that allow to capture the likelihood of electoral fraud. I present some of these strategies in the next section.

#### 4.4 DATA AND METHODS

Electoral fraud can be designed centrally, but it is generally conducted locally by a multiplicity of agents (Rundlett & Svulik, 2016). This is why “forensic methods should be based on micrologics of fraud” (Leemann & Bochsler, 2014, p. 34). Micro-level electoral data is thus a prerequisite to employ electoral forensic techniques and almost all recent works on fraud detection techniques have employed precinct-level or similar to analyze the extent of fraud (Klimek et al., 2012; Leemann & Bochsler, 2014; Mebane, 2016; Rozenas, 2017; Zhang et al., 2019). Electoral results at a lower level of aggregation such as precinct-level are abundant for contemporaneous elections and most electoral administrations compile and provide these data according to transparency policies. These type of data, nonetheless, are much less frequent for historical electoral results. This is mostly due to the lack of information processing tools when those elections took place, and to the difficulties to compile these type of data from archival research.

Nevertheless, historical electoral results are an interesting context to analyze electoral fraud for three different reasons. First, electoral manipulation was more prevalent, in some cases even seen as normal by a large part of the electorate, and it was more difficult for political actors to detect—due to a lack of appropriate tools—deviant precinct-level electoral results. Second, electoral forensic techniques did not exist and it is impossible that electoral fraud decisions were influenced by the methods available today to uncover these types of behavior. Third, historical electoral results have the advantage to provide more contextual and archive-level information, sometimes with information not available for contemporary settings. For instance, electoral autocracies in current days may hide some electoral results or provide less detailed electoral evidence, while for a country that it is currently a democracy it is less sensitive to disclose electoral data from periods in which electoral results were manipulated.

#### 4.4.1 DATA

My main interest in this paper is whether intra-elite political competition influences electoral fraud and its prevalence. Consequently, I use micro-level electoral data from a context in which there is variation in the competitiveness and the resources of elites standing for office. Specifically, I employ census tract electoral data for all elections that took place in Catalonia for the period between 1891 and 1923. All these data are publicly available in the Dataset of Historical Elections in Catalonia (DHEC) (Vall-Prat, 2021) that I compiled specifically for this dissertation project and provides highly disaggregated electoral evidence. The data is as comprehensive as possible and it includes data on the following variables: number of registered voters, voters who turned out to vote, absolute number of votes cast in favor of each candidate, information about each candidate political affiliation, and whether they were elected to office or not. From this basic data, it was possible to calculate turnout rates, and support rates for each candidate/party.

The DHEC dataset provides information regarding two different types of elections with different types of electoral systems and for which the extent of available information varied greatly. To ensure the data I compare is as similar as possible, I employ only a specific section of the DHEC dataset for the following reasons. First, I select only lower chamber elections because the stakes were higher than in provincial elections. This is mainly because becoming member of the Spanish congress was associated with higher status and influence capacity (A. Balcells et al., 1982). Second, I choose lower chamber elections because most of the constituencies to select representatives were SMDs. This is important for two separate reasons. On the one hand, it simplifies and facilitates the interpretation of political competition, the number of candidacies is lower and discerning who won or not the elections is easier to operationalize. On the other hand, for methodological purposes, most research on electoral forensics has been conducted on elections with majoritarian electoral rules and SMDs, which are a prerequisite to be able to employ some of the electoral forensic tools. Another element that limits my sample is the availability of the number of registered voters in the census tract. This is because determining the extent of fraud requires an indicator capturing the turnout levels in each electoral contest. Overall, data on the number of registered voters was widely available for most elections and mu-

nicipalities, but the missing data points concentrate mostly in the province of Barcelona, which also was the most politically active. If anything, this should make it more difficult to find an impact on electoral fraud variations. Finally, and also for methodological requirements, I exclude all observations in which the winning candidate received zero votes—this represented very few observations.

Basically, all the relevant information I employ is of electoral nature and I analyze it by resorting to different techniques that allow us to identify whether there was electoral fraud. I take advantage of the recent surge in research regarding electoral forensic techniques, which are summarized in the next section.

#### 4.4.2 METHODS TO DETECT ELECTORAL FRAUD

The interest to detect and to better understand the causes of electoral fraud has increased in recent years. Among others, the works by Birch (2011), Fortin-Rittberger (2014), Lehoucq (2003), Mares (2015), and Simpser (2013) have opened a very fruitful path to unearth the conditions under which electoral fraud takes place, but also the conditions that erode these practices. The rise in research in this field has also been associated with the need to find better measures of electoral fraud. Despite fraud is, by nature, a hidden activity there are a new array of techniques to uncover it. Initial works by Lehoucq and Molina (2002) or Ziblatt (2009) mostly focused on legal actions in which candidates complaint about other candidates illegal practices. However, there is also a strategic component of these legal complaints that might be biasing the accounts of electoral fraud. For instance, smaller parties or candidates with less resources may not be able to file complaints or, in turn, candidates in clean but highly competitive elections may have larger incentives to file complaints to gain a handful of votes. This does not mean we should disregard officially recorded accusations, but we need to complement this with more fine-grained information.

Recent research has pointed out to new techniques to unveil the fingerprints of fraud. For instance, Antenangeli and Cantú (2019) have focused on the timing to communicate the electoral results; unexpected interruptions might point out to electoral fraud. In another study, Cantú (2019) has highlighted the possibility to detect fraud through image recognition of elec-

toral tallies to detect anomalies in reported figures. Finally, randomized experiments in the assignment of neutral electoral observers in Russia (Enikolopov et al., 2013) have been used to detect variations in the levels of turnout and support, which can be associated with electoral fraud.<sup>13</sup>

Certain new techniques are especially interesting because they seek to uncover electoral fraud directly from raw electoral results. In this paper I employ three of these electoral forensic techniques, which have been widely used by other authors and they can capture different electoral fraud strategies. I analyze digit distributions and its compliance with Benford's law, I examine the margin of victory for the winning candidate, and I implement more complex Bayesian simulated technique methods.

#### DIGIT DISTRIBUTION

The distribution of digits is used to infer whether electoral results were fraudulent. The digit expected distribution has been employed in multiple fields, especially in economics and accounting, to detect possible manipulations in fiscal data (Tödter, 2009), and it has been widely applied in electoral fraud detection since Mebane (2006) implemented it for the first time. The logic of these tests is the following: when looking at electoral results at lower aggregation unit levels, the distribution of the for each candidate should follow the natural distribution of digits defined in the Benford's law. This law is a regularity in which lower numbers (1,2,3...) are more likely to be first digits in a certain human-generated figures than higher numbers (Benford, 1938).<sup>14</sup>

By applying the logic of digit's distribution into electoral results, it should be possible to detect whether in certain elections there was fraud or not. Beber and Scacco (2012), for instance, have shown that in clean elections last digits fit Benford's distribution. They have also shown that, in experimental settings, individuals favor some numbers over others when they need to make up random numbers, which generates deviations from Benford's law. Although these digit distribution methods have been contested by some authors (Deckert et al., 2011; Diekmann & Jann, 2010), if there are deviations to Benford's distribution, this would be a first element pointing out to the likelihood of electoral fraud. As highlighted by Lacasa and

<sup>13</sup> See also Asunka et al. (2019) for a recent contribution on the effect of observers on manipulation strategies.

<sup>14</sup> See Figure 2 in Leemann and Bochsler (2014).



Fernández-Gracia (2019): “the usefulness of this approach resides on the premise that fraudsters are not aware of this empirical regularity emerging naturally in vote statistics, and the fact that carelessly manipulated data deviate from this law” (p.21). Given that Benford’s law was unknown until 1938 and its first application to electoral forensics is even more recent, we can be certain that individuals forging electoral data in the early 20th century were not aware of these regularities.

In the empirical section, I initially present evidence on digit tests and I check whether electoral returns in Catalonia fit the Benford’s law expected digit distribution. I test whether the support to each type of candidate deviates or not from Benford’s expected distributions. I also compare digit distributions of elite candidates depending on whether the different parties had access to resources or not. Finally, although Lacasa and Fernández-Gracia (2019, e21) affirm that “[t]his type of analysis only flags the existence of such irregularities and gives no judgment on what was the cause for such irregularity”, I interpret deviations in Benford’s law as signals of electoral fraud and fabricated vote counts.

#### MARGIN OF VICTORY

An alternative way to capture electoral fraud is, following the logic presented by Simpser (2013), through the analysis of the margins of victory in elections. This author highlights that incumbents can resort to electoral fraud to show their political strength, given that incumbents are interested not only on winning elections but also to demonstrate their strength through elections. Hence, extreme deviations in the margin of victory will be indicative of electoral fraud, either from ballot stuffing or tally tampering.<sup>15</sup>

In the empirical section I present some evidence along these lines. The margin of votes was calculated considering differences in support between winning candidates and runner-ups at

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<sup>15</sup> I consider vote-buying less likely in this context because of the existence of universal suffrage, which increased the costs of generalized vote-buying practices (Mares, 2015).

the constituency-level in SMDs where more than one candidate stood for office<sup>16</sup> according to the following formula.

$$VM_{ct} = \frac{V_{E_{ct}} - V_{RU_{ct}}}{\sum V_{ict} + Blank_{ct} + Null_{ct}} \times 100 \quad (4.1)$$

The Vote Margin ( $VM$ ) equals the difference in votes between the elected candidate ( $V_E$ ) and the runner-up ( $V_{RU}$ ) at the census tract level ( $c$ ) for each election ( $t$ ), divided over the total number of votes to candidates ( $V_{ict}$ ) plus blank and null votes, and multiplied by 100. The resulting variable ranges between -100 (if the runner-up obtained all votes in a given census tract) to 100 (if the winning candidate obtained all votes).

#### DATA DISTRIBUTION SIMULATIONS

On another level, Klimek et al. (2012) have measured electoral fraud by relating measures of winner support and turnout. In this case, the logic behind this measure is that precincts with almost full turnout and an almost unanimous support for the candidate should be very rare. For observations in which both values are extremely high, this might be pointing out that there was blatant electoral fraud, while we can interpret values with minor deviations to the expected distributions as a signal of other electoral manipulation practices. Minor deviations in expected distributions might be capturing coercion or vote-buying efforts that tilt some abstainers to vote, and/or some opposition supporters to vote for the winning candidate, but I do not focus on these cases here.<sup>17</sup>

New computationally advanced methods have been developed to detect electoral fraud from electoral returns by employing large simulations of data (Ferrari et al., 2018; Rozenas, 2017; Zhang et al., 2019) From these simulations it is possible to detect whether the results in certain units deviated from the regularities that should be expected from the data. Through algorithms

<sup>16</sup> I excluded those cases in which the winning candidate obtained more than 90 or 95% of the votes at the constituency-level. In those cases there was no effective political competition and the second candidate only ran for office formally, but *de facto* there was no competition. Based on the work by A. Balcels et al. (1982), many of these “ghost candidates” decided to informally resign before elections or they only postulated to force elections—under the 1907 electoral law if only one candidate stood for office, he was automatically elected. This is why I exclude these cases from the analyses.

<sup>17</sup> Moreover, an additional problem is that, in these intermediate level of deviations, it is not easy to disentangle manipulation strategies from voters or elites strategic electoral behavior.

that relate turnout, winner's support, and expected distributions, it is possible to determine how likely is that each observed electoral return is a consequence of electoral fraud. In the empirical section, I present some evidence in which I check whether there were deviations in the distributions of turnout and support for the winning candidate in each constituency in Catalonia. I employ automated classifications generated by the 'eforensics' R package developed by Ferrari et al., that determine whether the levels of support to each candidate in each census tract are suspect of being the result of electoral fraud, of other manipulation strategies,<sup>18</sup> or free of electoral manipulation.

Based on the analyses employing the three types of electoral forensic techniques—Benford's law digit deviations, margins of victory distributions, and distribution simulation—I expect to show whether intra-elite competition or the presence of electoral competitors with resources—mainly regional elites—was related to variations in the extent of electoral fraud. If intra-elite competition is associated with lower rates of electoral fraud indicators, this will be pointing out that intra-elite struggles did not only contribute to democratization through institutional reforms but also through informal practices.

#### CAUSAL IDENTIFICATION STRATEGY

Finally, in the empirical section I also present some evidence along causal inference methods. Overall, the main argument I can test with these methods is whether the entrance of a new elite party, i.e., an electoral competitor with resources, was associated with a decrease in the levels of electoral fraud. To test this, I can employ a difference-in-differences design in which I analyze how did fraud indicators vary after the entrance, for the first time, of regional elite candidates. Given that decisions on whether to run or not for office are never random, the causal impact needs to be interpreted with caution. The main element of interest is whether there is a significant change in fraud indicators in the elections before Lliga candidates ran vis-à-vis the first elections in which these candidates stood for office.

Along event-study recent contributions (e.g., Borusyak et al., 2021; Xu, 2022), these results would indicate whether there was an immediate and causal relation between the presence of new

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<sup>18</sup> These authors label this as “incremental fraud”.

elite candidates and the extent of electoral fraud. I use two different outcome variables as proxies of fraud: the margin of victory indicator described in Equation 4.1, and a summary indicator of fraud that combines turnout and support to the winning candidate.<sup>19</sup>

#### 4.5 EMPIRICS

In this section I analyze, employing the different methods i just presented, first, whether there was electoral fraud, and second, whether the intra-elite electoral competition led to distinct outcomes in terms of electoral fraud. I present evidence using three—mostly descriptive—electoral forensic methods and the results of a causal inference identification strategy.

##### 4.5.1 BENFORD’S LAW

The first test to check whether there was electoral fraud or not during the elections under scrutiny looks at the digit distribution of elected candidates based on their party affiliation. We should expect to see electoral data distribution fitting Benford’s Law if electoral results were clean, thus deviations from expected distributions would point out that electoral results were manipulated. I look at the distribution of last digits given that studies focusing on second digits (Mebane, 2006, e.g., ) have been criticized (Deckert et al., 2011) and a “last-digit test requires extremely weak distributional assumptions” (Beber & Scacco, 2012, p. 212).<sup>20,21</sup>

If there was no fraud, we should expect a uniform distribution across digits (horizontal line), but this is not what Figure 4.1 displays, especially for elite—monarchist and Lliga—elected candidates. There are deviations for most digits for monarchist elected MPs and statistically significant deviations in digits 0 and 5 for Lliga elected candidates, with Republican MPs fitting much better to the expected distribution. In fact, when looking into more detail the distribution of the last two digits (Figure C.8), it is easy to observe that incumbent elites, i.e. monarchist candidates, had unexpected peaks at round numbers (ending in 0 or 5), much more pronounced than those for non-incumbent regional elite candidates.

<sup>19</sup> Fraud Indicator =  $Turnout_{ic} \times Winner_{ic}$ . The resulting indicator ranges from 0–1 with higher values reflecting larger levels of fraud.

<sup>20</sup> Figures C.6 and C.7 display 2nd digit tests and the distribution is remarkably different to the expected Benford distribution. These figures reinforce the main findings of this section.

<sup>21</sup> Last digit analyses exclude those cases in which the number of votes received by the candidate were below 10, to avoid too small municipalities to bias the results.

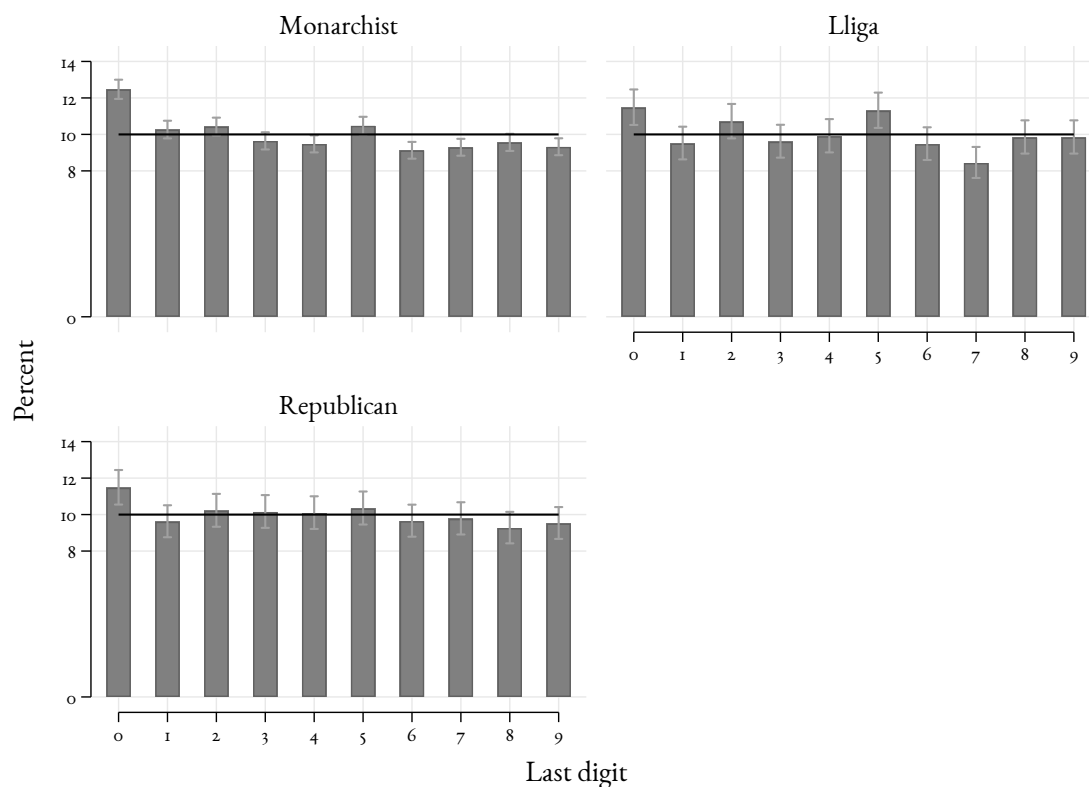


FIGURE 4.1 Last Digit Test. All Elected Candidates

According to the expectations outlined in Section 4.2.3, we should expect to see variations in digit distributions depending on the electoral competition and the resources available to each type of party. In Figure 4.2, when we only consider those elections in which regional elites were running for office, last digit distributions become much more uniform. This is especially relevant for monarchist candidates, that have a much more uniform last digit distribution compared to Figure 4.1. This significant change can be interpreted as monarchist elites being less able to resort to electoral fraud strategies when they faced a regional elite competitor. Despite a small peak in 0 for republican candidates, most last digits conform to the expected uniform distribution, which seems to confirm the influence of resourceful competitors to deter blatant electoral fraud strategies.

In turn, when looking at last digit distributions when Lliga candidates were *not* running for office, electoral fraud seems to be more prevalent (Figure 4.3). While the digit distribution for Republican elected candidates mostly conforms to Benford's distribution, monarchist candidates present a large peak on digit 0 and significant deviations in other digits. This seems to point out that, absent the mobilization and/or monitoring capacity of regional non-incum-

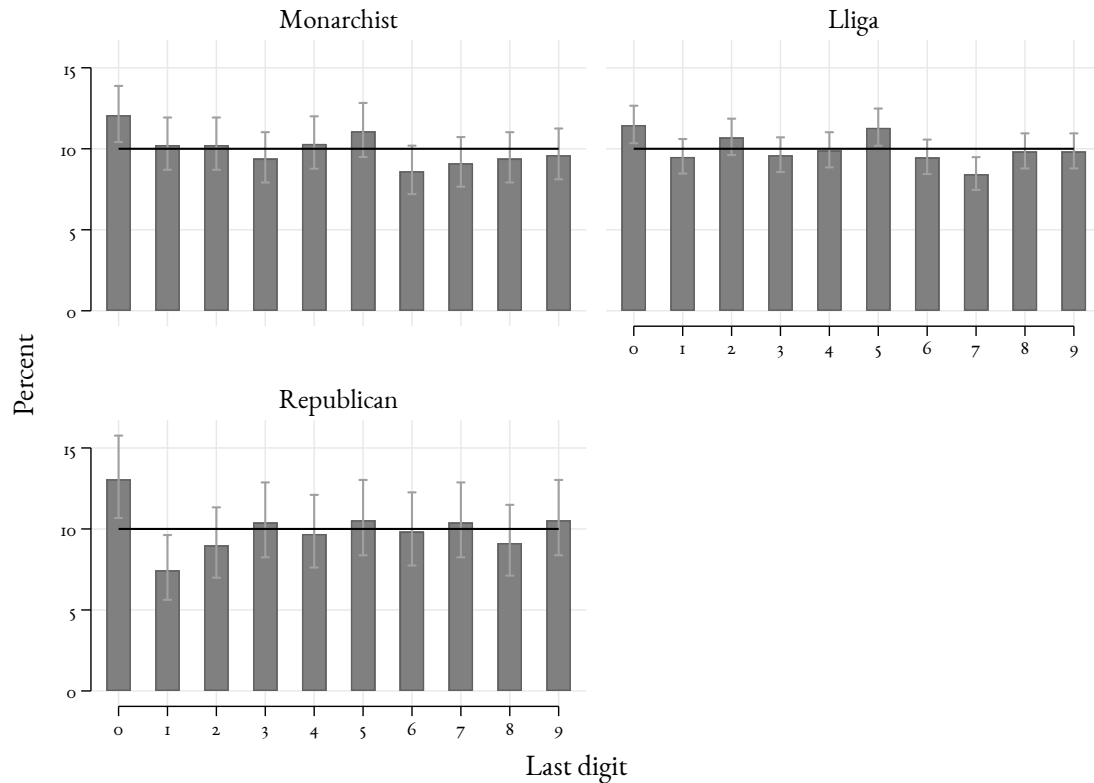


FIGURE 4.2 Last Digit Test for Elected MPs. Regional Elites Running for Office

bent elites, monarchist elites were able to deploy their electoral fraud strategies to secure their seats.<sup>22</sup> Overall, tests using digit distributions are aligned with the expectations and electoral fraud seems to be attenuated when regional elites with resources stand for office, while the absence of regional elites is still related to deviations from last-digit distributions.

#### 4.5.2 WINNING MARGIN

An alternative way to detect electoral fraud is to analyze the distribution of victory margins. Figure 4.4 displays some deviations in the margin of victory distributions. The margin of victory for Republican working-class candidates follows a normal distribution, with its peak around 30%. For regional non-incumbent elite candidates, the distribution is slightly skewed to the right, and there is a smaller peak at the extreme levels of the distribution (around 80–90%). Finally, data for monarchist candidates present a much pronounced peak at extreme values. These peaks at values above 80% are an important indicator of likely electoral fraud and point

<sup>22</sup> Figure C.9 shows that last digit distributions are uniform when there are no monarchist candidates running for office

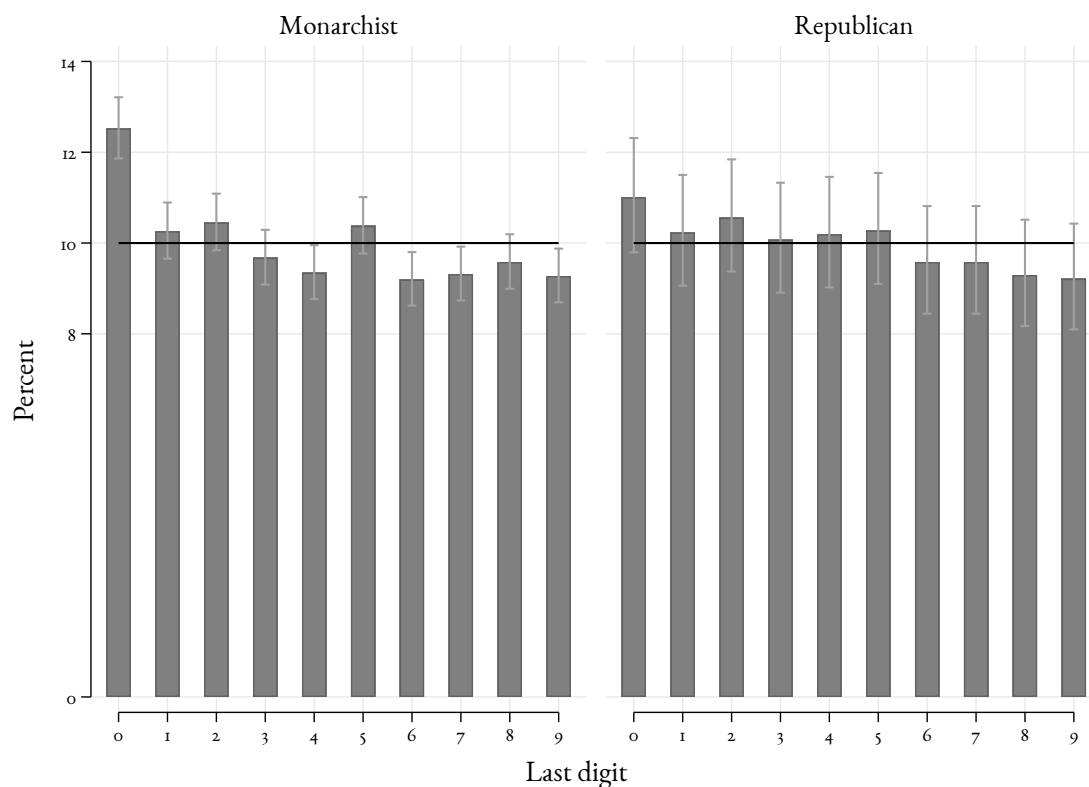


FIGURE 4.3 Last Digit Test for Elected MPs. No Regional Elite Candidates

out to extreme voting differences between the elected candidate and the runner-up in a large number of precincts.

The smaller peak for regional elite candidates disappears if we take a more generous definition of ‘*de facto*’ non-competitive electoral races<sup>23</sup> as those in which the elected MP obtained more than 90% of votes instead of the 95%. Under these assumptions, the extreme peak disappears for Lliga candidates but not for the monarchist candidates (see Appendix Figure C.10). Even when there are effectively two (or more) candidates running for office, monarchist candidates are still able to engage in electoral fraud in a considerable number of precincts, while this is not the case for regional elites.

#### ELECTORAL COMPETITION AND RESOURCES

Similar to the analyses presented in the previous section, I present some evidence regarding the role of elites with resources—Lliga—on preventing electoral fraud. When splitting the sample considering whether elections involved regional elites (Figure 4.5), we can observe that indica-

<sup>23</sup> See footnote 16.

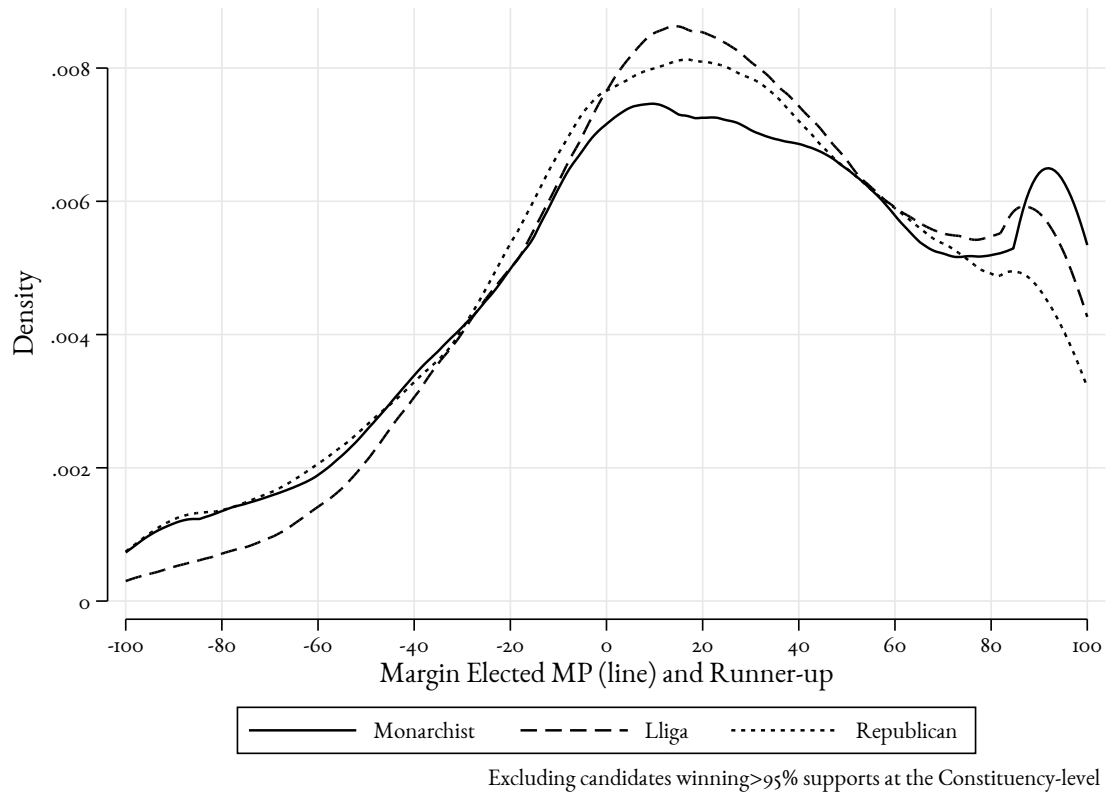


FIGURE 4.4 Density Distribution of Margin of Victory: Elected MP vs. Runner-Up

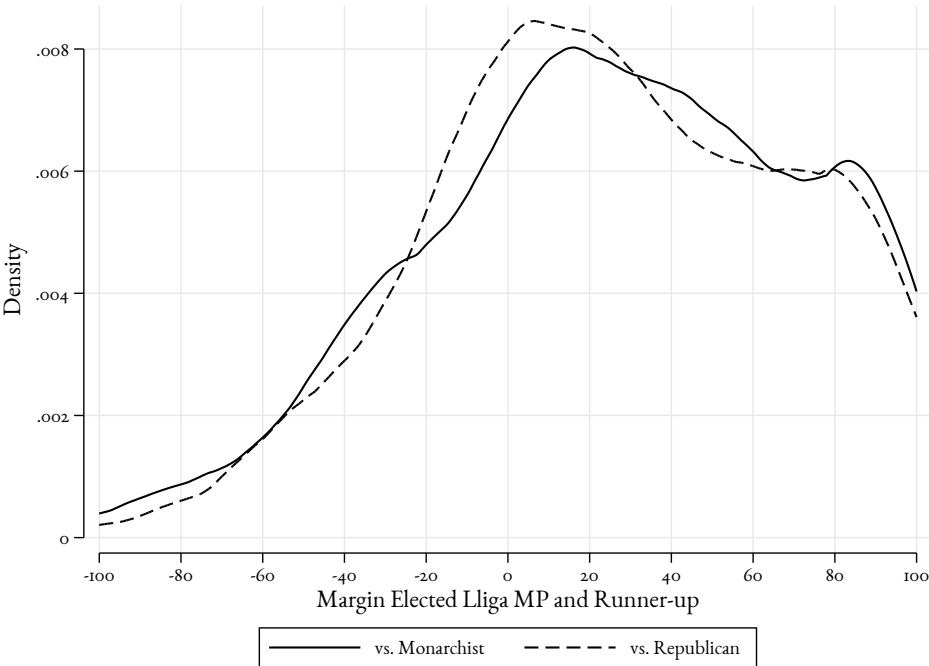
tors of fraud vary substantively providing some tentative support on the hypothesis outlined previously.

On the one hand, Figure 4.5a shows that margins of victory for Lliga elected MPs were relatively well normally distributed, although some extreme peaks remain.<sup>24</sup> On the other hand, Figure 4.5b displays the most compelling evidence supporting the idea that intra-elite competition reduces the extent of fraud (H<sub>4.1</sub>). Monarchist candidates blatantly engaged in electoral fraud when they were not competing against a regional elite candidate: the distribution of the victory margin is relatively flat for positive values and clearly right-skewed, with an important peak at extreme values. However, when monarchist candidates and Lliga candidates were competing, the distribution in the margin of victory follows a normal distribution.<sup>25</sup> For republican working-class candidates the effect is similar and noticeable.<sup>26</sup>

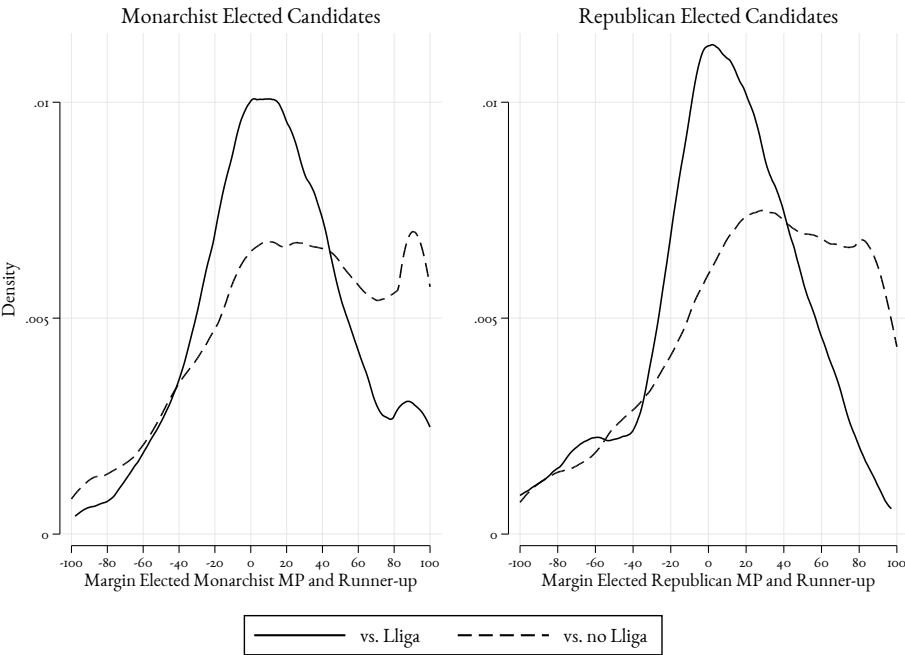
<sup>24</sup> A similar figure with less extreme peaks is displayed in the Appendix (Figure C.11) when *de facto* uncompetitive election assumptions are relaxed.

<sup>25</sup> Figure C.12 displays, again, normally distributed margins of victory for three-way electoral races confronting monarchists, Lliga, and republican candidates.





(A) Margin of Victory For Lliga Candidates



(B) Margin of Victory Based on Lliga's presence

FIGURE 4.5 Electoral Competition and Margin of Victory

Overall, Figure 4.5b clearly points out the differences in winning-margin vote distributions depending on the presence of regional elite candidates in elections. When elite candidates with no access to bureaucratic resources or institutional manipulation but capacity to oversee electoral procedures ran for office, margins of victory resembled much more to normal distributions similar to those to be found under clean competitive elections. The fact that for Lliga elected candidates, margins of victory were slightly right-skewed can be a signal that regional elites resorted to other electoral manipulation strategies, but clearly less blatant than the ones used by incumbent elite parties when regional non-incumbent elites were absent. Regional elites were no democratic champions but at least they made sure that, when they lost elections, it was not because their opponents tampered electoral returns.

#### VICTORY MARGIN OVER TIME

It is interesting to disentangle how did the impact of regional non-incumbent elites on margins of victory varied over time. Despite being elites, thus possessing large amounts of resources, it is likely that regional elites built mobilization resources and coordination capacities over time, which should have impacted their abilities to deter electoral fraud. Appendix Figure C.13 shows the evolution of margins of victory depending on the type of electoral competition over four different time periods, based on the categorization made by Ehrlich (2004).<sup>27</sup> Overall, for the initial three periods, distributions of victory margins when Lliga candidates were involved followed normal distributions. In turn, when incumbent elites competed with resourceless republican candidates we observe right-skewed distributions. This skewness for republicans was smaller over time, which also points out that resources in the hands of republican candidates—e.g., mobilization or coordination capacities—might have been growing and they were better able to combat electoral fraud over the years. In the fourth period we see again some right-skewed distributions and peaks at extreme values in races involving regional elites vs. non-elites. This, from qualitative and contextual data, probably points out to some intra-elite coordination

<sup>26</sup> Peaks in extreme values for republican elected candidates might relate to the fact that in some cases, monarchist incumbent elites favored some republican candidates to pretend the political system was pluralistic. This was the case, for instance, of the former President of the Spanish First Republic Francesc Pi i Margall (A. Balcells et al., 1982).

<sup>27</sup> Similar to categorizations employed in the previous papers.

efforts to prevent working class electoral victories, especially after the I World War increased the mobilization of the working class.<sup>28</sup>

#### 4.5.3 SIMULATIONS

The recent introduction of algorithms in electoral forensic techniques allows me to estimate whether electoral results in low level aggregation units of analysis—e.g., census tract or municipality—are susceptible to be fraudulent. Based on turnout and support distributions to each candidate (Klimek et al., 2012), I can estimate how likely was electoral fraud for each observed census tract. The basic idea is that when both turnout and support for the winning candidate follow normal distributions, electoral fraud is less likely to have taken place. Then, through Markov Chain Monte Carlo simulations it is possible to estimate the likelihood of each distribution under non-fraudulent conditions and to compare it with the real electoral data.

The algorithm I employed<sup>29</sup> classifies electoral returns in each precinct into one of three main groups: no fraud, “other manipulation”, and “electoral fraud”.<sup>30</sup> The first category contains these observations for which the observed electoral results go in line with expected distribution of votes and turnout in non-fraudulent elections. The second category (‘other manipulation’) implies that the winner of the elections obtained slightly more votes than should be expected, either because of mobilization of likely abstainers or because it captured voters of other parties; according to Ferrari et al. (2018) this category mostly corresponds to vote-buying or coercive mechanisms associated with clientelism.<sup>31</sup> The third category (‘electoral fraud’), represents those observations in which turnout and support for the winning candidate were extremely high, which is related to electoral fraud strategies such as ballot-stuffing practices and/or tampering of tallies. This is the main indicator I am interested in.

Figures 4.6 and 4.7 depict graphical representations of these analyses based on whether a candidate of monarchist parties (Figure 4.6) or a regional elite party candidate (Figure 4.7) stood

<sup>28</sup> From qualitative evidence and historical research in this period incumbent and non-incumbent regional elites increased their coordination, some regional elites were even appointed ministers in the Spanish cabinet, and this might have contributed to gain a temporary access to bureaucratic resources associated with certain electoral fraud practices.

<sup>29</sup> I use the work by Ferrari et al. (2018) and their R package ‘eforensics’.

<sup>30</sup> Originally, each category is labelled by the ‘eforensics’ R package as no fraud, incremental fraud, and extreme fraud, respectively.

<sup>31</sup> Although the results for this category are interesting and informative, I do not focus on these results.

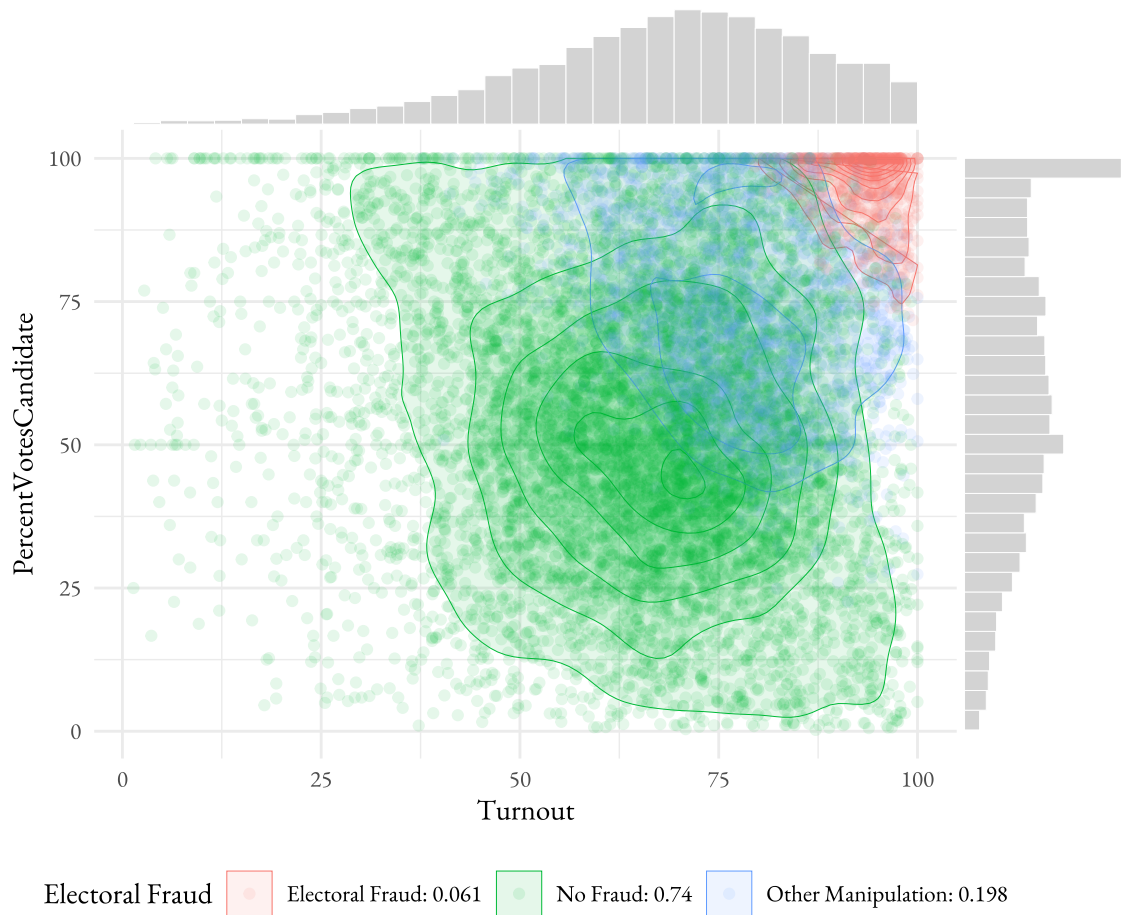


FIGURE 4.6 Estimated Fraud. Monarchist Candidates

for office. Each figure shows on the background the level of turnout and the percentage of support for the winning candidate in each census tract. Each point is colored according to the posterior proportion of electoral manipulation estimated by the model and a density plot displays where most of the observations are located. Through these graphical representations we can compare whether the presence of regional elites was associated with fraudulent electoral strategies and whether the presence of different electoral competitors mattered.

Figure 4.6, depicting distributions for monarchist candidates, displays a large percentage of returns (about 6%) to be a result of electoral fraud—cases in which turnout was very large and all votes (or almost all) went for the winning candidate. Similarly, in Appendix Figure C.14 we can see a very similar graph in which the proportion of electoral fraud is even higher (around 10%) when we analyze only those elections where monarchist (incumbent elite) candidates won the elections.

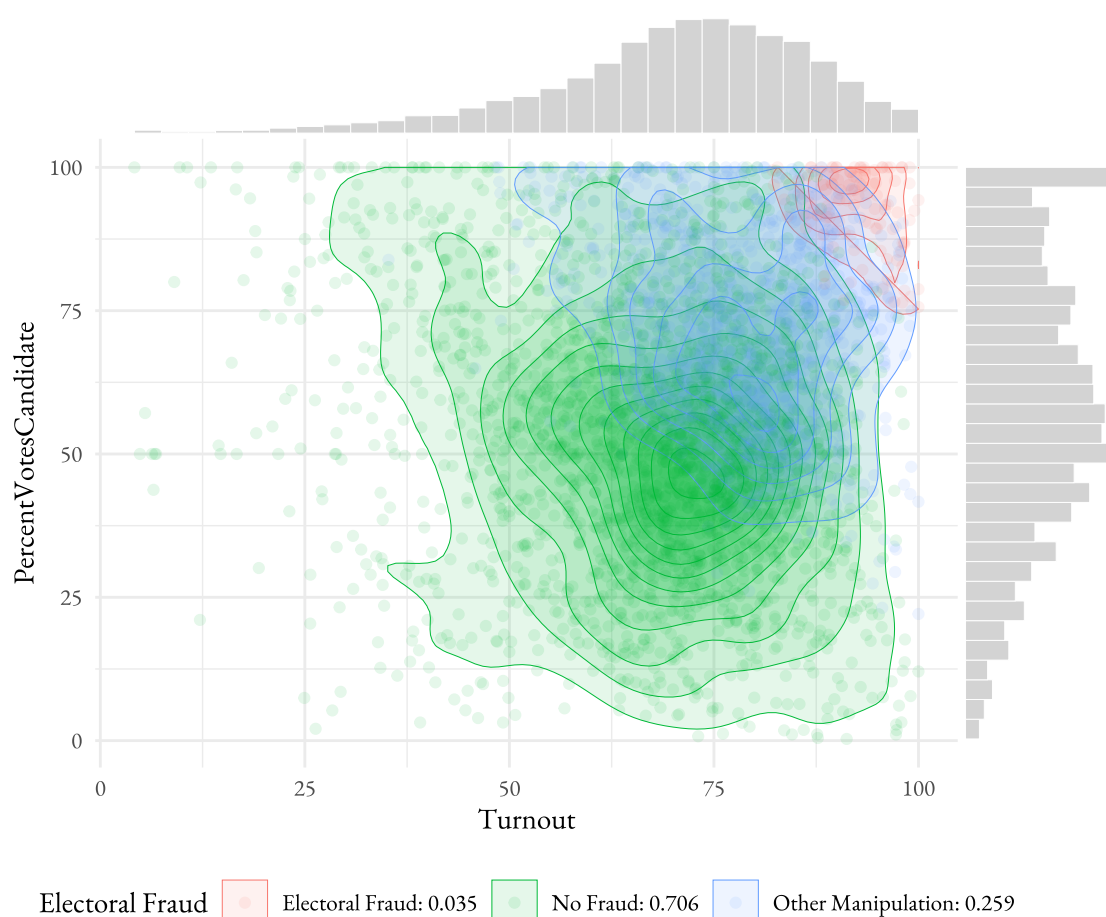


FIGURE 4.7 Estimated Fraud. Lliga Candidates

When comparing Figure 4.6 to Figure 4.7, the results show that the proportion of fraudulent elections when the Lliga was running for office were different to the ones with presence of monarchist candidates. It is especially remarkable to see how the levels of fraud are reduced by around 50%. A similar picture emerges when looking only elections in which the Lliga candidate won the seat (Appendix Figure C.15). It is also noteworthy to observe an increase in the number of observations classified as “other manipulation” in the cases where a Lliga candidate ran for office. This points out that regional non-incumbent elites most likely resorted to alternative electoral manipulation strategies to be electorally competitive. Overall, although manipulation levels remained, the levels of electoral fraud declined under the presence of regional elite candidates.

Finally, when looking at the distribution of fraudulent practices when Republican candidates won elections, we can see that the proportion of non-fraudulent observations is the largest (almost 76% of the municipalities are classified as non-fraudulent) and the indicators of fraud

are the lowest (Figure C.16). This results are confirmed when focusing only on the cases in which republican candidates won the seat (Figure C.17); in those cases only 1.4% of the census tracts are classified as being subject to electoral fraud.

## ELECTORAL COMPETITION

When subsetting the simulation techniques based on the type of parties competing for office, results are similar and aligned to the expectations outlined in Section 4.2.3.<sup>32</sup> On the one hand, we can observe that the levels of fraud are relatively low when there are Lliga candidates involved. It is noticeable that the presence of Lliga candidates halved the extent of fraud in races won by monarchist candidates vis-à-vis races in which monarchists were competing against the republicans. It is also important to highlight that the levels of “other manipulation” are among the highest when a Lliga candidate wins the elections. This also happens when we focus only on intra-elite competition instances—probably incumbent elites also deployed other electoral manipulation practices, such as clientelism. Finally, as expected, the levels of fraud are the lowest when republican candidates won elections (Figures C.22 and C.23).

## FURTHER EVIDENCE

After obtaining the estimated data on the extent of electoral manipulation strategies in each census tract, I test whether there is a relationship between the type of party running for office and the type of fraud. I estimate a logistic regression model<sup>33</sup> in which the dependent variable equals to one if the ‘eforensics’ package determined electoral fraud took place in a given census tract, and zero otherwise. I include as control variables in these models the type of candidates competing, socio-demographic local characteristics, and economic indicators.<sup>34</sup> Results are shown in Table C.1 and the main results are summarized in Figure 4.8.<sup>35</sup> This figure shows how the presence of regional elite candidates is associated with a decline in the levels of electoral fraud.

<sup>32</sup> See figures on Appendix C.5.1.

<sup>33</sup> I obtain very similar results when I replicate the analyses using a multinomial dependent using the three categories generated by the ‘eforensics’ R package (“No fraud” being the reference category). See Appendix C.7.

<sup>34</sup> These covariates include proxies for the level of economic development, log of population, percentage of women, a land gini inequality indicator, and distance to each constituency capital city.

<sup>35</sup> See Figure C.29 for the summary predicted values for monarchist and republican candidates in multinomial estimations.

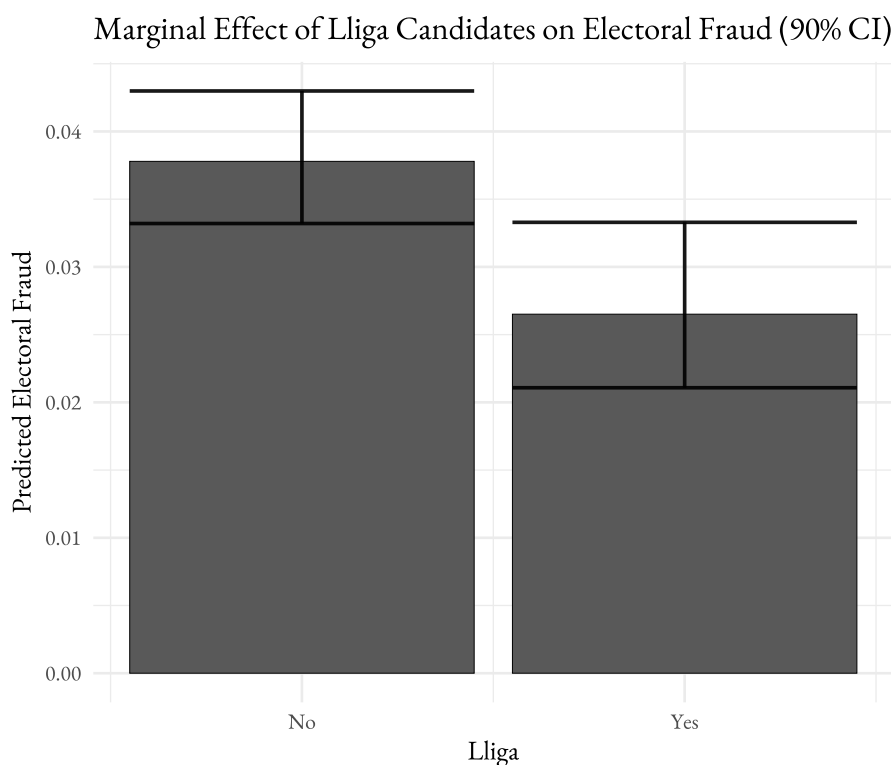
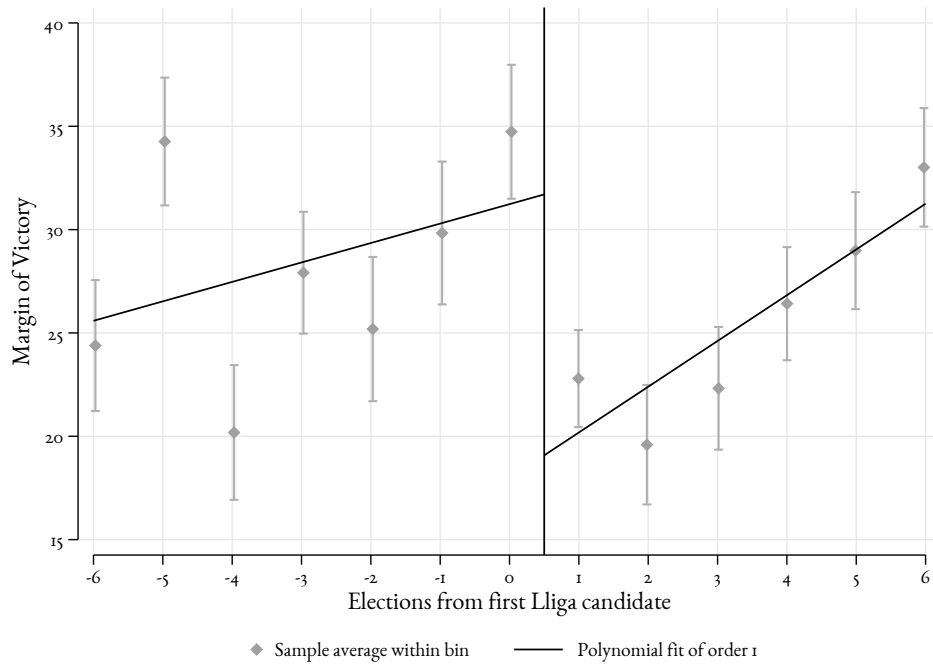


FIGURE 4.8 Lliga Impact on Electoral Fraud

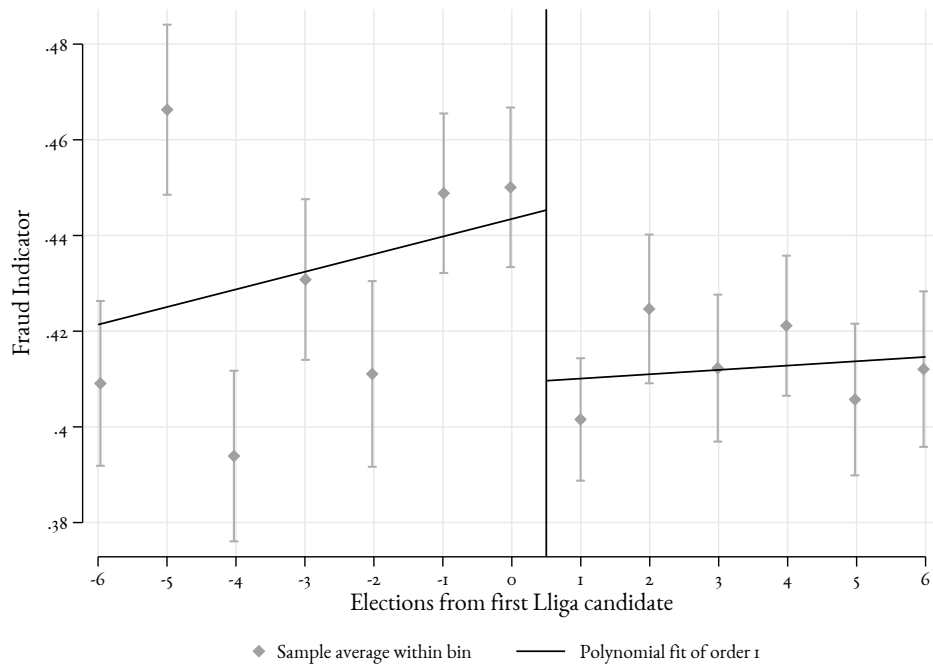
Similarly, Figure C.28 reporting the results from a multinomial estimation, shows that the presence of the Lliga was not only associated with less electoral fraud, but also to a larger likelihood to observe other forms of electoral manipulation. This goes in line with my expectations and, albeit imperfect, this evidence stresses the role played by resourceful regional elites on curtailing electoral fraud.

#### 4.5.4 EVENT-STUDY

Finally, I present some evidence on the role of the presence of regional elites on the extent of fraud along a difference-in-differences research design (Ashenfelter & Card, 1984). We should expect that, when comparing observations before and after the first time regional elite candidates ran for office, the levels of electoral fraud decreased. This is, when elites with resources entered for the first time in the electoral arena, they had interests in better supervising elections and contributing to a reduction in electoral fraud. Figure 4.9 confirms this using two different proxies for electoral fraud. On the one hand, in Figure 4.9a the dependent variable is the margin of victory and results show that this margin in the first elections a Lliga candidate stood for



(A) Margin of Victory



(B) Turnout and Winner Support

FIGURE 4.9 Event-Study. Lliga Entrance (Raw Data)



office ( $x = 1$ ) was substantively lower than in previous elections—without Lliga candidate. On the other hand, in Figure 4.9b the dependent variable is an indicator of electoral fraud resulting from the combination of turnout and the proportion of votes supporting the winning candidate.<sup>36</sup> Again, after the first entrance of a Lliga candidate, there is a decrease in this indicator, and the levels of fraud remain stable in the following years.

Given that the entrance of regional elite candidates was not random and did not take place in the same year for all the units in our sample, this can entail some methodological problems (Borusyak et al., 2021). Yet, in Figure C.25, when implementing some adjustments according to Liu et al. (2020) and Xu (2022),<sup>37</sup> the results and the causal impact remain very similar, reinforcing the strength of the results presented in this section. Similar analyses using the entrance of republican candidates show more mixed results (see Appendix C.27). Although the first time republicans stand for office seems to reduce the extent of fraud, the margins of victory either remain equal or increase. However, these results should be interpreted cautiously because republican candidates might have stood for office in the past and they stood very early in the dataset, which means that the number of pre-treatment observations can be very low. Moreover, the first time they stand in my dataset might not really be the first time a republican candidate stands for office, given that they also ran for office before 1890. Overall, the evidence presented in this section points out that the entrance of new electoral competitors endowed with resources clearly contributed to deter electoral fraud, while evidence for the entrance of non-resourced or less-resourced competitors had less clear effects in terms of fraud.

#### 4.5.5 MECHANISMS

Was the deterrence of extreme electoral fraud enabled by the resources available to regional elites? In Hypothesis 4.2 I posited that resources played an important role but I have not shown yet direct empirical evidence along these lines. A main asset to which the Lliga could resort was the influence of the largest landowners, who were usually seen as local bosses (*cacics*). Albeit Catalan industrial elites supported the Lliga, this party was also, since its creation, supported

<sup>36</sup>  $Fraud = Turnout \times Winner$ , which results in an indicator ranging from 0 to 1, in which I interpret higher values as an indicator of a larger propensity to see electoral fraud.

<sup>37</sup> Results are based on the fect package developed by Liu et al. (2020).

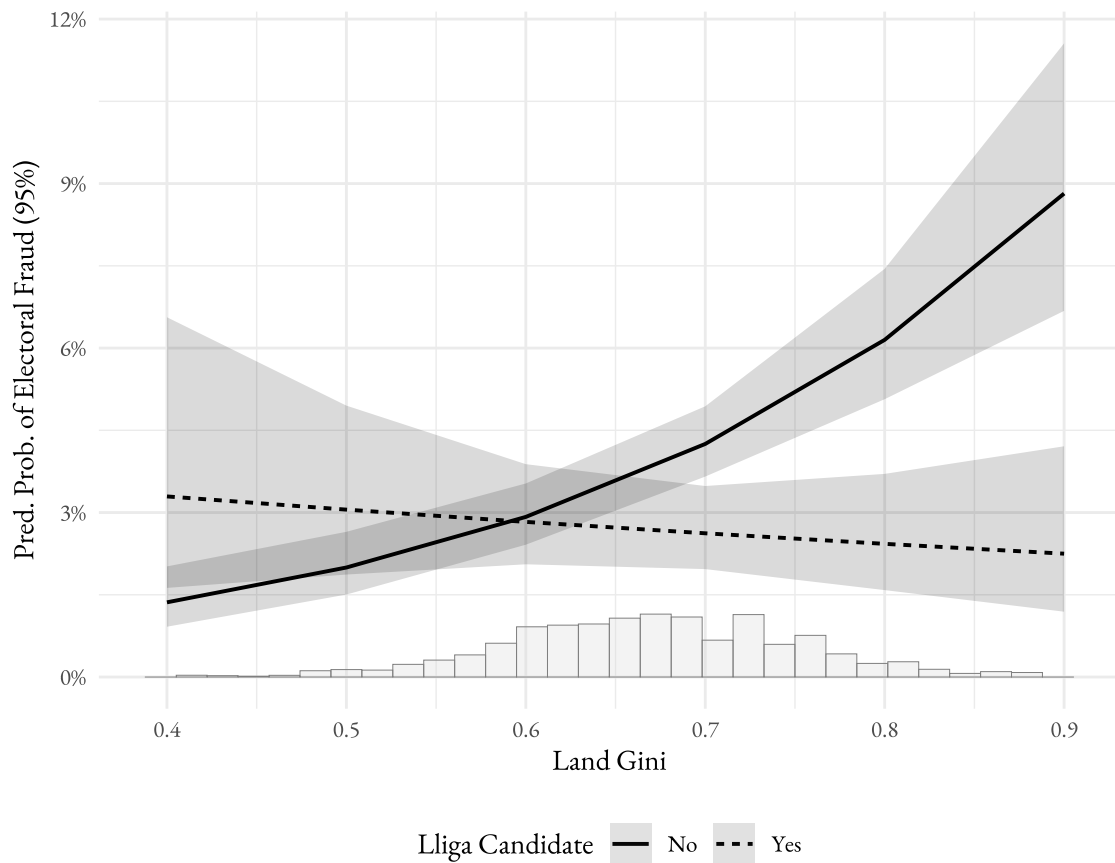


FIGURE 4.10 Heterogeneous Effects of Lliga Candidate and Land Gini on Electoral Fraud (Logistic Estimation)

by the largest landowners association in Catalonia, the IACSI (Planas, 2006). Hence, it makes sense to use measures of land inequality as a proxy for local-level resources at hands of Lliga members. This indicator has been used as a proxy to measure the influence of local-level elites in their municipality;<sup>38</sup> the logic is that, the less landowners holding more land in a locality, the more likely these individuals will have disproportionate economic—and probably political—power among their neighbors. In Figure 4.10 I show the results of a logistic estimation, similar to the one presented in Section 4.5.3, in which changes in the probability to observe electoral fraud depend, not only of the presence of Lliga candidates but also on their abilities to mobilize local-level influence and resources (proxied by the levels of a local land Gini inequality indicator). The results of the interaction (see Table C.1) show negative effects for electoral fraud.<sup>39</sup> This is, Lliga candidates were better able to reduce fraudulent manipulations of the electoral

<sup>38</sup> Along the lines of other studies, e.g., Ziblatt (2008).

<sup>39</sup> Very similar results for these interactions in multinomial estimations is shown in Appendix C.7.1.

results when they coordinated with local elites with large influence capacity. These results support the main argument that regional elites were better able to curtail electoral fraud when they had access to resources.

Along similar lines, Appendix Figure C.24 shows the results when interacting the presence of republican candidates and the percentage of industrial workers in a given municipality. The results (also in Table C.1) show that republican candidates were also better able to deter fraud in those municipalities where the percentage of industrial workers was larger. This is, when there was a sufficiently large network of industrial workers aligned and coordinated with republican candidates, it was possible to oversee elections; otherwise the simple fact that an opposition candidate stood for office was insufficient to prevent bureaucratic forgery of tallies.<sup>40</sup>

#### 4.6 CONCLUSION

Electoral manipulation is one of the main deterrents of democratization. Yet, electoral manipulation can take multiple forms, from flagrant falsification of tallies and direct forgery of electoral results to more subtle forms of vote-buying and clientelism. Both types of practices go against democratic standards, but the former is more pernicious than the latter. Without the certainty that votes will be counted impartially, candidates or parties will not make any mobilization effort. Hence, the first step towards democratization is to make sure that incumbents will not resort to their bureaucratic capacities to falsify electoral results.

Most of the intra-elite competition literature has reported that differences in preferences between different groups of elites are associated with institutional changes, most of them conducive to more democratic institutions (Ansell & Samuels, 2014) or to new power-sharing arrangements (Paniagua & Vogler, 2021). Mares (2015, forthcoming) has been one of the few to specifically focus on how this intra-elite competition can have an impact on electoral norms and rules limiting the possibilities to engage in electoral fraudulent strategies. However, in all the previous works the analyses rely on how elites with access to formal power, i.e., elites represented in parliament, influenced and shaped institutions through formal votes in parliament. Hence, previous contributions overlook a crucial aspect: how opposition elites or other polit-

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<sup>40</sup> Yet, evidence in Table C.3 and Figure C.31 show that republican candidates were less able to translate their access to resources into other electoral manipulation techniques.

ical groups without access to formal power could break electoral fraud practices and dynamics from the outside—without the capacity to shape institutional reforms.

In this paper, I provide evidence that intra-elite competition influences the extent and types of electoral fraud practices, not only when elites are influential in parliament but also when elites can offset electoral fraud practices on the ground. According to the argument outlined in this paper, when non-incumbent elites have access to mobilization capacities they can monitor elections and the pervasiveness of electoral fraud is reduced. Although this is clearly a first step in the democratization path, it does not imply that intra-elite competition was directly conducive to fully democratic electoral practices.

In electoral autocracies, political actors can have multiple strategies to win elections. Once non-incumbent elites, without access to formal power and manipulation capacities, are able to restrain the use of the most extreme form of fraud, they can still engage in other forms of electoral manipulation. Elites are not, by nature, pro-democratization agents, and they only support democratization reforms if they think these changes can benefit their political interests (Acemoglu & Robinson, 2006; Ansell & Samuels, 2014; Boix, 2003). Hence, new elites who sought to deter electoral fraud practices were not democratic angels and they most likely employed the resources in their hands to engage in other types of electoral manipulation. This paper has shown that regional non-incumbent elites were able to deter electoral fraud but I also provided some tentative evidence (qualitative and quantitative) regarding their use of other manipulation strategies, such as vote-buying and coercion.

The same resources necessary to prevent electoral forgeries were very useful to these elites to influence the behavior of voters. Once regional elites made sure votes would be counted, they could employ the resources in their hands to make sure large amounts of votes would be in their favor. Overall, this paper has shown that intra-elite competition can be positive for democratization by preventing the most blatant forms of fraud, but it does not necessarily entail the end of electoral manipulation practices. Intra-elite competition can contribute to democratization by pushing towards a transit out from fraud to softer practices of electoral manipulation. However, it seems that only once different elites are formally represented in parliament, intra-elite

competition can lead to a consolidation of the democratization process through full democratic elections.

The argument presented in this paper is not circumscribed to the case of Catalonia or to intra-elite competition. The main argument presented here is that under electoral autocratic contexts, any political actor with access to resources, either mobilization capacities or economic means, should be able to challenge the existing electoral fraudulent practices. In electoral autocratic contexts, it is much more likely that elites are the group with access to these resources, but it might perfectly be that, when non-elite groups have access to some of these resources, they can be the main actor pushing for the democratization of electoral practices. Some tentative evidence along this lines was provided in Section 4.5.5, in which not only access to resources by non-incumbent regional elites, but also by republican candidates was associated with variations in electoral fraud. The explanation outlined here can be perfectly applicable to other contexts given that, in a wide array of electoral autocratic countries, different levels of manipulation practices coexisted before electoral laws sanctioning these behaviors were passed. In many countries, certain manipulation practices were more prevalent than others, even when different political actors should have been indifferent on the type of electoral manipulation. This is probably a symptom that elites, before the formalization of electoral democratizing reforms, had distinct resources and abilities to resort to different manipulation strategies.

Future research on electoral fraud should delve into the micro-level mechanisms of elite coordination and to understand when this coordination failed. Better understanding why certain elites resorted to alternative strategies to deter fraud or why they chose specific alternative electoral strategies can contribute to specify under which conditions democracies are more likely to emerge. Moreover, more accurate electoral forensic tools should be developed. The existing tools are limited to certain electoral institutional characteristics—SMDs or MMDs under closed party lists—, while there are multiple other contexts, especially in cases under democratization, in which electoral forensics would be useful. For instance, MMDs with open lists were very common in contexts of democratization and before proportional representation was implemented, and we lack the appropriate tools to evaluate the extent of electoral fraud under these conditions.

The relation between electoral fraud and intra-elite competition can contribute to further understand the democratisation process. Democracies were not only the result of formal institutional reforms but were also a consequence of changes in informal practices. Without variations in the pervasiveness of electoral fraud, certain political actors might have never accessed power, thus having no possibilities to promote or support reforms of electoral institutions. Democratic polities, when they emerged endogenously, were the result of a gradual evolution, such as progressive extensions of enfranchisement, or new electoral rules. Similarly, the transition out from fraudulent elections to clean elections was not a one-off event, but rather political systems escaped fraudulent electoral practices progressively. The first step in this process was the deterrence of flagrant falsifications and forgeries, and only in subsequent steps other electoral manipulation practices would vanish. This paper has shown that intra-elite conflict played an important role in this first stage towards the democratization of elections.



## 5

### Paper 3

# Democratization Is Calling: Political Consequences of Telephone Networks<sup>‡</sup>

*Each municipality in Catalonia should have, beyond the police services, a school, a library, telephones, and road connection.*

Enric Prat de la Riba i Sarrà (1914/2000)

*During the whole [election] day, every 30 minutes, we communicated through the telephone with Badalona. Trias [the candidate], using the telephone in the Lliga headquarters, and I from home...*

Miquel Joseph i Mayol (1970, p. 151)

#### 5.1 INTRODUCTION

The relationship between technological changes and democratic consolidation is controversial and it has been at the core of recent scholar debates. While new technologies can facilitate the rise of anti-democratic or populist parties (Adena et al., 2015; Guriev & Papaioannou, 2020), technology can also facilitate political mobilization and protests (Enikolopov et al., 2020; Zhuravskaya et al., 2020). Most of these works on mobilization have focused on a key element of technology changes: information diffusion, but it is not yet clear whether this element enhances or hinders support toward opposition political parties and democratization. In this paper we test the electoral consequences of technology changes for intra-elite electoral competition under semi-authoritarian political systems.

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<sup>‡</sup> Paper co-authored with Francesc Amat (Universitat de Barcelona–IPeRG).



The introduction of new telecommunication technologies has important economic and social consequences (Mokyr, 2010). New technologies increase productivity rates, reduce trade barriers, and facilitate the coordination among individuals located in distant locations (Romer, 1990; Solow, 1957). Despite these positive economic effects, its diffusion can, nevertheless, be a double-edged sword for consolidated or incumbent elites (Boix, 2015, 2022). On the one hand, the control of the new telecommunication technology in the hands of rulers can contribute to maintain social order, e.g. by coordinating repression efforts (Martinez-Bravo et al., 2017). On the other hand, rapid and uncontrolled expansion of telecommunications can erode the power of incumbent elites; it can, for instance, facilitate the coordination among dissatisfied actors (Enikolopov et al., 2020). Thus, telecommunication changes are to be treated cautiously by elites. To what extent technology changes have an impact on the support to different elite factions?

In this paper we delve into the factors that relate variations in electoral support after the extension of new bidirectional telecommunication technologies. Previous research has focused on the role of unidirectional diffusion technologies in the past—radio or television (Adena et al., 2015; Kern & Hainmueller, 2009; Yeandle, 2021)—, while there is contemporaneous research on the effects of modern bidirectional diffusion technologies—such as the internet and social media (Falck et al., 2014; Zhuravskaya et al., 2020). Unidirectional and bidirectional technologies have different characteristics and the impact of a bidirectional technology, such as the telephone, for democratization processes in the early 20th century has not yet been developed. Telephones were mostly implemented because of their contribution to economic modernization but it is undeniable that these devices also had a political impact. Whether its influence contributed to reinforce incumbent elites and autocratic characteristics of the polities, to enhance opposition and non-incumbent elites, and/or to democratization is still to be tested.

In the upcoming pages we consider the electoral impact of new telephone networks on three main groups of actors. First, we focus on the incumbent elites, i.e. those political actors that had large powers before the introduction of the telephone. Second, we look into non-incumbent, regional, and proto-liberal elites, this is, elites that sought modernization reforms because they represented the interests of regional industrialists, merchants, and, in general, of the rising

bourgeoisie. Third, we are interested in the consequences of new telecommunication technologies for working class parties. We argue that technology had an impact on all of these groups, but it did so through multiple channels.

In this paper we focus on three different mechanisms that could explain why new telecommunication technologies had a political impact on electoral support. On the one hand, the impact of technological changes operated through a replacement mechanism associated with a sort of *lampedusian change*: new technologies facilitated that non-incumbent elites gained power and replaced the elites in power. In places where local elites are largely powerful we should expect that new technologies—a signal of modernization—enhanced support to those elites defending economic modernization policies. Under this mechanism, the telephone would simply be a signal for local elites that they need to realign their electoral supports to favor the non-incumbent and rising proto-liberal elites that support modernization policies. On the other hand, telephones can also be a new tool that favors coordination of non-incumbent actors. We propose two alternative mechanisms through which these groups would benefit from telephones: by coordinating party leaders and local mobilization agents, or by a larger diffusion rates of information.

We test this argument and mechanisms empirically through the development of a public telephone network in Catalonia in the early 20th century. In Catalonia, non-incumbent regional elites developed a proto-liberal political party in the early 1900s, which gradually consolidated as one of the largest parties in the region around the 1910s (Molas, 1973). This party was able to win seats in multiple constituencies and it was crucial for the creation of a regional “self-rule” political body (A. Balcells et al., 1996). This regional institution fostered the development of a public telephone network, which was established parallel to several urban or county level private telephone networks (Calvo, 2014). In this paper, we show that telephone networks had electoral consequences for the different parties running for office.

Our findings point out that the public telephone network contributed to the erosion of incumbent elites—Spanish-wide political parties—while fostering the rise of regional non-incumbent elites. To better understand the mechanisms behind these changes, we test some plausible mechanisms on elite replacement, mobilization, and information diffusion. The results

support that, to some extent, all three mechanisms were in place. Proto-liberal non-incumbent elites benefited from elite replacement and the political mobilization associated with the deployment of the telephone network. Moreover, telephones also had unintended consequences by enhancing the support of working-class candidates through mobilization and diffusion mechanisms.

The paper is structured as follows. First, we present the main theoretical contributions around the political effects of technological and telecommunication changes. Second, we introduce the context characteristics of our empirical analysis. We describe the different actors and events that took place in Catalonia in the early 20th century, and we provide the necessary details to contextualize the development of the telephone network in this region. Third, we describe the data—mostly newly collected—and the research design, including the strategy through which we exogenize the development of a public telephone network. We also outline descriptive statistics and preliminary balance tests. Fifth, we display the main baseline results on the telephone effects. We then test the different plausible mechanisms and we also show different robustness checks. We close the paper by presenting some concluding remarks.

## 5.2 THEORY

Variations in the political order are closely related to technology changes (Boix, 2015). However, new technologies are not equally embraced by all rulers when these innovations become available. Despite economic factors, there are crucial political elements that can explain it. This section presents the political economy logic behind the adoption of new technologies, some consequences of technology changes, and sums up by detailing the expectations of this paper.

### 5.2.1 TECHNOLOGY CHANGE, ELITE COMPETITION, AND DEMOCRATIZATION

Decisions on whether to take advantage of new telecommunication technologies are guided by both political and economic factors, but political considerations have played a key role (Mokyr, 1998). When a new technology was available, ruling decision-makers were not always equally eager to adopt it. In fact, the question of why different sorts of reforms were embraced under semi-autocratic regimes has been addressed from different perspectives, with recent contribu-

tions highlighting the important role of intra-elite struggles (Ansell & Samuels, 2014). Until now, most of the attention to reforms introduced by elites has been related to their investments in redistribution institutions (Beramendi et al., 2019; Mares & Queralt, 2020), state capacity (Garfias, 2018), or power-sharing institutional designs (Paniagua & Vogler, 2021). However, starting from the 19th century, a period in which the path of technological changes accelerated, elites also could benefit from new technologies in their intra-elite interactions.

Technological change plays a crucial role in political order changes because it affects the calculations and strategic interactions of elites (Boix, 2015). New technologies can have ambiguous political consequences on political competition and on the electoral prospects of incumbent parties. These innovations, especially in non-democratic regimes, can affect the costs of engaging in coercion and manipulation by incumbents (Boix, 2022), but these new tools can also reduce the costs of opposition mobilization (Enikolopov et al., 2020). This explains why in some cases, some elites quickly embrace new technologies, while in other cases they oppose and obstruct technological advancements.

The relevant political implication of a technological change is by how much it changes the balance between the ability of incumbent elites to secure their position, vis-à-vis the ability of non-incumbent challengers to threaten them. Technology changes can thus determine a new balance of power among politically competing groups. This is a crucial aspect, especially in autocratic regimes, given that any innovation affecting the balance of power can menace the power of incumbent elites. Along similar lines, changes, for instance, on electoral reforms (Boix, 1999), fiscal institutions (Beramendi & Queralt, in preparation) or land reforms (Albertus, 2015) were carefully approached based on the effects these reforms would have on the rulers. Some of these reforms were not initially conceived as democratization reforms but, in some cases, they—unintendedly—conducted to a democratization path.

Nevertheless, not all new technologies may have the same political impact. It is not the same to think on technologies advancing disease detection or prevention than telecommunication technologies. New telecommunication infrastructures fasten and facilitate message transmissions, and the previous literature has acknowledged that these innovations can increase the risk of revolution (Aidt & Leon-Ablan, 2021), but it can also be crucial to coordinate non-

revolutionary actors, such as the bureaucracy. Efficient communication systems are related to improvements in news diffusion and can facilitate, for instance, the surveillance of public policies that intend to educate democratic citizens (Cermeno et al., 2021). Nonetheless, these advancements can also enhance the reputation of autocrats (Guriev & Treisman, 2019). Thus, the previous literature has presented mixed evidence on the role that improvements in telecommunications play in democratization processes.

### 5.2.2 POLITICAL EFFECTS OF NEW TELECOMMUNICATION TECHNOLOGIES

Beyond the strategic considerations associated with technology-related innovations, a recent literature has underscored the effects of technological change on individual policy preferences (Gallego et al., 2021), individual levels of political trust (Guriev & Papaioannou, 2020), preferences for redistribution (Thewissen & Rueda, 2019), and even on the emergence of new political parties or electoral switches (Dasgupta, 2018, 2020). Related to our argument, and also focusing on electoral authoritarian regimes, a recent contribution argues that (telecommunication related) technology changes and increasing bureaucratic capacity actually decreases the appeal of local elections as an informational mechanism for autocrats (Martinez-Bravo et al., 2017).

Beyond research on the impact of technological changes, several recent papers have specifically focused on the specific role of telecommunication technology changes and their political effects. Most historical evidence has focused on unidirectional telecommunication changes. For instance, better physical connections—via railroads—but also through remote communication devices—telegraphs—enhanced women’s collective action in the late 19th century in US (Garcia-Jimeno et al., 2021). Another important technological change was the extension of the radio, which increased turnout in Great Britain (Yeandle, 2021), or motivated soldiers during wars (Barber & Miller, 2019). In fact, research on the political effects of the radio is interesting because it points out the ambiguities technological change can have for political support. While the radio was associated with lower support rates to the Nazi party in Germany in the early 1930s, the effect flipped once before Hitler became chancellor (Adena et al., 2015). Fi-

nally, there is evidence on how Western TV reception during the Cold War did not decrease support to the communist regime in East Germany (Kern & Hainmueller, 2009).

Most historical research on the impact of technological and telecommunication change for democratization has focused on unidirectional telecommunication innovations. This is, new technologies that facilitate the transmission of a message from a sender to a receiver, for instance, through written language (Stasavage, 2020) or through newspapers (Cox, 1987). In turn, bidirectional technologies blur the roles of senders and receivers and messages are exchanged through immediate dialogues. Contemporaneous research has mostly focused on the role of bidirectional technologies, for instance, highlighting the role of Internet diffusion on multiple political and electoral outcomes (Enríquez et al., 2021; Falck et al., 2014). The usage of telecommunication technologies is of current political relevance because social networks have been the key drivers of political protests. (Enikolopov et al., 2020, show evidence along these lines for Russia.) However, we lack empirical evidence of the role played by these bidirectional technologies in historical contexts of progressive and endogenous democratization. Beyond some evidence on the role of telegraphs enhancing social movements and turnout (García-Jimeno et al., 2021; Wang, 2020), there is no evidence on the role these new bidirectional technologies played on intra-elite political competition.

Previous contributions have shown that different types of technologies can reinforce the strength of elites but also of opposition parties. Hence, political consequences of technological change are likely to depend not only on the technology but also on other context characteristics. Based on the ideas advanced by Boix (2015) and the ambiguous political effects of technological changes in semi-authoritarian regimes, we outline some determinant characteristics that can make technological change—and specifically telecommunication-related technological changes—effects to go in one way or another. In the next epigraph we outline the scope conditions structuring our analyses and we describe the main hypotheses to be tested.

### 5.2.3 ELITE REPLACEMENT, MOBILIZATION, AND DIFFUSION: HYPOTHESES

This paper focuses on the impact of innovations in telecommunication technologies under semi-autocratic contexts. In these circumstances one of the main political actors are incum-

bent elites, i.e. elites that rule at the national level. Incumbent or central elites control the state administrative apparatus and can easily resort to a wide array of coercive tools. Our scope conditions also require these incumbent elites to compete in elections against two other different political actors. On the one hand, non-incumbent elites—regional elites or proto-Liberal elites in this paper—, which can be defined as economically powerful individuals who are not members of the incumbent elite parties. These elites favor economic modernization policies but, to a large extent, want to preserve the social status quo while gaining political influence. On the other hand, the working classes, which encompass the majority of the population and clearly seek wider social and political changes.

A key factor of the impact of new technologies is related to the control incumbent political actors retain on these innovations. If technological innovations are sponsored by incumbent elites, it is less likely that opposition parties can benefit from those, and the opposite should be true. Our initial and basic expectation is that technological change should benefit the political actors promoting investment in technological change and erode the support towards the dominant political actors. Thus, technology changes not promoted by incumbent elites are expected to enhance opposition parties and undermine support for the incumbent elites.

*Hypothesis 5.1* The establishment of new telephone connections electorally benefited new political parties challenging the incumbent elites.

However, the mechanisms through which these opposition parties could benefit from the introduction of technological change are less clear. What was technological change shifting? To better understand the channels of political transformation opened by technological innovation, we focus on three likely—and compatible—mechanisms. First, telephone investments as a signal of modernization and related to non-incumbent elites strength. This translates into a realignment of political elites at the local level and facilitates a replacement effect on support from incumbent elites toward regional non-incumbent elites. Second, we consider the role technology plays to reduce the costs of political organization and mobilization by challenger/opposition parties. Finally, we conjecture that telephones improved information diffusion and increased overall transparency at the local level. Under any of the three previous scenarios, we should

expect incumbent elites experience a decline in their political support and a strengthening of opposition political actors.

In the first case, technological change was nothing else than a signal for local level elites to realign their political preferences to maintain their political influence. Hence, we should expect that technology had a larger impact where politics and elections were more dependent to local elite preferences. Along these lines, a vast literature has pointed out to land ownership inequality as a good proxy to capture local elite predominance in non-democratic contexts (Albertus, 2015; Ansell & Samuels, 2014; Ziblatt, 2008). If the telephone was only a signal for elite realignment, we should expect that non-incumbent elites—but not working classes—would benefit from technological change through vote transfers from incumbent elites to non-incumbent proto-liberal elites. We should see this effect in those localities where traditional elites were stronger in the past or where local elites could be more decisive, e.g., where land ownership inequality was higher.

*Hypothesis 5.2* Non-incumbent elite parties benefited electorally from technological change in contexts where local elites were stronger.

The second likely mechanism in place is related to the fact that technological change contributes to speed up communication and can facilitate the coordination between party leaders and local mobilization agents. Political mobilization is a crucial factor for the success of candidates and parties running in increasingly competitive elections (Boix, 2009; Kalyvas, 1996). Previous evidence also shows that an increase in the reach of telecommunication networks was beneficial for collective action (Garcia-Jimeno et al., 2021).

Extensions of telephone networks facilitated instantaneous communication between distantly located individuals. Through the extension of telephones, non-incumbent elites and working-class parties could hasten mobilization instructions and immediately react to their competitors behavior. Hence, we hypothesize that new technologies should have larger effects in places where non-incumbent elites or working classes already had local mobilization agents with whom to coordinate through these new telecommunication devices.



*Hypothesis 5.3* Non-incumbent parties benefited from technological change, especially where new technologies facilitated coordination between local agents of mobilization and party leaders.

A final alternative mechanism relates to information diffusion. New telecommunication technologies not only facilitated coordination among local elites (or mobilization agents) and party elites, but also increased information inflows across the overall population (Wang, 2020). Hence, it is important to disentangle *who* was able to access telephone services.

Telephones in the early stages of technological change were an exclusive product and only the more affluent individuals could afford to buy one. Yet, it is true that it was not rare to install public telephone booths that were, albeit being expensive, easily accessible to everyone. When these booths existed, the possibilities of electoral coordination were greater and did not depend on the existence of local mobilization agents. Open access to these new devices, thus, should have limited the influence of local elites, which undermined the electoral prospects of all elite parties. Hence, we should expect that a wider access to new bidirectional telecommunication technologies should have enhanced the support to working-class parties.

*Hypothesis 5.4* Working-class parties benefited from technological change where this increased the reach of news and democratized access to information from outside the locality.

### 5.3 CONTEXT

This paper focuses on the development of a public telephone network in the region of Catalonia during the early 20th century. Catalonia is a suitable place to observe how technological changes can have democratizing implications and alter political competition given that telephones quickly expanded during the late 1910s.

#### 5.3.1 20TH CENTURY CATALONIA

In the early 20th century Catalonia was the most economically advanced and modernized region in Spain. Catalonia, for instance, concentrated the largest share in industrial output, thanks to a vast network of factories—most of them in the textile sector (Carreras, 2005; Nadal et al.,

1988). Industrialization required the implementation of new technological advancements, and industrialists demanded public policies that would make their companies more competitive. In many cases, factories were located far away from the residence of company owners, who were interested in any technological advancement that could help them to run their businesses more effectively. Catalan industrial elites would become great advocates of the implementation of new telephone networks.

At that time, politically speaking, Spain was ruled by a cartel of two big notable parties—the incumbent elites in this paper—who systematically turned in power and were known as monarchist parties. This was possible thanks to intra-elite agreements before the elections and to electoral fraud; elections were simply charades in most localities (Moreno-Luzón, 2007; Varela Ortega, 2001). However, these two Spanish-wide political parties were having more difficulties to win seats in Catalonia since the beginning of the 20th century (A. Balcells et al., 1982).<sup>1</sup>

After 1901 a heterogeneous party system flourished in Catalonia, partially because of industrialization and the possibility to appeal to identity. The two main Spanish-wide political parties coexisted with two other types of non-incumbent parties. First, a regional proto-liberal elite party, the Lliga Regionalista, or simply Lliga. On the other hand, there were working-class candidates, known as republicans. These two parties contributed to more competitive elections in Catalonia (Rubí & Armengol, 2012).

The Lliga was a party backed by industrial elites, merchants, petty bourgeoisie, and an intellectual intelligentsia. It was crucial for the consolidation of a center-periphery cleavage and it defended positions that would be tantamount to most European Liberal parties. In economic terms they supported modernization reforms to enhance industrial interests, they were in favor of some democratization reforms to prevent electoral fraud, and they demanded protection for Catalan identity and to recover regional self-rule (de Riquer, 1977; Ehrlich, 2004).

Despite a long resistance and reluctance to concede self-rule, by 1914 the Spanish government issued a decree making it possible. Catalonia formalized proto-regional government institutions, which were named Mancomunitat de Catalunya, or simply Mancomunitat (A. Balcells et al., 1996). Although it had very limited powers, the Mancomunitat pretended to be

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<sup>1</sup> See Chapter 3.

more than a regional government (Ucelay-Da Cal et al., 2019), and Catalan elites saw this as an opportunity to use the funds from the rich industrial province of Barcelona to finance development projects all over Catalonia. Through the *Mancomunitat*, a multiplicity of projects were developed in all sorts of areas: education and culture (Canalias, 2017), social policies and health services (A. Balcells, 2009), agriculture development (Casanovas, 1996), and infrastructure investments (Roca, 1979). Precisely in this field, the regional government would develop one of their flagship policies: a public telephone network.

### 5.3.2 TELEPHONE NETWORK EXTENSION

The development of a telephone network in Spain was full of ups and downs during the late 19th century. The Spanish government hesitated between establishing a public, a private or a mixed network. In the 1890s, regulations consolidated a mixed-system in which public administrations would be able to develop their own telephone networks, while allowing private initiatives (Nadal Ariño, 2007). These regulations facilitated the extension of private telephone networks in industrialized and urban areas but hindered the connections across urban networks and the extension of telephones to rural areas.

In Catalonia, the first urban private network was established in Barcelona in 1886 and the extension to other territories was gradual. Several private networks were created between the late 1880s and early 1900s around largely industrialized cities.<sup>2</sup> However, as it is displayed in Figure 5.1, around 1910 only 5% of Catalan municipalities had access to a telephone network.<sup>3</sup>

The steep increase in the number of municipalities receiving telephone connections in 1910s was mostly a consequence of the expansion of the *Mancomunitat* public telephone network, which was established in March 1916. It was led by the mathematical physicist Esteve Terradas, who would manage the section under strictly technical criteria (Roca-Rosell, 2005). One of the first decisions made by the *Mancomunitat* Telephone Section was to buy a few local private networks from which they would be able to extend the public telephone networks all over

<sup>2</sup> For instance, in the cities of Girona, Olot, Mataró, Tarragona, Terrassa, Reus, or Valls.

<sup>3</sup> See the number of municipalities receiving telephone connection per year (Figure D.1) and the proportion of municipalities connected to different networks by year (Figure D.2).

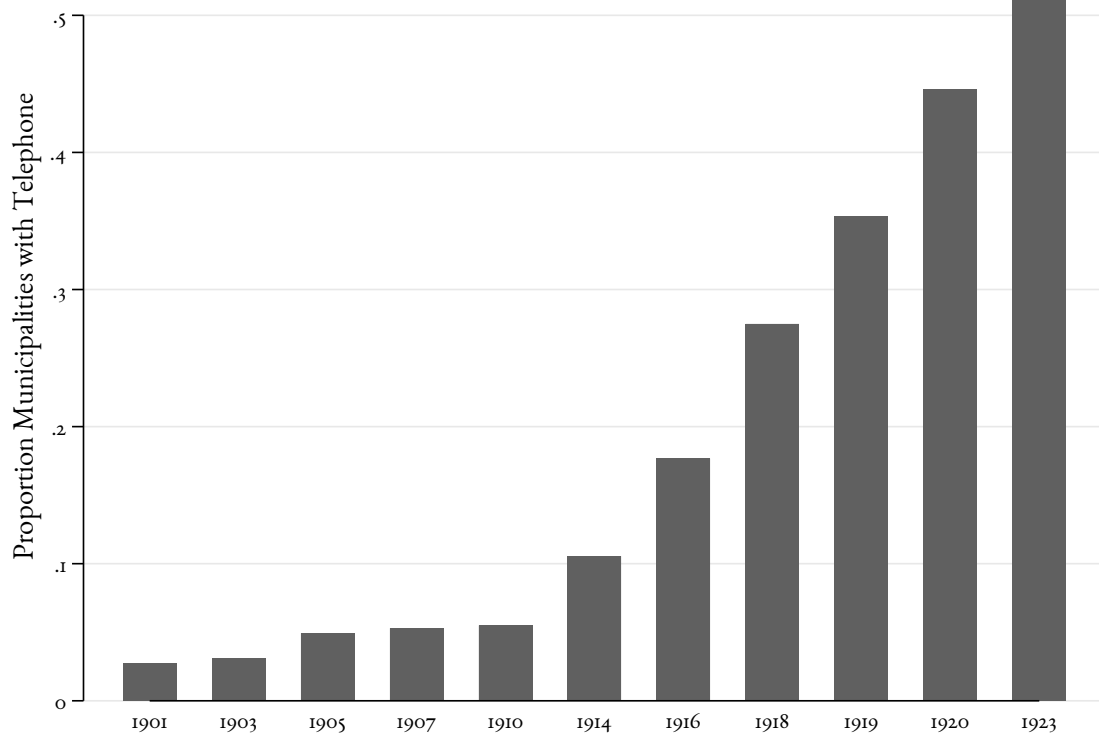


FIGURE 5.1 Proportion of Municipalities with Telephone Connection Over Time

Catalonia. The decisions to buy these networks were mostly technical and had the aim to connect via telephone the whole Catalonia (Calvo, 2014). One of the networks they bought was located in a very strategic position—connecting Barcelona with the Pyrenées—and it was to become the backbone of the public telephone network. The other networks were urban services providing telephones to a single city, whose neighboring municipalities had not access yet to telephone services. The map in Figure 5.2 displays the exact configuration of the telephone network when the Mancomunitat started developing its telephone policies.

Mancomunitat leaders gave priority to the telephone policy because it was relatively cheap, it had a large visibility, and an immediate impact. Furthermore, this type of investment contributed to their main goal of modernizing Catalonia.<sup>4</sup> Telephone extension was thus the perfect policy for an institution that wanted to build a good reputation but had few resources. Through telephones, they could make visible the existence of the institution and seek legiti-

<sup>4</sup> In a famous speech quoted at the beginning of this study, Enric Prat de la Riba, the first Mancomunitat president—and leader of the Lliga Regionalista—said the Mancomunitat’s aim was to ensure access to modern public services and that each municipality should have “a school, a library, telephone access, and road connection.” (Prat de la Riba, 1914/2000)

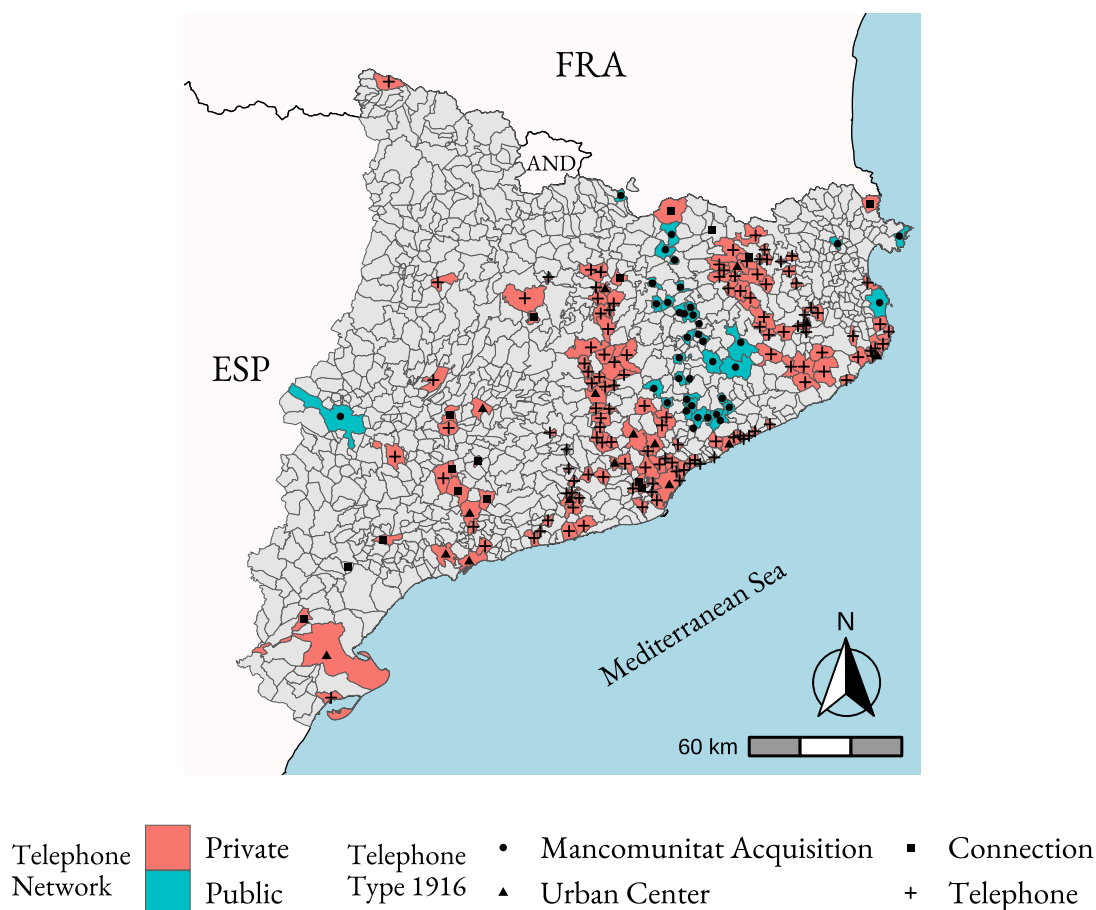


FIGURE 5.2 Telephone Network (circa. 1916)

macy (Roca-Rosell, 2000, p. 8).<sup>5</sup> The public telephone network expanded very quickly and has usually been praised by historians as one the Mancomunitat's most successful policies (A. Balcells et al., 1996, pp. 358–366). From the initial 37 municipalities in the public telephone network in 1916 (Figure 5.2), the number of localities in this network multiplied tenfold to 373 in 1923 (Figure 5.3).<sup>6</sup>

Until 1923, the Mancomunitat extended telephones around the few local networks it bought in 1916. It did this despite certain limitations: it could not connect those municipalities that were within 15 km of an existing urban (private) network, and the I World War limited the supply of materials necessary to expand telephone infrastructures (Calvo, 2014). Nevertheless,

<sup>5</sup> The concession of telephones, was initially subject of mockeries by certain incumbent elite groups (see Figure D.4), but its efficient development make it soon a subject of constant conflicts between regional elites and the Spanish executive. There were tensions because of bans on the use of Catalan language (A. Balcells et al., 1996), but also regarding the capacity of the Mancomunitat to expand their services (Mancomunitat de Catalunya, 1922).

<sup>6</sup> The number of municipalities connected via private telephone networks barely changed.

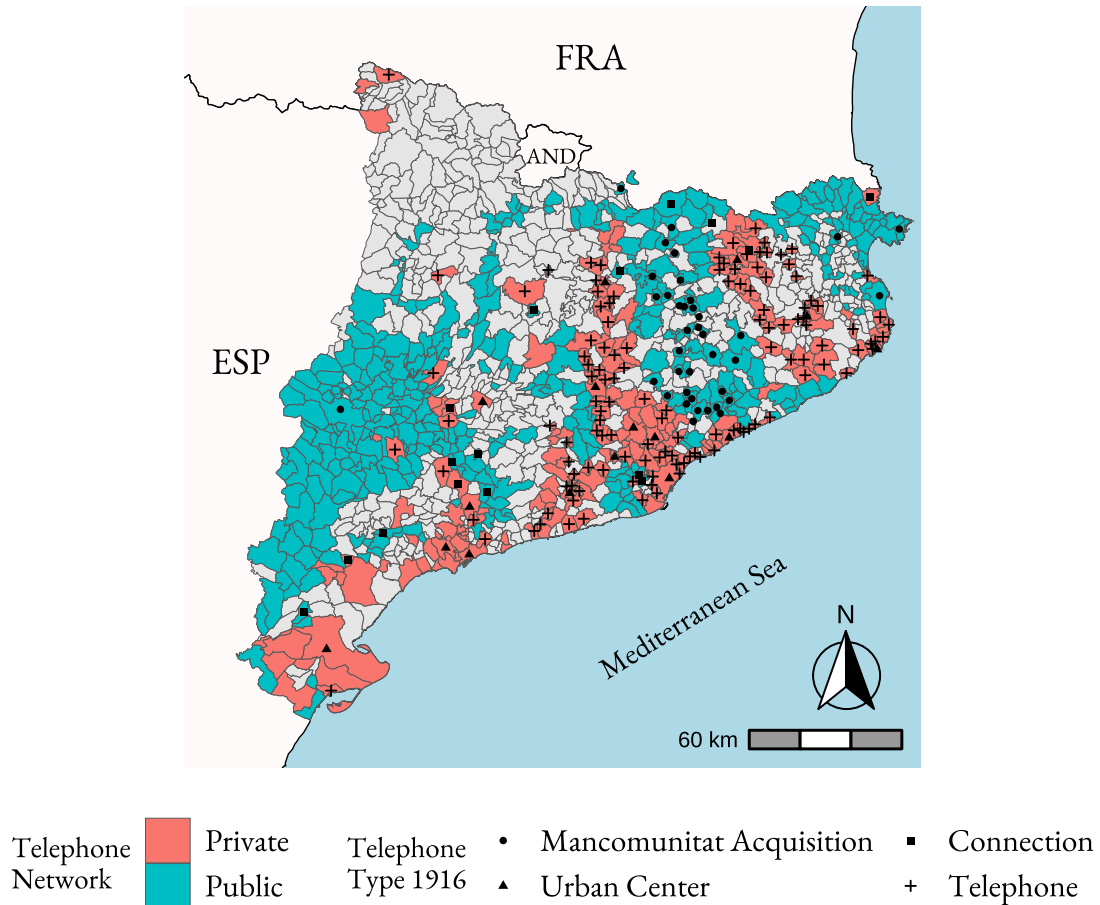


FIGURE 5.3 Telephone Network (December 1923)

the Mancomunitat managed to expand telephone services during the 1910s and early 1920s in Catalonia. The telephone extension to remote areas was a small scale revolution facilitating information flows and it would contribute to change political competition dynamics.

#### 5.4 DATA AND RESEARCH DESIGN

We explore the political and electoral consequences of technological change through a novel database on the telephone network expansion in Catalonia, which is combined with multiple other data sources. We first present the main variables of interest, then we present the methodology and empirical strategy, and we finally present some descriptive statistics.

## 5.4.1 DATA SOURCES

## TELEPHONE NETWORKS

Departing from original maps created by the Mancomunitat in 1919 and 1923,<sup>7</sup> it was possible to picture the large extension in the Mancomunitat telephone network. Yet, these maps only offered static information on network deployment in two different points in time. It was, thus, necessary to resort to three alternative and original data sources to construct a yearly database of telephone connections.

First, we resorted to the report summarizing the Mancomunitat activities in 1919.<sup>8</sup> Telephone Section details were very informative and included the specific dates in which telephone services were inaugurated in each locality.<sup>9</sup> Second, we complemented information on telephone extensions between 1919 and 1923 with weekly reports issued by Esteve Terradas, the Director of the Telephone Section.<sup>10</sup> Third, we obtained information for private networks from a yearbook detailing whether each municipality had access or not to any telephone network.<sup>11</sup> We checked yearbooks for the period between 1900 and 1924 to infer in which year did private telephone networks reach each municipality—this source was also useful to cross-validate information regarding the Mancomunitat network.

Finally, we also employ telephone-related information collected from a 1923 phone book (Mancomunitat de Catalunya, 1923a). This source included a complete list of all telephone subscribers in each locality. We built an indicator of telephone intensity from the number of subscribers and, based on the mean number per locality, we created a dichotomous variable distinguishing localities with a high telephone intensity (3 or more subscribers), or low (less than 3). Moreover, from this source it was also possible to create a dichotomous variable capturing whether the municipality had a public telephone booth.

<sup>7</sup> See Figures D.5a and D.5b.

<sup>8</sup> Information in the 1923b report contained less detailed information.

<sup>9</sup> See Figure D.8.

<sup>10</sup> See Figure D.6. The notes written by Esteve Terradas were found in two different archives: Arxiu Nacional de Catalunya and Arxiu de la Diputació de Barcelona.

<sup>11</sup> Initially known as *Anuario Riera* (1896–1911) and *Anuario General de España* Bailly-Bailliére-Riera after 1912—we consulted until the 1924 edition. See Figure D.9 for an example.

## ELECTORAL DATA

Electoral returns are the main indicator to measure support to the different political parties. In this paper we exploit micro level electoral data contained in the database of Historical Elections in Catalonia (DHEC) (Vall-Prat, 2021). We focus on municipality level electoral returns for elections between 1901 and 1923. The DHEC database includes electoral data for two different types of elections: elections to the Spanish lower chamber and to provincial bodies, which were directly related to the configuration of power at the Mancomunitat. We keep both types of elections in our sample.

The main variables of interest for this paper consider the support rate of three main types of parties: monarchist parties—incumbent elites—, the Lliga Regionalista—regional non-incumbent elites—, and republican parties—working-class candidates. We calculate support rates as a percentage of the total number of votes for each party/candidate relative to the total number of votes cast.<sup>12</sup> It is formalized as follows:

$$Support_i = \frac{\sum Votes_{ji}}{\sum Votes_j} \times 100 \quad (5.1)$$

where  $i$  represents the party of candidates, and  $j$  represents each individual candidate.<sup>13</sup> Equation 5.1 provides a measure of relative support for each party.

## POLITICAL MOBILIZATION

Political mobilization was crucial for proto-liberal regional elites and working-class parties, since they were non-incumbent parties. However, political mobilization meant different things for each of these actors.

Regional elites could resort to two different types of mobilization capacities. On the one hand, political mobilization through local elites, sometimes also through coercive mechanisms (Mares, 2015). This type of mobilization did not imply convincing large shares of voters, but rather a small group of local elites that would later make sure regional elites obtained large sup-

<sup>12</sup> This is because electoral data did not always include crucial information, such as the number of registered voters or the total number of voters.

<sup>13</sup> All constituencies in provincial elections and the constituencies of Barcelona and Tarragona in legislative elections were multi-member and parties used to fill multiple candidates.



port rates, for instance through coercion or vote-buying. We proxy for this type of mobilization through local landownership inequality, following the work by Albertus (2015) and Ziblatt (2008). A local land Gini indicator was collected from original archival research through land taxes paid in different moments in time during the early 20th century.<sup>14</sup> On the other hand, we rely on the presence of local elites attending to a pro-regional Assembly in 1892 (Llorens i Vila, 1992). We contend that identity-related mobilization agents firmly rooted in each locality is a good proxy for the mobilization capacity of regional elites.

Regarding the mobilization capacities of working-classes, we rely on different measures of industrialization. First, the number of industrial workers in the locality, according to the 1920 working-class census, (Gabriel, 1985) relative to the total census population figures. We assume that industrial workers were more prone to be politically mobilized in favor of the working-class party. Second, we also look at the amount of industrial taxes paid at the municipality (see next section). Localities paying larger sums of taxes would be more likely to host industrial activities and industrial workers. Finally, we employ the past record of strikes at the municipality based on yearly strikes data (Instituto de Reformas Sociales, 1923).

#### SOCIOECONOMIC DATA

Economic controls are crucial because telephone extensions were more likely in localities with larger economic activities. Local measures of economic activities are obtained from taxes. Specifically, we use a tax on economic and industrial activities that was paid by all individuals who owned production factors. The total amount of these taxes paid at the municipality level was regularly reported at provincial official gazettes and it was originally collected from archival data. We collected data at 5-year intervals and we then interpolated the results to obtain yearly data for each municipality. We employ the log of the total amount of taxes in the analyses.

Finally, the database also includes sociodemographic census data from 10-year census, which were interpolated to obtain yearly data for each municipality (Dirección General del Instituto Geográfico y Estadístico, 1907). Census data include municipality level indicators for population, gender distribution, or literacy rates.

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<sup>14</sup> We use the oldest available data possible.

### 5.4.2 RESEARCH DESIGN

#### IDENTIFICATION STRATEGIES

We analyze the electoral consequences of telephone network extensions and we take advantage of several idiosyncratic characteristics of the Catalan case. First, we exploit the timing variation in the telephone network extension. Although most of the public telephones were implemented in a short period of time (1916–1923) we can still exploit several elections that took place in that period.<sup>15</sup> Second, we exploit distances to existing (private) telephone networks to build an indicator of likely exogeneity in the network expansion. Based on historians qualitative evidence, we are confident that telephone extensions to specific municipalities did not follow (at least primarily) political motivations (Calvo, 2014; Roca-Rosell, 2000).<sup>16</sup> However, taking into consideration geographic factors is necessary to overcome endogeneity threats.<sup>17</sup>

To empirically test the effects of telephone expansions we resort to a difference-in-differences (DiD) strategy. This strategy exploits comparisons between similar units, some of them treated while others are not (Ashenfelter & Card, 1984). In a canonical DiD setting we would analyze the impact of the telephone expansion employing Ordinary Least Square models with year and municipality fixed-effects to isolate the effects of common time-varying factors or idiosyncratic characteristics of municipalities. This is formalized as follows in a two-periods framework:

$$\%Votes_{imt} = \beta_0 + \beta_1 Post_{mt} + \beta_2 T_m \times Post_{mt} + \beta_3 X'_{mt} + \alpha_m + \alpha_t + \varepsilon_{mt} \quad (5.2)$$

where  $\%Votes_{imt}$  represents the mean support to party  $i$  candidates, in municipality  $m$ , and election  $t$ ;  $Post_{mt}$  indicates whether the municipality is in the pre-treatment status (0) or post-treatment status (1);  $T_m$  represents whether a municipality did ever receive treatment, i.e. access

<sup>15</sup> Between 1916 and 1923, five legislative elections took place, besides at least two subnational elections, which gives us leverage to exploit enough electoral information before and after the implementation of the telephone in each municipality.

<sup>16</sup> Most historical evidence shows that the lead of the Mancomunitat Telephone Department by Esteve Terradas was associated with a technocratic decision-making. Terradas survived largely turbulent decades in Spain always holding important positions in technological companies as a consequence of his professional and technical skills (Roca-Rosell, 2005). Hence, we should expect that decisions on telephone extensions were not guided by political motivations of regional elites.

<sup>17</sup> We replicate our main analyses employing a limited sample for which we can be confident that telephone extension decisions were exogenous; see more details in Section 5.6.1.

to the public telephone (1);  $X'_{mt}$  represents a vector of municipality time-variant controls—lagged support to party, gender and literacy rates, population (log), economic taxes (log), and type of elections—; and  $\alpha$ 's represent municipality and year fixed effects.

## STAGGERED DiD

There is consensus that canonical DiD designs are valid when the treatment is implemented at a single moment in time for all treated units (Angrist & Pischke, 2009). Nevertheless, the implementation of telephone networks was staggered. Recent papers have acknowledged that Two-Way Fixed-Effects (TWFE) models under staggered treatment implementation generate biased estimators (Callaway & Sant'Anna, 2021; de Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon, 2021; Imai & Kim, 2021). This estimator in staggered treatments is equivalent to a weighted estimator of these comparisons between different types of units,<sup>18</sup> in which some comparisons can receive negative weights and this can lead towards biased results (Baker et al., 2021; Goodman-Bacon, 2021; Imai & Kim, 2021). Multiple solutions have been proposed to correct this bias, ranging from guidelines on how to account for the different weights (Goodman-Bacon, 2021), time-series cross-section methods based on matching and reweighting (Callaway & Sant'Anna, 2021; Imai & Kim, 2021), or to only use observations around the treatment timing (Callaway & Sant'Anna, 2021; de Chaisemartin & d'Haultfoeuille, 2020).

Still, some of these corrected models rely on too strict assumptions, or require to drop multiple observations. Liu et al. (2020) propose to analyze the data using counterfactual estimators<sup>19</sup> based on computer science methods (Athey et al., 2021), to calculate estimators that “take observations under the treatment condition as missing, use data under the control condition only to build models, and impute counterfactuals of treated observations based on the estimated models” (Liu et al., 2020, p. 2).

In the results section we present both TWFE, some diagnostic indicators regarding the weights, and the results provided by the *fect* statistical package developed by Liu et al. (2020). In the robustness section we also provide analyses that employ matched samples or reweighting observations based on their likelihood to be treated. Nevertheless, since part of our interest relies,

<sup>18</sup> Never-treated, early-treated, late-treated, or always treated.

<sup>19</sup> The ‘fect’ Stata/R package implements these solutions

TABLE 5.1 Summary Statistics

	N	Mean	S.d.	Min	Max
% Support Lliga	7,091	37.76	28.61	0.00	100.00
% Support Monarchist	20,591	40.91	30.33	0.00	100.00
% Support Republicans	13,307	22.25	22.82	0.00	100.00
Public Telephone	25,917	0.05	0.23	0.00	1.00
Private Telephone	25,876	0.08	0.26	0.00	1.00
Lag. Lliga Support	5,583	42.14	30.60	0.00	100.00
Lag. Monarch Support	18,926	44.77	31.14	0.00	100.00
Lag. Rep Support	11,750	23.23	24.12	0.00	100.00
% Females	25,917	48.87	2.47	16.79	60.94
% Literate	25,917	40.25	14.73	3.99	88.14
(log) Population	25,917	6.74	0.94	3.99	13.59
(log) Indust.	24,132	6.00	2.13	0.00	16.63
Legislative elections	25,917	0.65	0.48	0.00	1.00

precisely on the heterogeneity of the treatment, in the mechanisms section we present TWFE models in which the main treatment is interacted with locality-varying covariates of interest.

#### 5.4.3 DESCRIPTIVE STATISTICS AND BALANCE

Table 5.1 summarizes the main variables employed in the analyses. A descriptive representation of the main treatment that we employ in this paper—extension of public telephone to each municipality—is shown in Figure 5.4.<sup>20</sup> Blank spaces reflect that provincial elections were held every two years in half of the constituencies, but also some missing data—due to archival incompleteness. Overall, for most “treated” municipalities we have observations before and after the treatment.

Beyond this purely descriptive exercise, in studies employing DiD settings it is usual to report balance tests showing that there is balance in a multiple set of observable covariates across units and/or time. In this case, assignment to treatment was not random, which makes it more difficult to ensure balance, but we show that treatment status was not associated with a distinct electoral behavior.

Balance tables in Appendix D.4 show that, overall, municipalities connected to telephone networks by 1923 were more economically active, more populated, literacy rates were higher,

<sup>20</sup> Figure D.10 relates treatment and whether each type of party was standing for elections.

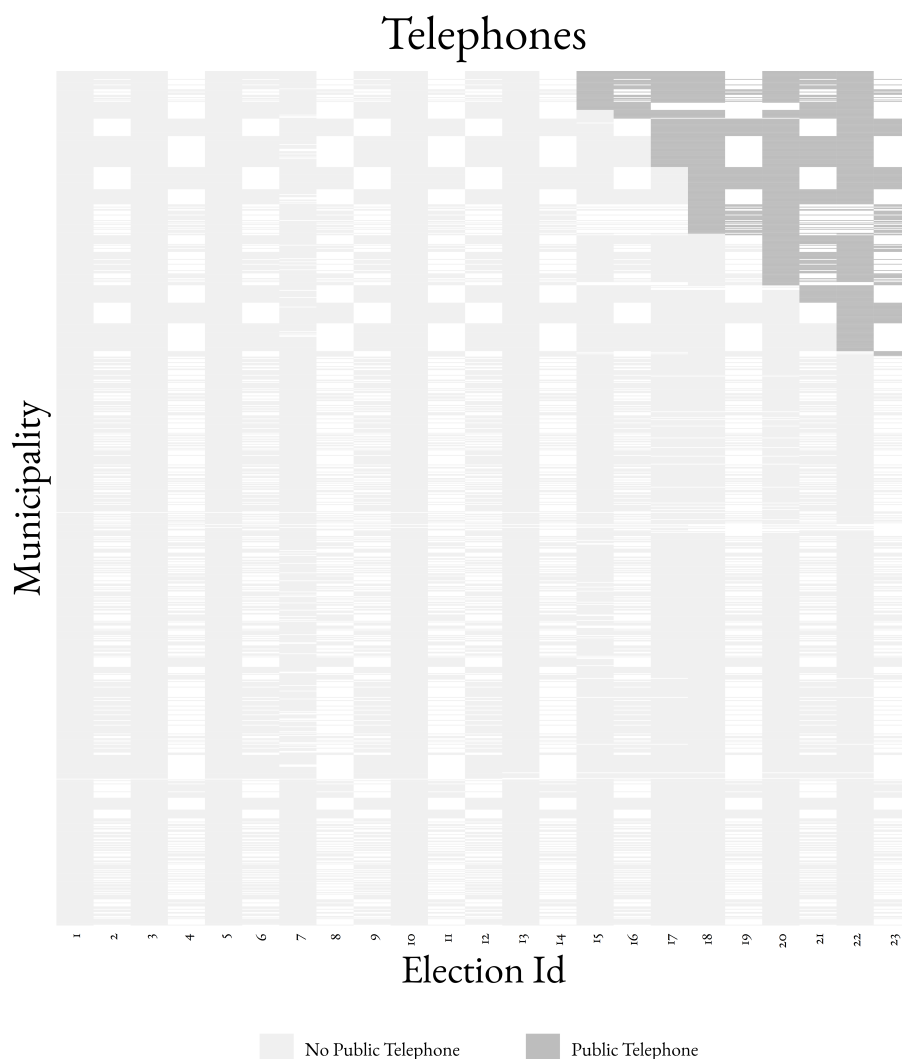


FIGURE 5.4 Development of the Public Telephone Network

and there was a larger proportion of industrial workers. When comparing only municipalities without telephone and those with access to the Mancomunitat network, the differences remain in most variables but are lower in absolute terms, and differences in the share of industrial workers are not statistically significant anymore. These differences are confirmed when comparing the Mancomunitat network to private networks: municipalities with public telephones were less industrialized.<sup>21</sup>

Beyond sociodemographic differences we show that there were almost no political differences on party support before the telephone extension between treated and untreated units.

<sup>21</sup> In Tables D.1, D.2, and D.3 it is possible to observe differences across municipalities based on their access to telephone networks.

Table 5.2 displays some of these differences by focusing on support rates for the three main parties competing in Catalonia during the period of interest.

We distinguish differences in support rates before telephone extensions and before 1914 (the year self-rule was granted). Overall, there are no major differences in pre-telephone levels of support among elite parties (Lliga and Monarchists), especially regarding public telephones. Although there are some differences in support to elite parties between private and public networks before 1914, these differences vanish when looking only to differences before and after telephones were extended. The main differences are found in support for Republican candidates, which obtained better results in municipalities with telephones, most likely because of the larger shares of industrial workers in telephone-connected municipalities. Despite there were almost no differences in electoral variables before telephone extensions, the following section shows that the new public telephone network had electoral consequences.

## 5.5 MAIN RESULTS

In this section we compare the results of different versions of canonical TWFE DiD strategies and some of the latest advancements in staggered DiD methodologies (Liu et al., 2020). We start by exploring a canonical DiD analysis based on a synthetic database that includes the mean electoral support to each party at the locality level before and after 1914—the year the Mancomunitat was established. We simplify our staggered DiD setting into a canonical 2x2 structure to reflect treatment and control in two different points in time, along the lines of Cengiz et al. (2019). Results in Table 5.3 confirm our main expectations. Municipalities receiving public telephones via the Mancomunitat network were more likely to support regional elite candidates (Lliga) and less to support monarchist parties. The coefficient for republican candidates is also positive although not statistically significant.<sup>22</sup>

When using the whole database, the results of TWFE models in Table 5.4 are aligned with previous findings: public telephone network extension is positive for regional elites (Lliga), negative for non-incumbent elites (monarchist), and has no effects for working-class (republican)

<sup>22</sup> Slightly different versions of this simple 2x2 DiD design can be found in Appendix Tables D.4 and D.5.

TABLE 5.2 Political Variables: Balance Tests (Legislative Elections)

Variable	No Telephone	Telephone	Diff. in Means
Lliga Support Pre-Phone	49.69 (21.97)	52.11 (20.98)	2.42* (1.46)
Lliga Support <1914	52.74 (24.92)	54.71 (23.87)	1.97 (2.07)
Monarchist Support Pre-Phone	56.07 (15.06)	56.21 (15.40)	0.14 (0.94)
Monarchist Support <1914	59.49 (17.91)	57.58 (16.32)	-1.90* (1.05)
Republican Support Pre-Phone	21.65 (18.55)	28.24 (19.41)	6.59*** (1.26)
Republican Support <1914	19.53 (18.40)	27.06 (19.59)	7.53*** (1.26)
Observations	453	624	1,077
Variable	No Telephone	Public	Diff. in Means
Lliga Support Pre-Phone	49.69 (21.97)	52.07 (20.35)	2.37 (1.75)
Lliga Support <1914	52.74 (24.92)	51.90 (26.02)	-0.84 (2.63)
Monarchist Support Pre-Phone	56.07 (15.06)	56.89 (13.23)	0.82 (1.04)
Monarchist Support <1914	59.49 (17.91)	58.86 (14.97)	-0.62 (1.22)
Republican Support Pre-Phone	21.65 (18.55)	28.78 (19.21)	7.13*** (1.45)
Republican Support <1914	19.53 (18.40)	27.09 (19.54)	7.56*** (1.45)
Observations	453	325	778
Variable	Private	Public	Diff. in Means
Lliga Support Pre-Phone	52.16 (21.74)	52.07 (20.35)	-0.10 (2.04)
Lliga Support <1914	56.99 (21.76)	51.90 (26.02)	-5.09** (2.53)
Monarchist Support Pre-Phone	55.47 (17.47)	56.89 (13.23)	1.42 (1.24)
Monarchist Support <1914	56.19 (17.58)	58.86 (14.97)	2.67** (1.31)
Republican Support Pre-Phone	27.63 (19.66)	28.78 (19.21)	1.16 (1.60)
Republican Support <1914	27.02 (19.68)	27.09 (19.54)	0.07 (1.61)
Observations	299	325	624

\* $p < 0.1$  \*\* $p < 0.05$  \*\*\* $p < 0.01$

TABLE 5.3 2x2 Canonical DiD Before and After 1916

	Lliga Regionalista	Monarchist	Republicans
Post 1914 × Public Telephone	4.17*** (1.22)	−3.23*** (0.98)	0.97 (0.83)
Post 1914	−1.12 (1.69)	−2.61** (1.27)	0.49 (1.00)
Controls	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes
Type of Elections FE	Yes	Yes	Yes
Observations	2, 696	3, 869	3, 275
R <sup>2</sup>	0.75	0.72	0.63

Municipality level clustered standard errors.

Controls include: % Females, literacy, (log) Population, (log) Taxes.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

candidates. The Lliga was able to win almost 3 percentage points more of support while monarchists were losing also around 3 percentage points.

Despite criticisms to TWFE, we are reasonably certain that the models reflect valid estimators on the effect of public telephones because negative weights in these models affect less than 1.5% of the observations.<sup>23</sup> Since the treatment is not strictly exogenous, we test the results through counterfactual analysis and the results are displayed in Figure 5.5. Again the new method confirms the positive effect on Lliga support after public telephone network extensions. Support for monarchist candidates drops, but it barely reaches statistical significance two elections after the arrival of public telephone. Republican candidates remain unaffected by the telephone extension.

These results point out that telephone extensions enhanced support towards regional elites and eroded the influence capacity exerted by incumbent elites. The extension of instantaneous communication technologies, since it was not promoted or under the control of incumbent elites, contributed to increases in the support toward non-incumbent elites, which partially confirms Hypothesis 5.1 In the next section we focus on the likely exogeneity of telephone networks and we show some robustness tests that reinforce the strength of the previous baseline findings.

<sup>23</sup> According to the ‘*twowayfweights*’ package developed by de Chaisemartin and d’Haultfoeuille (2020).



TABLE 5.4 TWFE Results on Public Telephone Extension.

	Lliga Regionalista	Monarchist	Republicans
Public Telephone	2.84** (1.33)	−3.19** (1.29)	0.34 (1.26)
Controls	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	3, 948	10, 313	6, 738
R <sup>2</sup>	0.67	0.57	0.54

OLS Estimation. | Dependent Variable: (mean) % Support to party candidate(s).

Municipality level clustered standard errors.

Controls: Party Support in t-1, % Females, literacy, (log) Population, (log) Taxes, Election Type.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## 5.6 ROBUSTNESS

### 5.6.1 GEOGRAPHY: EXOGENOUS EXTENSION

Another way to analyze the impact of the Mancomunitat public telephone network is to restrict the treatment indicator only to those cases that were plausibly “exogenous”. Hence, we estimate models in a subsample of municipalities for which telephone extensions were more likely to have been exogenous to the preferences of regional elites. We do so, by exploiting the specific characteristics of the Catalan context.

Regional elites did not start the public telephone network from scratch. As we introduced in Section 5.3.2, the Mancomunitat bought four different urban or county level private networks (Calvo, 2014). We exploit proximity to existing networks in early 1916—pre-public network deployment— as a measure of exogeneity for the telephone extension. We argue that municipalities were more likely to receive a telephone connection if situated near to localities with an existing telephone connection. These extensions would have been largely influenced by technical decisions and less by political strategical decisions—if there were any.

To build this measure of exogeneity we consider two different distances. First, direct distance to the closest municipality where the Mancomunitat *bought* a private telephone network. Second, distances to any of the closest *private* network centers. This is because the Mancomunitat reached agreements with the main private operators to facilitate network interconnec-

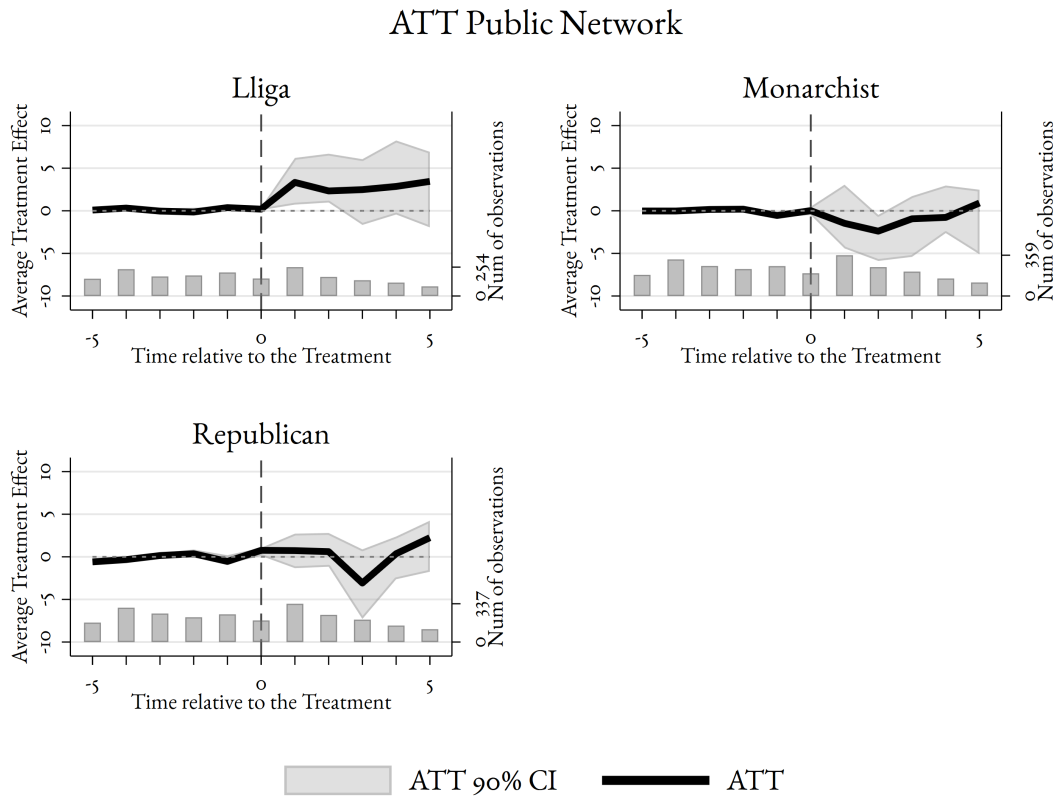


FIGURE 5.5 Public Network DiD Effects

tions. However, we cannot consider direct distances to the closest private network telephone because these private networks had the monopoly to extend their telephone network in a 15 km radius from the urban center—the “capital” of the local private network. We thus constructed a “doughnut” proximity measure, by excluding localities whose centroid fell within this 15 km radius from the centroid of an urban center.

We calculated distances from each locality’s centroid to the centroid of the closest Mancomunitat bought locality *and* to the closest urban center centroid—subtracting the 15 km exclusion area. We then kept the lowest of the two distances to construct a buffer area for which we consider Mancomunitat telephone extensions to be “as-if exogenous”. Figure 5.6 displays all the municipalities—blue gradient showing proximity to existing telephones in 1916—that fit into the exogeneity requirements for different distance buffers. When we replicate the TWFE analyses of Table 5.4 only on those municipalities located within 3, 5, 7, 10, 15, or 20 km away from municipalities with telephone access in 1916.

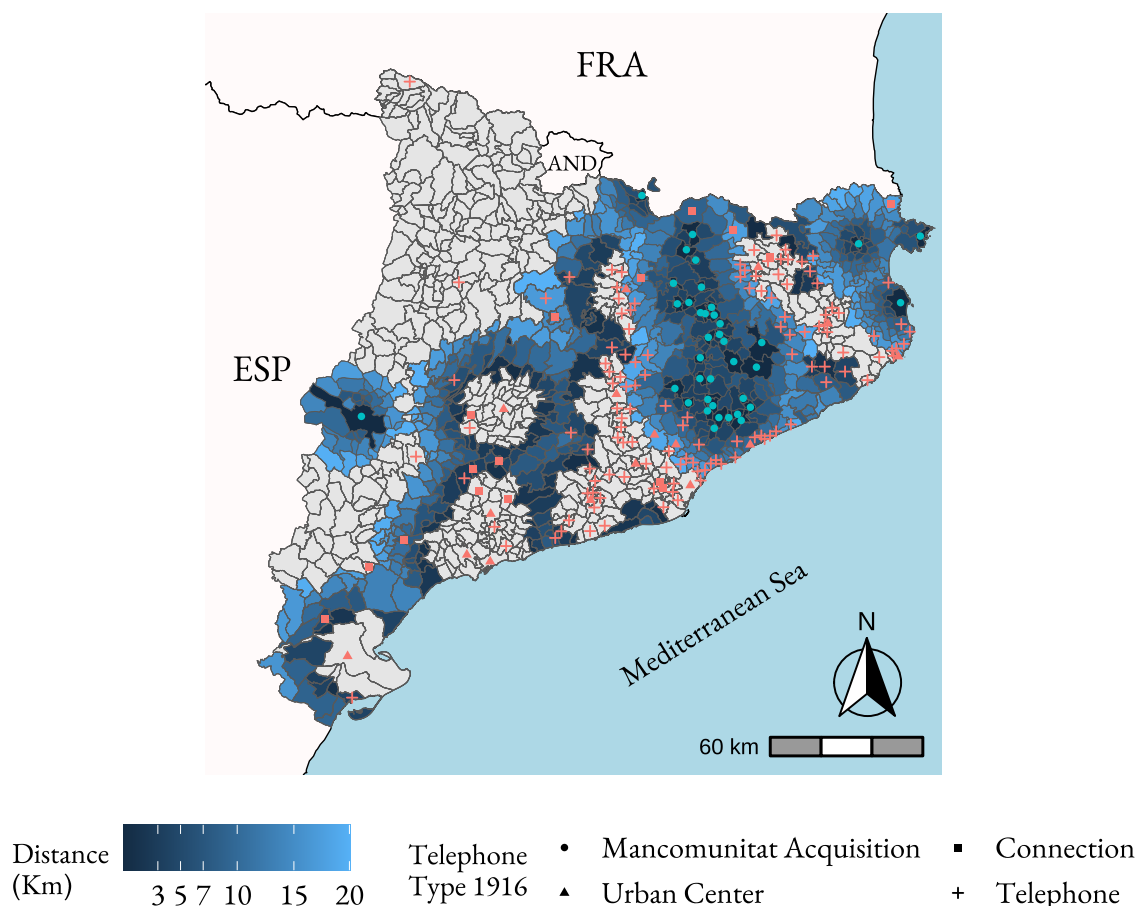


FIGURE 5.6 Telephone Network (1916) and “Exogeneity” Buffers

This exercise is presented in Table 5.5, and the results largely hold, regardless to the distance buffer chosen. Lliga support is systematically enhanced by the connection to a Mancomunitat network. Even when considering the most “exogenous measure” (3km buffer) the coefficients remain large in substantive terms, which reinforces the strength of our finding. Monarchist parties are consistently harmed by the presence of public telephone connections and republicans do not seem to experience any effect. Analyses relying on counterfactual estimators still show positive effects for Lliga candidates, negative ones for monarchist candidates, and null effects for republican parties.<sup>24</sup>

### 5.6.2 ALTERNATIVE ESTIMATION METHODS

As detailed in Section 5.4.2, several authors have proposed alternative estimation methods to address the weaknesses of TWFE models for staggered treatments. Until now we have mostly

<sup>24</sup> See Figure D.12a, D.12b, and D.12c in the Appendix.

shown TWFE models and we have shown its robustness with counterfactual estimators (Liu et al., 2020). Other authors, however, have proposed to rely on matching and reweighting (e.g. Callaway & Sant’Anna, 2021; de Chaisemartin & d’Haultfoeuille, 2020; Imai & Kim, 2019) and, although these strategies might be flawed, we show that our results are mostly robust to these alternative methods.

Appendix Table D.6 displays different estimations. The upper panel shows the results of TWFE on a sample of matched municipalities based on a set of covariates including municipality level characteristics<sup>25</sup> and distances to telephones in 1916. Based on this information we obtained a one-to-one matching without replacement.<sup>26</sup> Although the positive effect for Lliga support does not reach statistical significance, the negative effect for monarchist candidates remains robust.

The bottom panel shows an alternative specification using the whole sample and, using the same covariates described for the matching calculations, we constructed inverse probability weights on the propensity of each municipality to receive telephone connections. We then calculate TWFE models applying these weights on the whole sample. The results go in line with the main findings in previous sections, with Lliga candidates receiving more support shortly after receiving telephone connections and monarchist candidates receiving less supports.

In Appendix Table D.7 we provide evidence on further robustness tests. We apply counterfactual estimators analyses (Liu et al., 2020) to the “as-if exogenous” telephone network and the results largely hold. We also analyze TWFE analyses in subsamples; we divide the period 1915–1923 in two different subsamples, the first including the I World War years, the second the period 1919–1923.<sup>27</sup> The results are a bit inconclusive, mostly because we are working with very small samples for which there might not be enough pre-post observations. However, it is remarkable to see that republicans support mostly increased in the final period (1919–1923), which goes in line with the mobilization hypothesis, since the years after the I World War were characterized by a large wave of social unrest. The next section delves into the mechanisms that

<sup>25</sup> Municipality level covariates include: population (log) in 1914, industrial taxes (log) in 1914 % of females in 1910, literacy rate in 1910, legislative constituency indicator, and distance to the judiciary party capital.

<sup>26</sup> This is, we matched each treated municipality with the most similar untreated municipality in our sample.

<sup>27</sup> Results available under request. Based on historians work. These two periods were distinct both in political and economic terms.

TABLE 5.5 TWFE Results on Exogenous Mancomunitat Telephone Extension.

	3km	5km	7km	10km	15km	20km
<b>Lliga Regionalista</b>						
Mancomunitat	4.48** (1.88)	5.09*** (1.88)	4.56*** (1.66)	3.92** (1.54)	3.36** (1.45)	2.97** (1.42)
N	3,948	3,948	3,948	3,948	3,948	3,948
R <sup>2</sup>	0.67	0.67	0.67	0.67	0.67	0.67
<b>Monarchist Parties</b>						
Mancomunitat	-2.20 (2.13)	-3.27 (2.08)	-3.82** (1.75)	-4.87*** (1.63)	-4.18*** (1.42)	-4.15*** (1.35)
N	10,313	10,313	10,313	10,313	10,313	10,313
R <sup>2</sup>	0.57	0.57	0.57	0.57	0.57	0.57
<b>Republican Parties</b>						
Mancomunitat	-2.84 (2.26)	-1.65 (2.11)	-1.33 (2.16)	-1.27 (1.79)	-1.42 (1.58)	-0.96 (1.40)
N	6,738	6,738	6,738	6,738	6,738	6,738
R <sup>2</sup>	0.54	0.54	0.54	0.54	0.54	0.54

OLS Estimation, including observations for the whole sample. | **DV:** (mean) % Support to Candidate. | **Controls:** Support to Party in t-1, % Females, % Literate, Population (log), local taxes (log), Election Type. Included in all models. | **Fixed Effects:** Municipality and Year. Included in all models. | **(Std. Err.):** Clustered at the municipality level.

\* $p < 0.1$  \*\* $p < 0.05$  \*\*\* $p < 0.01$

could explain how and why public telephone networks benefited regional elite candidates, and under what conditions did technological change influence electoral supports.

## 5.7 MECHANISMS

In this section we present evidence disentangling how did a change in telecommunication technologies contributed to erode the political system stability, influence elite strategies, and contribute to democratization. Departing from the expectations outlined in Section 5.2.3, we look for heterogeneous treatment effects when combining the extension of telephone networks with other key social and locality level factors. We argue that telephone extensions had a different political impact under certain social and contextual characteristics.

Methodologically, we rely in TWFE models because we are precisely interested in the heterogeneous effects of treatments that new DiD methodologies want to keep under control (Callaway & Sant'Anna, 2021; de Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon,

2021). Considering that models analyzing the impact of public telephone networks have shown similar effects regardless of the estimation method employed, we proceed with TWFE models.<sup>28</sup>

#### 5.7.1 ELITE REPLACEMENT

Figure 5.7 confirms our expectations that public telephone extensions were a salient signal for local elites to realign their political allegiances and it was a factor contributing to elite replacement (H5.2). Figure 5.7a shows that, after the telephone was extended, regional elites were seen as a more appealing electoral option precisely where monarchists obtained better results in the past.

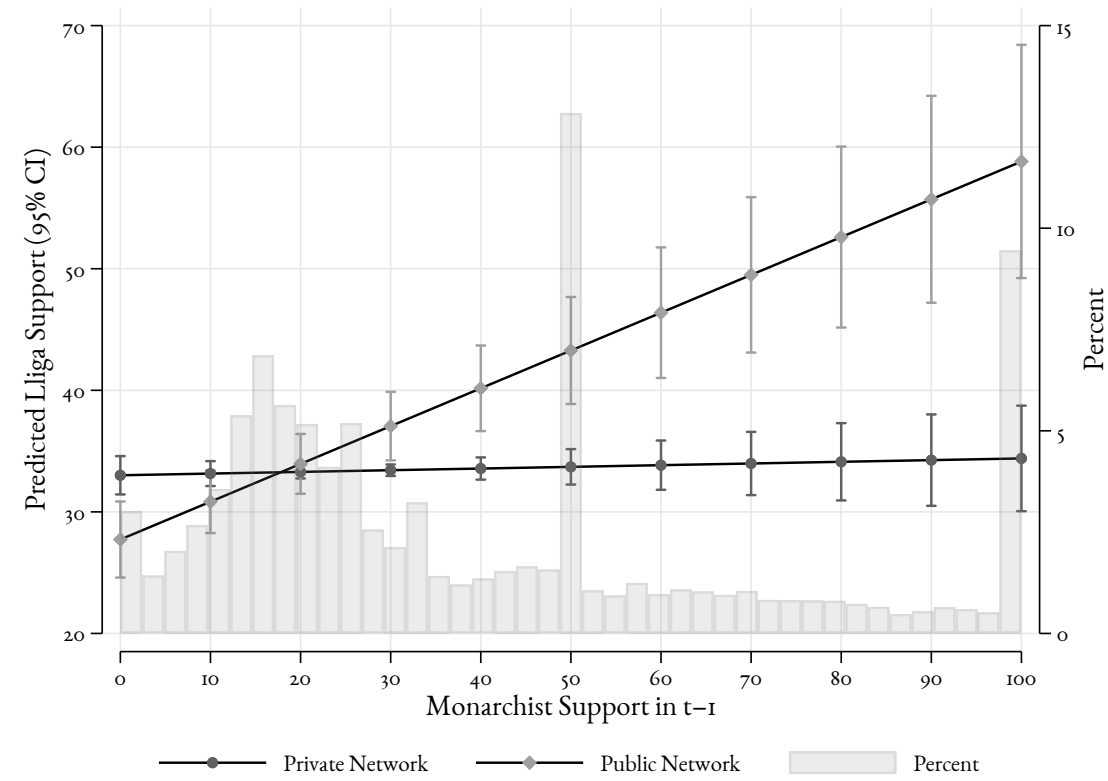
Also contributing to this hypothesis of elite replacement, Figure 5.7b shows that monarchist candidates obtained lower support rates after public telephone extensions in localities where land inequality was higher. Land Gini is a measure that has been employed by multiple authors as a proxy of local elites political influence (Albertus, 2015; Ziblatt, 2008). Our results show that in municipalities where local landed elites were more powerful, monarchist candidates lost supports after telephone extensions, which allows us to conjecture that these landed elites withdraw their support to monarchist candidates after public telephones were installed. Land Gini is positively associated with increases in Lliga support, but this result is not statistically significant.

Overall, these results can be interpreted as the telephone being a signal of the power of regional non-incumbent elites. Telephone extensions signalled to local elites that modernization reforms preached by these regional proto-Liberal elites were becoming a reality. This contributed to realign local elites in favor of regional elites and against the (outdated) incumbent elites. Local elites were more likely to switch their support to non-incumbent regional elites when technological changes reflected their postulates. As a further robustness, a triple interaction between telephone extensions, land Gini, and past support to incumbent elites displays a positive effect for regional elites and a negative for monarchist parties.<sup>29</sup>

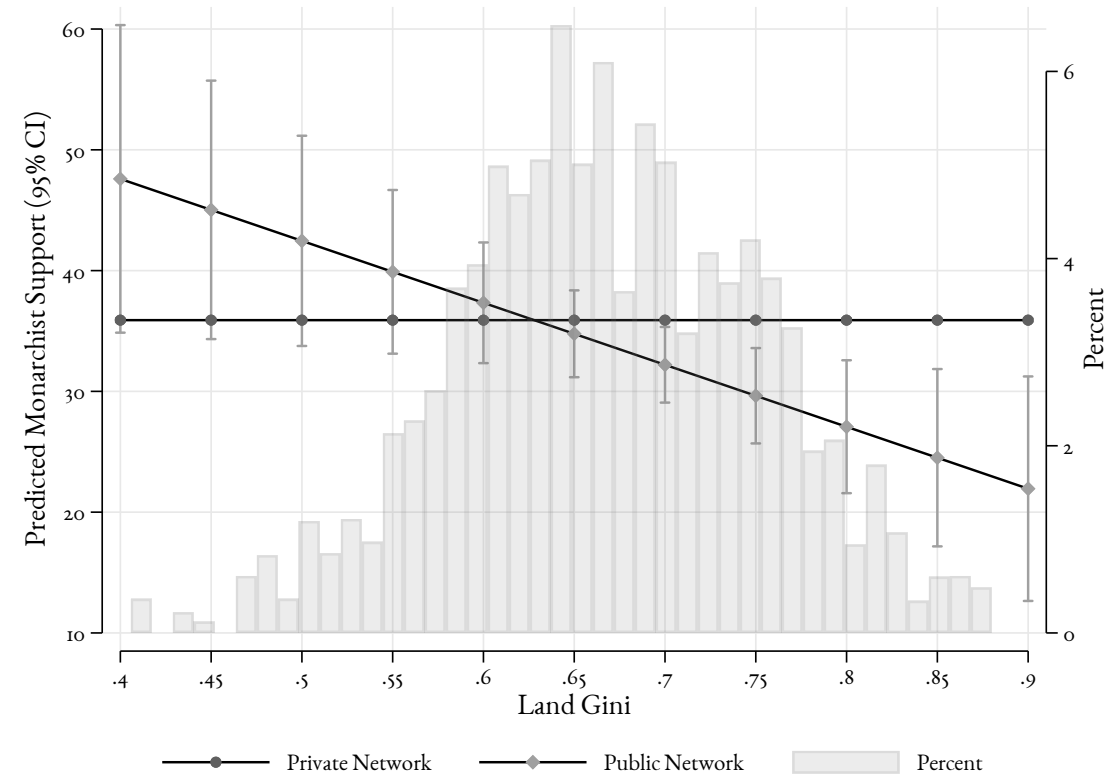
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<sup>28</sup> See more details in Appendix D.6.

<sup>29</sup> Appendix Table D.9.



(A) Elite Substitution



(B) Land Inequality

FIGURE 5.7 Elite Replacement Hypothesis

### 5.7.2 MOBILIZATION

A second set of mechanisms on how telephones had an impact on elite strategies relates to the link between public telephone extension and party mobilization capacities, which are crucial to understand their electoral success (Boix, 2009; Kalyvas, 1996). Figure 5.8 shows the main results of this hypothesis. We find that telephone extensions resulted in larger support rates for regional elites in those municipalities where they already had a previous record of identity-based mobilization agents (see Figure 5.8a). Telephone connections improved the coordination capabilities between local mobilization agents in favor of Catalan identity and regional elite party leaders.

In a similar vein, electoral support for republican candidates was larger in the most industrialized municipalities, i.e. the areas where it was more likely that there were politically mobilized workers. This is proxied by the proportion of industrial workers (Figure 5.8b) and by the (log) taxes paid at the locality level (Appendix Figure D.11). In contexts of larger industrialization we can plausibly assume that trade unions were more likely to exist and have an influence. This is, in fact, confirmed by a positive interaction coefficient between telephone extension and past record of strikes in the locality.<sup>30</sup>

### 5.7.3 DIFFUSION

A third hypothesis relates party strategies and variations in their electoral support to a diffusion mechanism. In this case we would expect that a larger reach of telephones across the population in each municipality would be related to increases in support for the working-class parties. This hypothesis only receives partial support in our analyses: there is no evidence of public telephone stations increasing support for the opposition, but there is some evidence that larger telephone reach benefited working classes.<sup>31</sup>

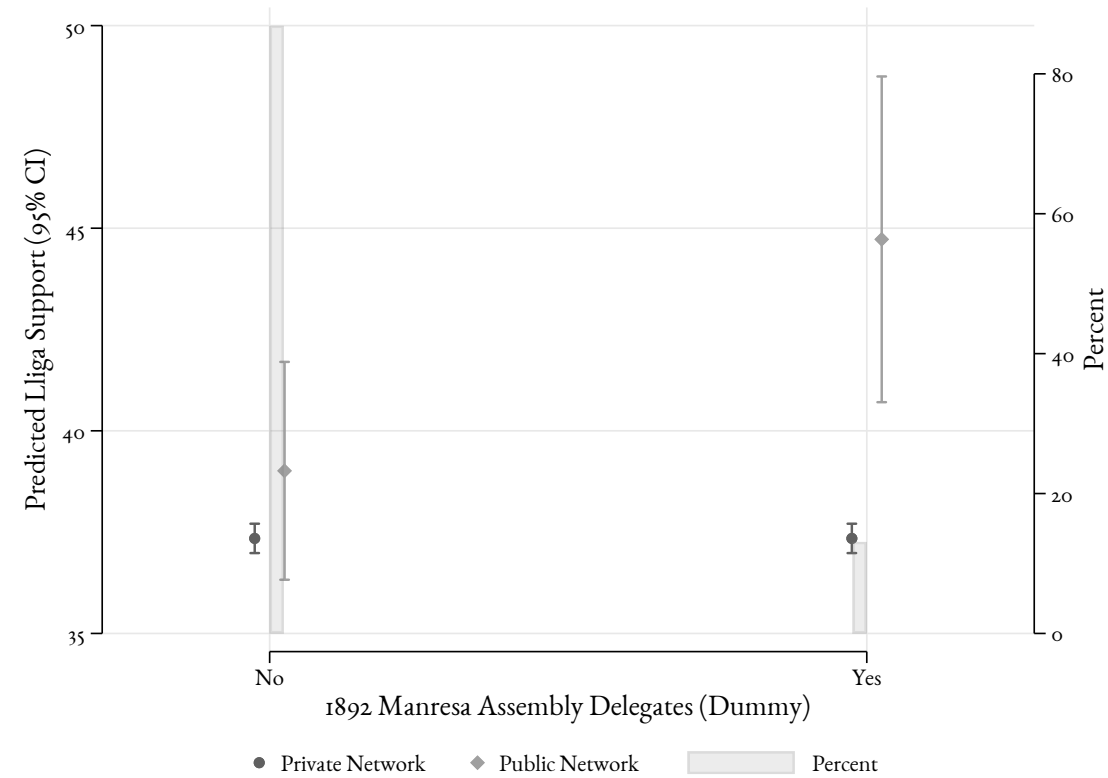
Figure 5.9 displays the predicted support for the opposition and non-incumbent parties depending on telephone reach. The presence of public telephone booths (Figure 5.9a) in municipalities with public telephone networks neither increased support for Lliga nor for republi-

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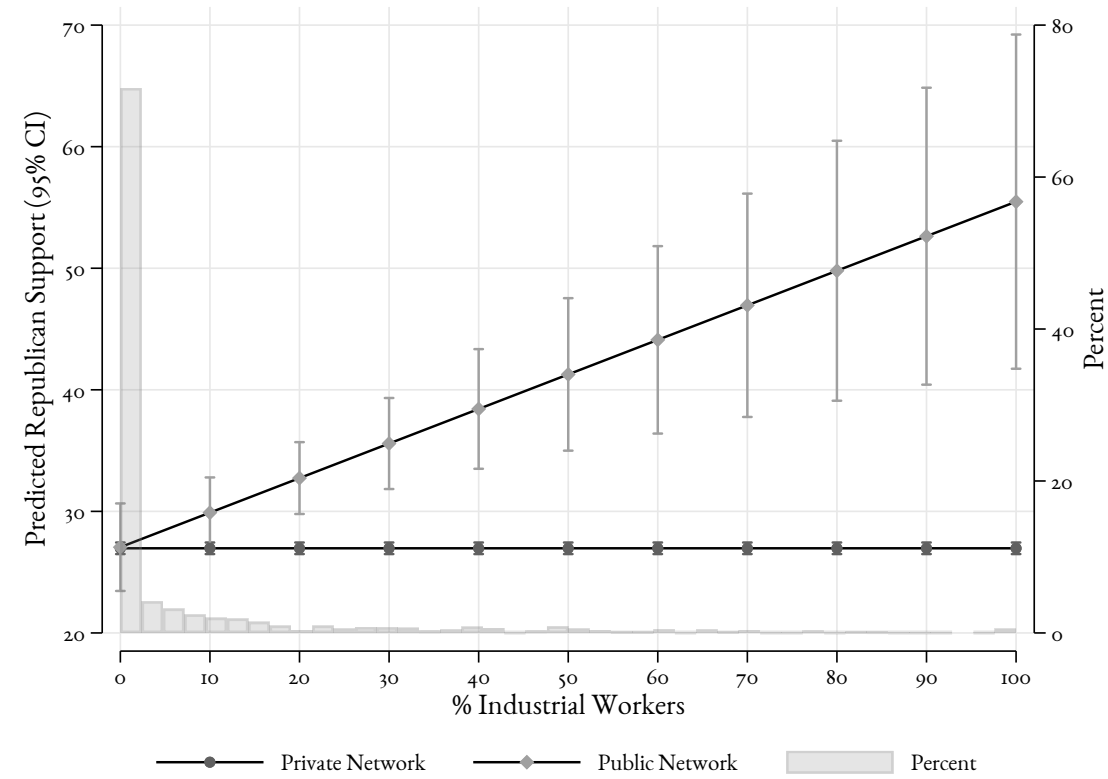
<sup>30</sup> See Appendix Table D.7.

<sup>31</sup> Results in Appendix Table D.8.





(A) Regional Identity Mobilization



(B) Working Class Mobilization

FIGURE 5.8 Mobilization Hypothesis

can candidates. However, the replacement and coordination hypotheses seem to gain strength for regional elites from Figure 5.9a. It was precisely when only local level elites had access to telephone, i.e., when telephone booths were absent, that we can observe larger supports toward regional elites.

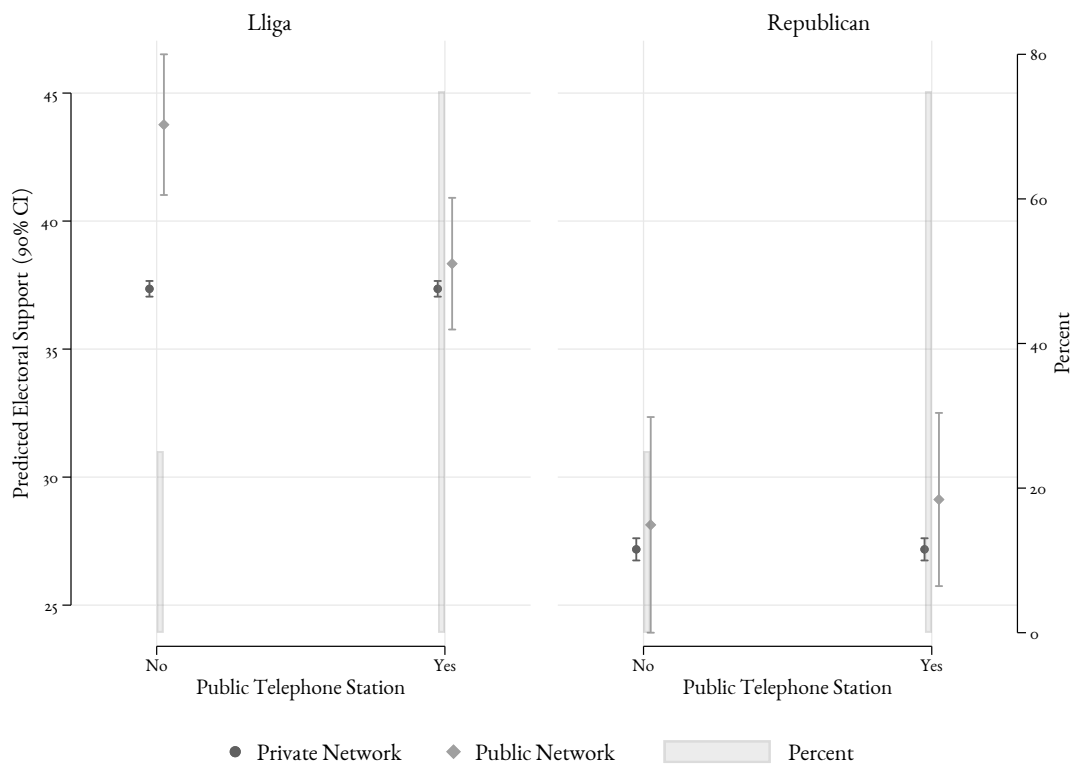
When focusing on Figure 5.9b there seems to be some partial evidence of the diffusion and coordination mechanism, albeit only on the support for the working class. In municipalities where the intensity of the telephone treatment was larger (3 or more telephone users in 1923), working-class candidates improved their results. Nevertheless, there is no relation between telephone penetration and variations in support for regional elites.<sup>32</sup>

Recapping, in this section we have presented evidence on the likely mechanisms that might be behind the effects of telephone extensions. We have pointed out that the arrival of the telephone was a signal for local elites to realign and switch sides, backing non-incumbent regional elites when telephones were extended. We argue that telephones were a signal of strength of these elites. Second, we have also presented evidence that telephones reinforced existing mobilization dynamics for non-incumbent elites. Technological change and mobilization went hand in hand for regional proto-liberal elites and working-classes. Moreover, when only local elites had access to telephones, the coordination between local elites and non-incumbent regional elite party leaders increased. Regarding the diffusion mechanism, the evidence is more scarce and it seems to be operating only for working-class candidates. Overall, telephone extensions had an impact in the political stability by facilitating switches of electoral support, and the characteristics of the municipality where telephones were installed were also an important element to take into account.

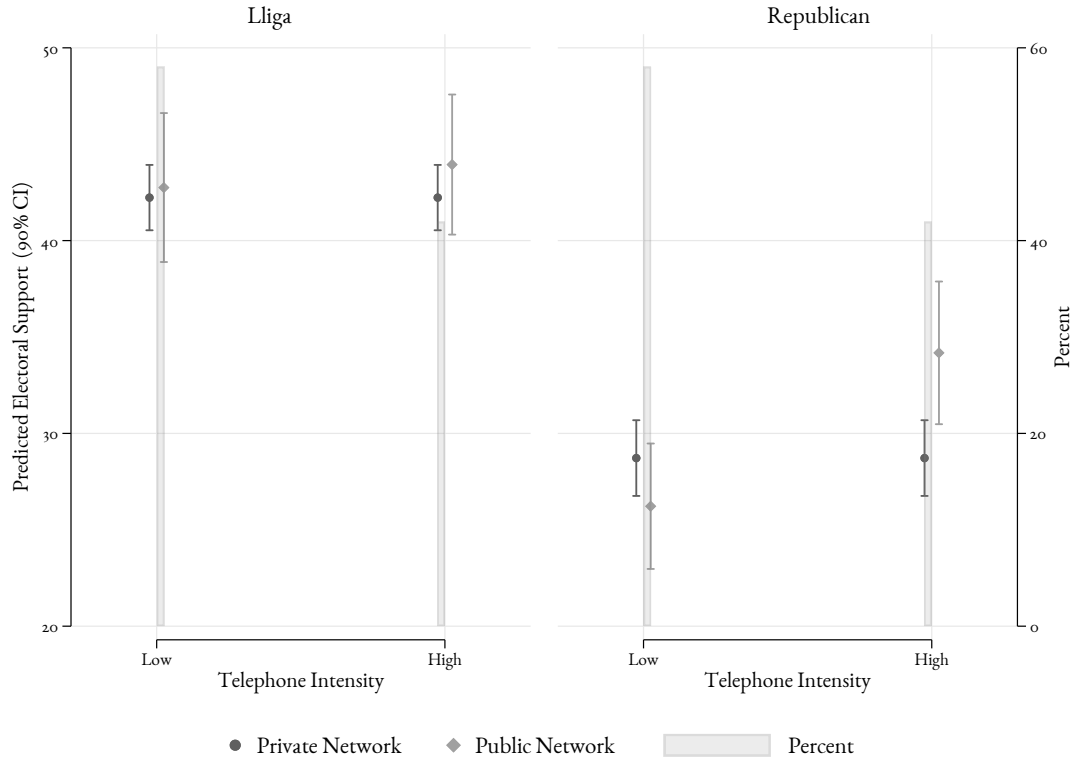
## 5.8 CONCLUSION

Technological change, especially in telecommunication technologies, is crucial to understand political order and, at the same time, it can be a double-edged sword for elites (Boix, 2015). While the adoption of new technologies can reinforce the power of incumbent elites (Martinez-Bravo et al., 2017), it can also contribute to erode their influence by facilitating non-incum-

<sup>32</sup> Appendix Table D.8 presents similar results when employing the absolute number of telephone users in 1923.



(A) Public Telephone Telephone Booths



(B) Telephone Intensive Margin

FIGURE 5.9 Diffusion Hypothesis

bents mobilization (Enikolopov et al., 2020). Building on the intra-elite competition literature (Ansell & Samuels, 2014) and on literature focusing on the political consequences of technological changes (e.g., see Garcia-Jimeno et al., 2021; Mokyr, 1998), in this paper we have described technological change as an element shaping intra-elite relations and political competition.

In this paper we have focused on a very specific instance of technological change: bidirectional telecommunication innovations. More specifically, we focused on the expansion of telephones through the analysis of a public telephone network in the early 20th century. This historical episode has allowed us to assess the influence of telecommunication changes on the electoral support for two contending groups of elites, as well as for the support towards working class candidates. The arrival of telephones clearly influenced elite strategies. According to the results presented in this paper, telephone extensions contributed to elite replacement: incumbent elite support declined, while support for non-incumbent regional elites increased. Notwithstanding, telephone lines also had unexpected costs for the elites, since telephones were associated with increases in support to all non-incumbent elite parties, including—under certain specific conditions—working-class parties.

The mechanisms relating telephone extensions with increases in regional elites support were different to the mechanisms associated with rises in working-class electoral support. Regional elites benefited both from replacement dynamics and from an improved coordination capacity. On the one hand, elite replacement took place in municipalities where local elites were strong. In these cases, new telephone connections signaled the strength of incumbent and non-incumbent elites, and facilitated realignments in the political allegiances of local elites. On the other hand, regional elites employed new telephone connections to improve coordination with these local elites. These non-incumbent elites increased their supports where there was a previous record of mobilization agents and in localities where only a few local elites had access to telephones. However, not everything was positive for the non-incumbent regional elites. Public telephone networks also contributed to the coordination of the working-classes. The empirical analyses have shown that republican candidates won supports when telephones were extended to industrial municipalities, and when access to telephones was more open—through the availability of public telephone booths.

Overall, this paper has shown that technological change can influence intra-elite struggles and facilitate elite replacement, but it can also entail some unintended costs for non-incumbent elites by facilitating electoral gains for the working class. These findings have shed light on the importance of technological—telecommunication related—changes on the stability of non-democratic regimes. We can plausibly posit that the arrival of telephones at the local level contributed to democratize elections by facilitating electoral control and supervision, by enhancing the role of mobilization agents, and by increasing the rate of information diffusion at the local level. Although we find some replacement effects, and in some localities telephones were simply a signal to replace support from incumbent elites for regional elites, telephones also contributed to speed up communications and information flows, which is a necessary—albeit not sufficient—factor for democratization (Guriev & Treisman, 2019).

Many previous contributions have pinpointed the role of technological change in partial democratization settings through increases in turnout (Wang, 2020; Yeandle, 2021) and on social movement coordination (Garcia-Jimeno et al., 2021). This paper has highlighted the role this telecommunication changes had for elite struggles and how this also strengthened non-incumbent candidates. The findings here can contribute to better understanding the political effects related to the adoption of other telecommunication devices—telegraphs, radio stations, or internet coverage.

From the perspective of intra-elite struggles and democratization, the results here delimit better some of the scope conditions for democratization in electoral autocracies. First, we have shown that new communication technologies facilitated the emergence and on consolidation of challenger parties threatening status quo incumbent elites on both sides of the ideological political spectrum—from proto-liberal parties to left-wing working-class parties. This is coherent with recent contributions that emphasize the importance of intra-elite fragmentation and democratization from within (Basu et al., in preparation; Beramendi et al., 2019). However, the scope conditions and timing for the consolidation of new challenger parties thanks to new communication technologies varied significantly. Whereas non-incumbent proto-liberal parties were more likely to benefit via a direct elite replacement mechanism, taking advantage of the extensive margin of access to telephones, left-wing republican parties benefited from the

intensive margin of the new telephone networks when a larger network of users developed, and especially in areas with a higher density of industrial workers.

As such, a thorough exploration of the political consequences of access to new telephone networks can be informative of the role technological innovations can entail for political changes. When challenging political groups have access to new telecommunication technologies this will be associated with a change in the political competition scenario. Future works should delve into the consequences of telephone network extensions in democratic systems or on the combination of telecommunication technological changes and the media penetration, since faster communications probably had a larger and more profound impact on those individuals and professions more reliant on information transmission. Moreover, it would be interesting to access individual level data on telephone access in early stages of telecommunication networks to better understand whether certain elite connections made it more or less likely to see conservative elites resistance to democratization. All in all, this paper delineated some of the contributions that the adoption of new technologies has for intra-elite competition under electoral autocracies.



## 6

# Concluding Remarks

*We are a group of men of government, we were born to rule, we have prepared ourselves to rule, ...where we have governed, we have shown aptitude to rule, and, nevertheless, honourable Members, we are doomed to be men of opposition.*

Francesc Cambó i Batlle  
Parliamentary speech on June 7, 1916.  
Quoted by Josep Pla (1973, p. 480)

Catalan elites, despite being “doomed to be men of opposition” contributed to mold the political and electoral dynamics in the early 20th century Catalonia. Spain was, at that time, an electoral autocracy in which electoral competitiveness was conspicuous by its absence. Political power was dominated by an oligarchy of political elites who systematically turned in office, preventing any possibility of real political competition. The emergence of a regional elite-led political party, the Lliga Regionalista, changed these dynamics in Catalonia. These regional non-incumbent elites became a relevant political actor in Catalan and Spanish politics, even when they mostly lacked the legislative bargaining power to mold institutions. Although they were not able to formally change institutions, they were still able to influence informal political and electoral practices. These elites, through their possibility to resort to several types of mobilization resources, successfully challenged the leverage of incumbent elites. They were, nonetheless, only partially successful. Regional elites were powerful in their region, Catalonia, but remained a minority in Spain. They could confront incumbent elites through mobilization resources and informal practices, but their limited legislative bargaining power precluded their possibilities to push for wider reforms in Spain.



Regional non-incumbent elites had to overcome a tilted playing field to be politically influential. Yet, their access to mobilization resources contributed to level the field in a certain degree. Non-incumbent regional elites emerged and grew politically although they lacked multiple institutional resources that were in the hands of their main electoral competitors, incumbent elites. As I have shown in this thesis, mobilization resources in their hands were essential in explaining both their emergence as an influential political actor and their consolidation through changes in political and electoral practices and dynamics.

## 6.1 CONTRIBUTION(S)

This work has reinforced the idea that elite divisions and their struggles are a key element to understand political competition and democratization dynamics (Ansell & Samuels, 2014). Even though the previous literature on electoral or fiscal institutions has emphasized the consequences elite conflicts had in these areas, this dissertation has pointed out the need to understand the different strategies and resources available to elites. Resources are pivotal to understand the origins and consequences of intra-elite conflicts and democratization dynamics. This is especially relevant for non-incumbent elites, whose possibilities to engage in institutional reforms are limited. Mobilization resources delimit elite capacities to engage in political competition and the associated consequences of elite interactions.

One of the main contributions of this thesis has been to address a puzzling Rokkanian question regarding the origins of elite political divisions. Understanding elite differences and why certain elites make some specific traits more politically salient had been insufficiently addressed in the existing literature. Engaging in an elite split is a costly action for elites but still, under certain circumstances, some elites decide to split. Going beyond the cleavage and economic geography mechanical explanations, this dissertation has contributed to specify better the mechanisms that lead some elites to support elite breaks. A shift from the consequences to the origins of elite splits can help to contextualize better the political impact of elite divisions.

This thesis has also shown that, even when elites represent a minority group and cannot influence institutional change, elite divisions are still related to changes in democratic practices and political competition dynamics. Political actors in this situation need to mobilize political

resources to gain political influence. It is through these mobilization tools, and often unintendedly, that regional elites are able to contribute, at least partially, to improve democratic practices. Where non-incumbent regional elites had access to mobilization resources, it was more likely to see a regional elite candidate standing for office. If regional non-incumbent elites stood for office, it was rarely the case that elections went uncontested—or that candidates won with extreme large margins of victory—because they could offset incumbent elites electoral fraud strategies through other means. Moreover, when regional elites stood for office, they could take advantage of new telecommunication technologies—a mobilization and coordination device—to contest seats more effectively, especially in those places where their previous mobilization assets were already large.

Up to date, most of the political science intra-elite literature has focused on formal institutional reforms influenced by the extent of elite competition (e.g., Paniagua & Vogler, 2021). Changes in electoral laws, constitutional designs, fiscal institutions, or bureaucratic capabilities are—more-or-less—“easily amenable to empirical analysis, [while] the *practice* of democracy remains much tougher terrain for empirical analysis”<sup>1</sup> (Teorell et al., 2017, p. 533). This dissertation has provided some evidence on how intra-elite competition does not only contribute to advance and democratize formal institutions, but also to mold informal political and electoral practices. This is relevant to understand how even non-incumbent elites, whose votes in parliament are insufficient to force institutional change, can shape electoral competition and democratization dynamics in electoral autocracies.

In this work, I have delved into the case of Catalonia within Spain. Spain and Catalonia make a suitable case to study intra-elite conflicts because an elite split took place among regional elites and, more importantly, this split was not homogeneous across the Catalan territory. In the Spanish case there were also differences in the levels regional economic development, with Spain being a late industrializing country (Beramendi & Rogers, 2022). Catalonia was internally heterogeneous in terms of its economic geography, and regional elites could access to a large battery of mobilization resources. Moreover, the characteristics of the Spanish political system, where electoral fraud was pervasive and electoral competitiveness was mostly absent,

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<sup>1</sup> Emphasis in the original text.

also facilitated to study the consequences of elite splits on political and democratization practices. The focus on the Catalan case has thus provided a perfect setting to understand the origins of elite splits and their impact on democratization dynamics.

To show the origins and consequences of regional elite splits, this thesis has relied on a novel micro-level and multidimensional historical database capturing different characteristics of Catalan society over time. While most of the intra-elite literature relies on constituency data, I have focused on more detailed levels of analysis. I have departed from constituency level analyses to understand decisions to stand for office, but then I have turned to locality and census-tract data to fathom political and electoral dynamics. This is because elites strategic behavior is usually conditional on micro-level contextual characteristics. With these data, in the three papers of this dissertation, I have been able to show that the political relevance and the impact of regional non-incumbent elites was mostly conditional on their access to mobilization resources.

#### 6.1.1 WHEN ARE INTRA-ELITE DIFFERENCES FORMALIZED

The paper “Economic Shocks, Mobilization, and Regional Elite Splits” has provided insights on the origins of elite conflicts and the formal political divisions of elites. This study has focused on the causes of formal elite splits and has shifted the attention of most of the intra-elite literature from the consequences to the reasons why certain elites choose to politically confront other elites. The main contribution of this paper has been to show the mechanisms conducive to intra-elite splits and to show the relevance of mobilization resources in the hands of elites to understand the origins of elite competition. Departing from the relevant Rokkanian contribution that highlighted the importance of both economic and political factors behind regional political cleavages, I have shown *when* these factors set in motion these divisions among elites. Economic differences and political or identity differences are insufficient to explain the timing of these divisions; it is only when economic differences are suddenly exacerbated and incumbent elites are not able to compensate non-incumbent elites for their losses that the latter push for elite splits. Yet, this process requires a determinant factor: mobilization resources. Only when non-incumbent elites possess these mobilization factors, economic grievances turn into

political divisions. To understand the origins of elite splits, which is crucial to understand their consequences, it is thus important to endogenize several political and economic factors.

In this paper, I have contended that both economic and political preconditions are important to understand the rise of a new elite-led political party, and I have provided empirical evidence along these lines. Beyond the canonical cleavage theory or economic geography explanations, I have argued that both economic grievances and mobilization resources are necessary to understand when and where regional elites choose to embark in a new political enterprise and to formalize an elite split. Using constituency level data for the case of Catalonia, this paper is one of the first pieces—to my knowledge—to show the mechanisms behind elite divisions. Moreover, it is also one of the first studies focusing on the political impact of trade shocks in democratization periods. In this paper I have pointed out that trade shocks do not only have an influence on voters political preferences in contemporaneous settings, but also on elite political decisions decades ago. In addition, it employs a novel micro-level empirical quantitative evidence on the impact of the 1898 Spanish colonial defeat. A main finding in this paper has been that in those areas where the loss of the colonies had a larger economic impact, elites were more prone to support a new political party. Not only that, but it was when certain elites considered they had sufficient resources to be electorally successful that they decided to support this elite-led party. In fact, if the economic shock was large but mobilization resources were absent, elites were not likely to support the split because non-incumbent regional elites were more uncertain regarding the likely success of a new political enterprise. Elite divisions, I argue, are thus a consequence of both elements: economic grievances and mobilization resources. All in all, this first paper has emphasized the conditions behind elite splits, which is a capital first step to understand the likely consequences an elite split might entail in the future.

#### 6.1.2 ELITES AND FRAUD

The second paper, “Intra-Elite Competition and Electoral Fraud”, has focused on the consequences of intra-elite competition on electoral fraud practices in electoral autocracies. One of the contributions of this paper has been to point out that mobilization resources in the hands of non-incumbent elites do not only matter to understand the origins of elite conflicts, but also

to discern their consequences. An important tool in the hands of incumbent elites in electoral autocratic regimes is to manipulate elections employing electoral fraud techniques, to ensure the electoral victories of predefined candidates. Intra-elite competition is thus influential in these settings inasmuch as it conditions certain electoral practices in the hands of incumbent elites. This has precisely been a contribution of this paper, as it has stressed that intra-elite competition entails consequences not only on formal institutions, but also on informal political practices and dynamics. This paper has underlined that the relevance of elite competition in the democratization process lies not only on the elites capacity to enact franchise extensions or to limit and sanction electoral fraud, but also on their impact on electoral practices when formal political influence of elites is limited.

Previous literature has highlighted that intra-elite competition contributes to cleaner and more democratic formal rules through franchise extensions (Lizzeri & Persico, 2004) or secret ballot provisions (Mares, 2015). Yet, earlier works relied only on formal intra-elite competition, this is, intra-elite competition among elites represented in parliament. In this paper, I have focused on those cases in which certain elites still do not have access to parliament—or they are not influential enough for the approval of new legislation—and how they can sway electoral dynamics to deter fraud and to win formal representation. Considering that regional non-incumbent elites cannot control electoral fraud tools, they should make investments to secure cleaner electoral practices to increase their chances to be elected. Given their elite nature and their access to multiple sorts of alternative resources—either economic or related to political mobilization—, it is likely that they would use them to reduce the extent of flagrant electoral tampering. The main finding in this paper has been that the presence of regional elites was associated with a reduction in electoral fraudulent indicators.

Through a combination of qualitative anecdotal evidence (memoirs, newspapers...), and micro-level electoral results in Catalonia, I have assessed the fingerprints of electoral fraud. The results have noted the influence of regional non-incumbent elites on changes in electoral fraud practices. Employing census tract data in Catalonia for the period between 1890–1923, I have analyzed electoral returns, taking into consideration whether a Lliga Regionalista candidate stood for office in each electoral race. I have considered evidence based on different electoral

forensic techniques, but also fraud indicators before and after the first time a Lliga candidate stood for office, along a difference-in-differences design. Moreover, I have found that fraud indicators were less likely, precisely in those areas where non-incumbent actors could resort to political mobilization to informally deter electoral fraud practices. Overall, this points out that intra-elite competition did not only contribute to democratization once different types of elites had enough legislative bargaining power to modify institutions, but that they were also able to do so through informal practices.

### 6.1.3 HOW NEW ELITES SUBSTITUTE OLD ELITES

Finally, the third paper, “Democratization is Calling”, has focused on the role technological changes and, more specifically, the extension of bidirectional telecommunication technologies, such as telephones, can have for democratization dynamics. The main contribution of this paper has been to emphasize the mechanisms and the features that make it possible for elites, not only to emerge and to deter electoral fraud, but to be electorally competitive, win elections and replace the preponderant role of incumbent elites. Similarly to the previous pieces, this paper has shown the relevance of mobilization resources in the hands of non-incumbent elites to explain how intra-elite competition can shape political and electoral practices. Mobilization resources can facilitate and enhance the political impact of new technological advancements and it is crucial to understand how intra-elite competition could lead to a rise in effective electoral competition, which is a key element in democratic elections.

This study has investigated whether incumbent or non-incumbent elites electorally benefited from new technologies. The previous literature is divided on whether technological advancements increase the coercive resources of incumbent elites (Martinez-Bravo et al., 2017) or, in turn, whether it benefits the mobilization resources in the hands of non-incumbent opposition political actors (Dasgupta, 2018). This paper has shown that new technologies contributed to increase the support towards non-incumbent elites, and that this was especially the case when these technologies were installed in places where regional non-incumbent elites already possessed mobilization resources. Albeit there has been a recent surge on the literature focusing on the political impact of technological changes, most of them have considered uni-directional

technologies (newspapers, radio, or TV) in democratization periods (e.g., Yeandle, 2021), or bidirectional technologies (social networks) in contemporary settings (e.g., Enikolopov et al., 2020). This paper relates, for the first time, bi-directional technologies—making it possible to engage in instantaneous communication—and changes in political competition dynamics in endogenous democratization contexts.

This paper has highlighted that new telecommunication technologies contributed to shift the balance of power between contending elites. Through the extension of a public telephone network in Catalonia in the 1910s, this work has shown that new telecommunication technologies were crucial to explain increases in the Lliga electoral support. This paper has uncovered detailed municipality level data regarding the deployment of this public telephone network, including the initial year of connection to the telephone network in each locality. The arrival of new telephone connections to Catalan municipalities increased the support of regional elites and reduced the support of monarchist incumbent elites. One possibility is to interpret that the telephone was a signal pointing out that non-incumbent and proto-liberal industrial elites—the Lliga Regionalista—were on the rise, and this shifted local elites political endorsement. Complementary, the analyses have also revealed that it was when only a few local elites had access to the telephone, that the Lliga benefited from the new access to telephone lines. Another possibility is to think of telephones not only as signals, but also as a tool to increase the coordination between local elites in the grounds and regional elite party leaders. All in all, focusing on the case of Catalonia, this paper has shown that non-incumbent political actors benefited from the combination of new telecommunication technologies and mobilization resources.

## 6.2 BEYOND CATALONIA: FURTHER IMPLICATIONS

How are the findings and contributions outlined in the previous pages relevant for our knowledge of intra-elite relations beyond the Catalan case? What can we learn from this thesis to understand elite struggles and democratization processes? There are four aspects to which, in my opinion, this thesis can contribute to advance some debates in the intra-elite competition literature.

First, it is as important to focus on the origins of elite struggles as it is to focus on its consequences. In fact, a better understanding on the origins of elite tensions can help to clarify some of the consequences of intra-elite competition. Generally, in the intra-elite literature elite divisions are considered to be given and fixed, but I have shown that this should not be the case. Only under certain conditions elite tensions surface, and only when elite tensions materialize elite conflict can entail consequences. Moreover, the consequences of intra-elite conflicts will not be the same if elites are divided along trade, religion, or language political cleavages. The political and policy implications of each elite political divide will be different and, for instance, it is not the same to study elite conflicts in Great Britain, where elites were mostly divided along an economic dimension, than in Germany or the Netherlands, where religion also played an important role. Understanding the origins and the salience of each political dimension in an elite conflict is a necessary first step that future intra-elite competition literature should undertake.

Similarly, the origins of elite struggles can also be informative of characteristics of each elite group and the likely impact these divides can have. Until now most intra-elite research has focused on national level elite divides. Nonetheless, the implications of similarly sized (or equally influential) elites for the intra-elite competition dynamics should not be the same than tensions between elites who are only influential in certain geographic areas or on certain social minorities. The general implication of this first point is that, to analyze intra-elite competition, we must take into account two crucial aspects of the origins of elite divisions. On the one hand, the characteristics that make it possible for elite divisions to materialize, because different elite traits will also determine the tools in the hands of each elite group. Without a clear understanding of the origins it is difficult to explain what the consequences these divisions can entail. On the other hand, we need to consider the conditions under which each type or group of elites engages in elite competition. It is not the same to lead a small or a large group of elites, or to seek to represent the interests of concentrated or disperse groups.

The second implication of the dissertation's findings is that elites do not only matter when they are kingmakers in parliament. As I have shown in chapters 4 and 5, elite competition can contribute to improve democratization *practices* even when elites are not strong enough to push for formal institutional reforms. The influence of elites in the democratization process, I argue,



has been underestimated. Democratization is a process that goes beyond a dichotomous measure of democracy, there are gradients of democratization. Elite struggles and their impact on the enactment of specific rules extending voting rights or modifying other electoral provisions are important to understand big jumps on “how democratic” a country is. Yet, smaller variations in democratization can still be attributable to less visible elite struggles, which are also important. Focusing on elite practices, albeit tougher—as described by Teorell et al. (2017)—, can have important implications to understand democratization.

A third implication of this thesis is that mobilization resources matter, and mostly when combined with other economic factors (shocks, technological changes...). There is a large literature focusing on the importance of mobilization and organization resources to understand political phenomena (e.g., Kalyvas, 1996; Ziblatt, 2017). This dissertation has pointed out the pertinency to consider the joint relevance of different elements: economic and political considerations need to be examined together. While mobilization or organizational capacities are relevant on their own, an implication that can be derived from this work is that their influence can also lie on their amplification factor. Access to political mobilization resources exacerbates the effect of economic grievances or the repercussions of new telecommunication technologies.

Finally, the implications of this work focusing on the Catalan case are of relevance to understand other cases of national minorities. On the one hand, this dissertation has shown that intra-elite tensions arising from elites representing national minorities can have important democratizing consequences. This need not only to be circumscribed to electoral autocratic contexts, but in any different stage in the democratization process, we can think that—if it is in their interest—national minority elites can push towards more democratic practices and attitudes. On the other hand, some of the findings in this thesis can also be informative to understand under which conditions did some regional elites vindicate support towards national minorities. The focus on economic and political mobilization preconditions can help explaining why Irish elites pushed for a regional movement much earlier than Scottish elites. While sharing very similar preconditions such a distinct identity and language, in the Irish case economic factors—a rural economy vis-à-vis industrial Britain—and political mobilization through religion facilitated the rise of their movement in the 19th century. In turn, in Scotland, which had a similarly

industrialized economy as England and where elites had few incentives to resort to their mobilization resources, national political vindication would remain more dormant until the mid-20th century.

The Habsburg Empire or Germany, where different national minorities had different economic preferences and a heterogeneous access to mobilization resources, could also be a fertile soil to develop further research on the influence of regional elites. In the Habsburg empire, for instance, the diversity of identity, linguistic, and economic divides, would be a very interesting setting to observe some additional implications of the impact of mobilization resources and economic settings to understand intra-elite competition. Nonetheless, other scope conditions, such as the different resources in the hands of state institutions and incumbent elites could be important to see some limitations to the argument outlined here. Other settings, for instance polities characterized by fierce centralization of political and economic power, could be less suitable to find equivalent results because it would probably be less likely for non-incumbent elites to have access to mobilization resources and/or to the possibility to shape democratization practices. France could be a paradigmatic case of the latter case because, even in regions with clearly distinct languages and identities, these have only gained some political salience in recent decades; most likely, the degree of centralized power and institutions plays an important role for intra-elite competition. Taking into consideration the specific scope conditions outlined in this thesis is important to interpret the results presented here. Yet, the findings in this dissertation have wider implications to understand regional political tensions and democratization processes in other cases beyond Catalonia.

### 6.3 WHAT IS THERE YET TO LEARN?

This dissertation has underlined the relevance of non-incumbent elites to comprehend the political competition and democratization dynamics in electoral autocratic contexts. In the previous pages, I have delved into the origins and the consequences of elite competition between different types of elites: incumbent and non-incumbent elites. However, beyond the questions this dissertation has been able to address, this thesis has also opened up avenues for future research regarding multiple research questions that remain unanswered. I cannot be exhaustive

but, to conclude, I would like to outline some of the questions that I think it would be of interest to face in the future.

The first one is related to the other side of the coin in elite relationships. While this thesis has focused on the origins and consequences of elite conflicts, there are almost no studies focusing on the mechanisms behind elite coordination. How were elites able to avoid or prevent defections? To what extent a centralized or decentralized control of electoral fraud and “bureaucratic mobilization resources” has an impact on elite coordination? To understand better the origins of democratization dynamics it is necessary not only to focus on elite competition and the causes making it possible for countries to democratize, but also on the features hindering this process.

Another relevant question relates to other likely mobilization resources in the hands of the elites. In this thesis, regional elites have caught my attention, but it is true that other types of elites can still engage in elite splits. On top of mobilization resources held by regional non-incumbent elites, it might be worthy exploring to what extent other types of resources, for instance economic resources, also play a role when non-incumbent elites cannot resort to second dimensions to mobilize the electorate. For instance, in other regions in Spain during the period I have described in this thesis, there were some elites who defied the existing electoral alternation dynamics and their entrenchment in office eroded the intra-elite coordination dynamics. Were the personal characteristics of these individuals, for instance their personal wealth or their control of economic activities in the constituency, à la Mares (2015), relevant to explain breaches in elite coordination?

Related to the previous two questions, in this dissertation I have mostly delved into the resources and strategies of regional non-incumbent elites, but what about incumbent elites? Why were these elites unable to prevent an elite split? How did these incumbent elites react to such a challenge? The argument I have outlined here would be more complete with explanations regarding the motivations and strategies of incumbent elites. Similarly, most of the intra-elite tensions during the late 19th and early 20th centuries took place while working class organizations were on the rise. In this thesis, I have mostly explored the competition between the different types of elites, but I have not scrutinized sufficiently how the presence or the strength of non-

elite political actors affected the likelihood of intra-elite conflict or coordination. Although I have somehow deemed the presence of these political competitors in Chapter 5, I have not directly evaluated their impact on the intra-elite competition dynamics. In future works, it would be interesting to analyze whether elite co-option is more likely given the threat of organized working-class parties or candidates. Elites might only be willing to cooperate and/or accept co-option with the other elites when their balance of power is unequal and when their separate resources—either bureaucratic or mobilization-related—are insufficient to prevent working-class victories.

On a separate issue, in this dissertation I have largely focused on the impact of intra-elite competition on informal practices, especially on electoral fraud (Chapter 4). A further element for research would be to investigate the impact of elite competition on other relevant characteristics of the modernization processes, such as state capacities or fiscal compliance. Even when incumbent elites do not make efforts to improve state capacities, if minority elite groups see these advancements as necessary for their interests it is likely that we observe changes in these areas. Under these conditions it is plausible to think that it might be on the elites interest to make private investments, for instance on the legibility of land productivity, that would then revert on an increased state capacity. The observed consequences in electoral practices associated with the rise of regional non-incumbent elites can also be informative of the influence these elites can exert on all sort of other types of political practices.

Another promising avenue for further research would be to continue delving on the impact of elite tensions on other types of electoral manipulation. While in Chapter 4 the focus of this paper has been on the impact of elite competition on variations in electoral fraud, other forms of electoral manipulation still remained available to all elites. Decreases in electoral fraud practices associated with the rise of intra-elite competition were, most likely, linked to an increase in the use of other manipulation practices by elites to try to secure electoral victories. Nonetheless, how did these elites engage in vote-buying or in other types of clientelistic practices? In fact, it would also be interesting to see how incumbent elites reacted to the decline in their possibilities to engage in electoral fraud. Moreover, access to different types of resources should have

also been associated with different electoral manipulation strategies, and to the specific types of conditionality or coercion exerted by each elite group.

Also related to electoral fraud, another interesting methodological contribution to the existing literature relate to electoral forensic techniques. As I have shown in Chapter 4, Bayesian estimations of electoral fraud are limited to electoral rules with SMDs or proportional representation norms with closed party lists. However, there are multiple electoral systems escaping these electoral rules and to which electoral forensic techniques cannot be implemented. For instance, provincial elections or MMDs in legislative elections in this period took place under open lists. Developing new electoral forensic techniques to examine vote support distributions for all candidates standing for office, rather than only examining the vote supports cast for the winning candidate, could extend and improve the assessment of electoral fraud.

Finally, another interesting avenue for further research would be to focus, not on the origins or on the immediate consequences of intra-elite competition, but on the legacies of these struggles. We know that elite divisions are conducive to the implementation of institutional democratizing reforms. Yet, we know little about how different degrees of elite competition or coordination in the past enhanced or undermined democratization practices and attitudes once democratic elections were implemented. Were voters who experienced larger degrees of electoral competition under electoral autocracies more or less committed to democracy and democratic elections? Exploiting within country differences regarding the extent of electoral competitiveness in autocratic elections could contribute to better understanding differences in democratic engagement in early stages of democratization.

All the previous questions, exemplify that science is an endless chain of research questions. There are always questions leading to other new and interesting inquiries. Knowledge is often a difficult creature to catch and this is, to me, one of the beauties of scientific research. Overall, in this thesis, I have tried to provide some answers regarding the origins and the political impact for democratization of regional elite splits. The intra-elite competition literature should benefit from these contributions and pay more attention to how, when, and what types of intra-elite competition gain political relevance. This dissertation has also pointed out that elite struggles

do not only shape rules in parliament, but also informal practices, and I have underscored that elite characteristics and resources can be crucial to grasp not only institutional reforms but also broader political and electoral dynamics. The case of Catalonia in the early 20th century has illustrated these different aspects and it has proven the importance to further study all sorts of intra-elite interactions.



# References

- Acemoglu, D., & Robinson, J. A. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511510809>
- Adena, M., Enikolopov, R., Petrova, M., Santarosa, V., & Zhuravskaya, E. (2015). Radio and the Rise of The Nazis in Prewar Germany. *The Quarterly Journal of Economics*, 130(4), 1885–1939. <https://doi.org/10.1093/qje/qjv030>
- Aidt, T. S., & Jensen, P. S. (2017). From Open to Secret Ballot. *Comparative Political Studies*, 50(5), 555–593. <https://doi.org/10.1177/0010414016628268>
- Aidt, T. S., & Leon-Ablan, G. (2021). The Interaction of Structural Factors and Diffusion in Social Unrest: Evidence from the Swing Riots. *British Journal of Political Science*, 1–17. <https://doi.org/10.1017/S0007123420000873>
- Albertus, M. (2015). *Autocracy and Redistribution*. Cambridge University Press. <https://doi.org/10.1017/CBO9781316227107>
- Albertus, M., & Menaldo, V. (2012). Coercive Capacity and the Prospects for Democratization. *Comparative Politics*, 44(2), 151–169. <https://doi.org/10.5129/001041512798838003>
- Allen, R. C. (2009). *The British Industrial Revolution in Global Perspective*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511816680>
- Álvarez Junco, J. (2002). The Formation of Spanish Identity and Its Adaptation to the Age of Nations. *History & Memory*, 14(1), 13–36. <https://doi.org/10.1353/ham.2002.0006>
- Ametlla, C. (1963). *Memòries Polítiques. 1890-1917*. Editorial Pòrtic.
- Anderson, B. (1983). *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. Verso.
- Angrist, J. D., & Pischke, J.-S. (2009). *Mostly Harmless Econometrics*. Princeton University Press. <https://doi.org/10.1515/9781400829828>
- Ansell, B. W., & Samuels, D. J. (2010). Inequality and Democratization: A Contractarian Approach. *Comparative Political Studies*, 43(12), 1543–1574. <https://doi.org/10.1177/0010414010376915>
- Ansell, B. W., & Samuels, D. J. (2014). *Inequality and Democratization*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511843686>
- Antenangeli, L., & Cantú, F. (2019). Right on Time: An Electoral Audit for the Publication of Vote Results. *Statistics, Politics and Policy*, 10(2), 137–186. <https://doi.org/10.1515/spp-2019-0001>
- Anuario General de España ‘Bailly-Baillière-Riera’. (1924).
- Anuario-Riera. Guía general de Cataluña: comercio, industria, profesiones, artes y oficios, propiedad urbana... (1896).
- Aron, R. (1950). Social Structure and the Ruling Class: Part 2. *The British Journal of Sociology*, 1(2), 126. <https://doi.org/10.2307/587553>
- Ashenfelter, O., & Card, D. (1984). *Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs* (tech. rep.). National Bureau of Economic Research. Cambridge, MA. <https://doi.org/10.3386/w1489>



- Asunka, J., Brierley, S., Golden, M., Kramon, E., & Ofosu, G. (2019). Electoral Fraud or Violence: The Effect of Observers on Party Manipulation Strategies. *British Journal of Political Science*, 49(1), 129–151. <https://doi.org/10.1017/S0007123416000491>
- Athey, S., Bayati, M., Doudchenko, N., Imbens, G., & Khosravi, K. (2021). Matrix Completion Methods for Causal Panel Data Models. *Journal of the American Statistical Association*, 1–15. <https://doi.org/10.1080/01621459.2021.1891924>
- Autor, D., Dorn, D., & Hanson, G. (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review*, 103(6), 2121–2168. <https://doi.org/10.1257/aer.103.6.2121>
- Baker, A., Larcker, D. F., & Wang, C. C. Y. (2021). How Much Should We Trust Staggered Difference-In-Differences Estimates? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3794018>
- Balcells, A. (2009). Civisme i higiene. El programa d'educació ciutadana de la Mancomunitat de Catalunya, 1914-1923. *Cerdes: revista d'història cultural*, 12, 49–74.
- Balcells, A., Culla, J. B., & Mir, C. (1982). *Les eleccions generals a Catalunya de 1901 a 1923: relació dels resultats electorals de 1869 a 1899*. Fundació Jaume Bofill.
- Balcells, A., Pujol, E. & Sabater, J. (1996). *La Mancomunitat de Catalunya i l'autonomia*. Institut d'Estudis Catalans.
- Balcells, A. & Serra, R. (2019). *Les colònies industrials de la conca del Llobregat. 150 anys d'història*. Diputació de Barcelona.
- Balcells, L. (2013). Mass Schooling and Catalan Nationalism. *Nationalism and Ethnic Politics*, 19(4), 467–486. <https://doi.org/10.1080/13537113.2013.847602>
- Barber, B., & Miller, C. (2019). Propaganda and Combat Motivation: Radio Broadcasts and German Soldiers' Performance in World War II. *World Politics*, 71(3), 457–502. <https://doi.org/10.1017/S0043887118000345>
- Baron, D. P., & Ferejohn, J. A. (1989). Bargaining in Legislatures. *American Political Science Review*, 83(4), 1181–1206. <https://doi.org/10.2307/1961664>
- Basu, C., Boix, C., Giurumescu, S., & Serôdio, P. (in preparation). Democratizing from Within: British Elites and the Expansion of the Franchise.
- Bateman, D. A. (2018). *Disenfranchising Democracy: Constructing the Electorate in the United States, the United Kingdom, and France*. Cambridge University Press. <https://doi.org/10.1017/9781108556323>
- Bateman, D. A., & Teele, D. L. (2020). A Developmental Approach to Historical Causal Inference. *Public Choice*, 185(3-4), 253–279. <https://doi.org/10.1007/s11127-019-00713-4>
- Beber, B., & Scacco, A. (2012). What the Numbers Say: A Digit-Based Test for Election Fraud. *Political Analysis*, 20(2), 211–234. <https://doi.org/10.1093/pan/mps003>
- Benford, F. (1938). The Law of Anomalous Numbers. *Proceedings of the American Philosophical Society*, 78(4), 551–572.
- Beramendi, P. (2012). *The Political Geography of Inequality. Regions and Redistribution*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139042796>
- Beramendi, P., Dincecco, M., & Rogers, M. (2019). Intra-Elite Competition and Long-Run Fiscal Development. *The Journal of Politics*, 81(1), 49–65. <https://doi.org/10.1086/700273>
- Beramendi, P., & Queralt, D. (in preparation). The Electoral Origins of the Fiscal State.
- Beramendi, P., & Rogers, M. (2022). *Geography, Capacity, and Inequality*. Cambridge University Press. <https://doi.org/10.1017/9781108908702>
- Birch, S. (2007). Electoral Systems and Electoral Misconduct. *Comparative Political Studies*, 40(12), 1533–1556. <https://doi.org/10.1177/0010414006292886>

- Birch, S. (2011). *Electoral Malpractice*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199606160.001.0001>
- Bjornlund, E. C. B. (2004). *Beyond Free and Fair: Monitoring Elections and Building Democracy*. Woodrow Wilson Center Press.
- Boix, C. (1999). Setting the Rules of the Game: The Choice of Electoral Systems in Advanced Democracies. *The American Political Science Review*, 93(3), 609–624. <https://doi.org/10.2307/2585577>
- Boix, C. (2003). *Democracy and Redistribution*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511804960>
- Boix, C. (2009). The Emergence of Parties and Party Systems. In C. Boix & S. C. Stokes (Eds.), *The Oxford Handbook of Comparative Politics* (pp. 499–521). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199566020.003.0021>
- Boix, C. (2015). *Political Order and Inequality*. Cambridge University Press. <https://doi.org/10.1017/CBO9781316105504>
- Boix, C. (2022). AI and the Economic and Informational Foundations of Democracy. In J. Bullock, Y.-C. Chen, J. Himmelreich, V. M. Hudson, A. Korinek, M. Young, & B. Zhang (Eds.), *The Oxford Handbook of AI Governance* (pp. 1–30). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780197579329.013.64>
- Boix, C., Miller, M. K., & Rosato, S. (2013). A Complete Data Set of Political Regimes, 1800–2007. *Comparative Political Studies*, 46(12), 1523–1554. <https://doi.org/10.1177/0010414012463905>
- Boix, C., & Stokes, S. C. (2003). Endogenous Democratization. *World Politics*, 55(4), 517–549. <https://doi.org/10.1353/wp.2003.0019>
- Borusyak, K., Jaravel, X., & Spiess, J. (2021). Revisiting Event Study Designs: Robust and Efficient Estimation. <https://doi.org/https://doi.org/10.48550/arXiv.2108.12419>
- Brancati, D. (2008). The Origins and Strengths of Regional Parties. *British Journal of Political Science*, 38(1), 135–159. <https://doi.org/10.1017/S0007123408000070>
- Calca, P., & Gross, M. (2019). To Adapt or to Disregard? Parties' Reactions to External Shocks. *West European Politics*, 42(3), 545–572. <https://doi.org/10.1080/01402382.2018.1549851>
- Callaway, B., & Sant'Anna, P. H. (2021). Difference-in-Differences with Multiple Time Periods. *Journal of Econometrics*, 225(2), 200–230. <https://doi.org/10.1016/j.jeconom.2020.12.001>
- Calvo, A. (2014). Teléfono para todos... o casi. La singular experiència de la red de la Mancomunidad de Cataluña, 1914-1925. *Scripta Nova. Revista Electrónica de Geografía y Ciencias Sociales*, 18(481). <https://doi.org/10.1344/sn2014.18.15066>
- Cambó, F. (1981). *Memòries*. Alpha.
- Canalias, L. (2017). *La Xarxa de Biblioteques Populars de la Mancomunitat de Catalunya (1914-1931): anàlisi d'una política pública* (Doctoral dissertation). Universitat Autònoma de Barcelona.
- Cantú, F. (2019). The Fingerprints of Fraud: Evidence from Mexico's 1988 Presidential Election. *American Political Science Review*, 113(3), 710–726. <https://doi.org/10.1017/S0003055419000285>
- Capoccia, G., & Ziblatt, D. (2010). The Historical Turn in Democratization Studies: A New Research Agenda for Europe and Beyond. *Comparative Political Studies*, 43(8-9), 931–968. <https://doi.org/10.1177/0010414010370431>
- Carreras, A. (2005). Industria. In A. Carreras & X. Tafunell (Eds.), *Estadísticas históricas de España: siglos XIX-XX*. Fundación BBVA.

- Carreras, A. (2019). Typologies of Industrialization: Lessons from Spain. *Revue Française d'Histoire Économique*, 11-12(1-2), 82-119. <https://doi.org/10.3917/rfhe.011.0082>
- Casanovas, J. (1996). *L'Acció Tècnica Agrària a Catalunya (1912-1939). La política agrària de la Mancomunitat i la Generalitat de Catalunya* (Doctoral dissertation). Universitat de Barcelona.
- Cavallé, J. (1987). Participació política alcoverenca a les eleccions al Congrés dels Diputats 1890-1923. *Butlletí del Centre d'Estudis Alcoverencs*, 11-30.
- Cengiz, D., Dube, A., Lindner, A., & Zipperer, B. (2019). The Effect of Minimum Wages on Low-Wage Jobs. *The Quarterly Journal of Economics*, 134(3), 1405-1454. <https://doi.org/10.1093/qje/qjz014>
- Centre d'Estudis Demogràfics. (2002). *Evolució i continuïtat dels municipis catalans 1497-2002*. <https://ced.uab.cat/infraestructures/banc-de-dades-de-catalunya/evolucio-i-continuïtat-dels-municipis-catalans-1497-2002/>
- Centre d'Estudis Demogràfics. (2019). *Banc de Dades de Catalunya*. <https://ced.uab.cat/infraestructures/banc-de-dades-de-catalunya/>
- Cermeño, A. L., Enflo, K., & Lindvall, J. (2021). Railroads and Reform: How Trains Strengthened the Nation State. *British Journal of Political Science*, 1-21. <https://doi.org/10.1017/S0007123420000654>
- Chaturvedi, A. (2005). Rigging Elections with Violence. *Public Choice*, 125(1-2), 189-202. <https://doi.org/10.1007/s11127-005-3415-6>
- Cirone, A., & Spirling, A. (2021). Turning History into Data: Data Collection, Measurement, and Inference in HPE. *Journal of Historical Political Economy*, 1(1), 127-154. <https://doi.org/10.1561/115.000000005>
- Colantone, I., & Stanig, P. (2018). The Trade Origins of Economic Nationalism: Import Competition and Voting Behavior in Western Europe. *American Journal of Political Science*, 62(4), 936-953. <https://doi.org/10.1111/ajps.12358>
- Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., Bernhard, M., Fish, M. S., Glynn, A., Hicken, A., Lührmann, A., Marquardt, K. L., McMann, K., Paxton, P., Pemstein, D., Seim, B., Sigman, R., Skaaning, S.-E., Staton, J., ... Ziblatt, D. (2021). V-Dem Country-Year/Country-Date Dataset v11. <https://doi.org/10.23696/vdemcy19>
- Costafreda, M. (1996). Les Bases de Manresa. In B. de Riquer (Ed.), *Història. Política, societat i cultura dels Països Catalans. volum 7: La consolidació del món burgès (1860-1900)*. Fundació Enciclopèdia Catalana.
- Cox, G. W. (1987). *The Efficient Secret: the Cabinet and the Development of Political Parties in Victorian England*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511571473>
- Cox, G. W. (1997). *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139174954>
- Cox, G. W., & Kousser, J. M. (1981). Turnout and Rural Corruption: New York as a Test Case. *American Journal of Political Science*, 25(4), 646. <https://doi.org/10.2307/2110757>
- Cuenca, J. M., & Miranda, S. (1992a). Sociología de los ministros de la Restauración (1902-1931). *Revista de Estudios Políticos*, 75(Enero-Marzo), 87-130.
- Cuenca, J. M., & Miranda, S. (1992b). Sociología ministerial de la Restauración (1875-1902). *Revista de estudios políticos*, 78(Octubre-Diciembre), 71-104.
- Dahl, R. A. (1971). *Polyarchy: Participation and Opposition*. Yale University Press.

- Dasgupta, A. (2018). Technological Change and Political Turnover: The Democratizing Effects of the Green Revolution in India. *American Political Science Review*, 112(4), 918–938. <https://doi.org/10.1017/S000305541800031X>
- Dasgupta, A. (2020). *Explaining Rural Conservatism: Technological and Political Change in the Great Plains*. <https://doi.org/https://doi.org/10.31235/osf.io/75brz>
- de Camps i Arboix, J. (1961). *El tancament de caixes*. Rafael Dalmau.
- de Chaisemartin, C., & d'Haultfœuille, X. (2020). Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects. *American Economic Review*, 110(9), 2964–2996. <https://doi.org/10.1257/aer.20181169>
- Deckert, J., Myagkov, M., & Ordeshook, P. C. (2011). Benford's Law and the Detection of Election Fraud. *Political Analysis*, 19(3), 245–268. <https://doi.org/10.1093/pan/mpo14>
- de Riquer, B. (1977). *Lliga Regionalista: la burguesia catalana i el nacionalisme, 1898-1904*. Edicions 62.
- de Riquer, B. (Ed.). (1987). *Història de la Diputació de Barcelona*. Diputació de Barcelona.
- Diekmann, A., & Jann, B. (2010). Benford's Law and Fraud Detection: Facts and Legends. *German Economic Review*, 11(3), 397–401. <https://doi.org/10.1111/j.1468-0475.2010.00510.x>
- Díez Medrano, J. (1995). *Divided Nations: Class, Politics, and Nationalism in the Basque Country and Catalonia*. Cornell University Press.
- Dirección General de Aduanas. (1900). *Estadística general del comercio exterior de España con sus posesiones de ultramar y potencias extranjeras*. Dirección General de Aduanas.
- Dirección General de Contribuciones. (n.d.). *Estadística Administrativa de la Contribución Industrial y de Comercio*. Sucesora de M. Minuesa de los Ríos.
- Dirección General del Instituto Geográfico y Estadístico. (1907). *Censo de la población de España según el empadronamiento hecho en la península e islas adyacentes en 31 de diciembre de 1900*.
- Ehrlich, C. E. (1998). The Lliga Regionalista and the Catalan Industrial Bourgeoisie. *Journal of Contemporary History*, 33(3), 399–417.
- Ehrlich, C. E. (2004). *Lliga Regionalista: Lliga Catalana 1901-1936*. Editorial Alpha.
- Enikolopov, R., Korovkin, V., Petrova, M., Sonin, K., & Zakharov, A. (2013). Field Experiment Estimate of Electoral Fraud in Russian Parliamentary Elections. *Proceedings of the National Academy of Sciences*, 110(2), 448–452. <https://doi.org/10.1073/pnas.1206770110>
- Enikolopov, R., Makarin, A., & Petrova, M. (2020). Social Media and Protest Participation: Evidence From Russia. *Econometrica*, 88(4), 1479–1514. <https://doi.org/10.3982/ECTA14281>
- Enríquez, J. R., Larreguy, H., Marshall, J., & Simpser, A. (2021). Online Political Information, Electoral Saturation, and Electoral Accountability in Mexico. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3897408>
- Falck, O., Gold, R., & Heblich, S. (2014). E-lelections: Voting Behavior and the Internet. *American Economic Review*, 104(7), 2238–2265. <https://doi.org/10.1257/aer.104.7.2238>
- Ferrari, D., McAlister, K., & Mebane, W. R. (2018). Developments in Positive Empirical Models of Election Frauds: Dimensions and Decisions. *Summer Meeting of the Political Methodology Society*.
- Finkel, E., Lawrence, A. K., & Mertha, A. (2019). Comparative Politics and History. *Newsletter of the Organized Section in Comparative Politics of the American Political Science Association*, 29(2).

- Fontana, J. (2014). *La formació d'una identitat: una història de Catalunya*. Eumo.
- Fortin-Rittberger, J. (2014). The Role of Infrastructural and Coercive State Capacity in Explaining Different Types of Electoral Fraud. *Democratization*, 21(1), 95–117. <https://doi.org/10.1080/13510347.2012.724064>
- Fresh, A. (in preparation). Elite Persistence in the Era of Britain's Expanding Overseas Trade.
- Fukumoto, K., & Horiuchi, Y. (2011). Making Outsiders' Votes Count: Detecting Electoral Fraud through a Natural Experiment. *American Political Science Review*, 105(3), 586–603. <https://doi.org/10.1017/S0003055411000268>
- Gabriel, P. (1985). La població obrera catalana ¿una població industrial? *Estudios de Historia Social*, 32, 191–259.
- Gailmard, S. (2021). Theory, History, and Political Economy. *Journal of Historical Political Economy*, 1(1), 69–104. <https://doi.org/10.1561/115.00000003>
- Gallego, A., Kuo, A., Manzano, D., & Fernández-Albertos, J. (2021). Technological Risk and Policy Preferences. *Comparative Political Studies*. <https://doi.org/10.1177/00104140211024290>
- Garcia-Jimeno, C., Diaz, A., & Yildirim, P. (2021). Information Networks and Collective Action: Evidence from the Women's Temperance Crusade. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3904936>
- Garfias, F. (2018). Elite Competition and State Capacity Development: Theory and Evidence from Post-Revolutionary Mexico. *American Political Science Review*, 112(2), 339–357. <https://doi.org/10.1017/S0003055417000715>
- Garfias, F. (2019). Elite Coalitions, Limited Government, and Fiscal Capacity Development: Evidence from Bourbon Mexico. *The Journal of Politics*, 81(1), 94–111. <https://doi.org/10.1086/700105>
- Garvin, T. (1977). Nationalist Elites, Irish Voters and Irish Political Development: A Comparative Perspective. *Economic and Social Review*, 8(3), 161–181.
- Gellner, E. (1983). *Nations and Nationalism*. Cornell University Press.
- Gerschenkron, A. (1962). *Economic Backwardness in Historical Perspective*. The Belknap Press.
- Goodman-Bacon, A. (2021). Difference-in-Differences with Variation in Treatment Timing. *Journal of Econometrics*, 225(2), 254–277. <https://doi.org/10.1016/j.jeconom.2021.03.014>
- Gordon, S. C., & Simpson, H. K. (2020). Causes, Theories, and the Past in Political Science. *Public Choice*, 185(3–4), 315–333. <https://doi.org/10.1007/s11127-019-00703-6>
- Gourevitch, P. A. (1979). The Reemergence of “Peripheral Nationalisms”: Some Comparative Speculations on the Spatial Distribution of Political Leadership and Economic Growth. *Comparative Studies in Society and History*, 21(3), 303–322. <https://doi.org/10.1017/S0010417500012986>
- Gurie, S., & Papaioannou, E. (2020). The Political Economy of Populism. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3542052>
- Gurie, S., & Treisman, D. (2019). Informational Autocrats. *Journal of Economic Perspectives*, 33(4), 100–127. <https://doi.org/10.1257/jep.33.4.100>
- Gustems Torrent, A. (1985). *Les Eleccions provincials a Girona 1901-1923* (Doctoral dissertation). Universitat Autònoma de Barcelona.
- Hafner-Burton, E. M., Hyde, S. D., & Jablonski, R. S. (2014). When Do Governments Resort to Election Violence? *British Journal of Political Science*, 44(1), 149–179. <https://doi.org/10.1017/S0007123412000671>

- Hainmueller, J., Mummolo, J., & Xu, Y. (2019). How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice. *Political Analysis*, 27(2), 163–192. <https://doi.org/10.1017/pan.2018.46>
- Harrison, J. (1974). Catalan Business and the Loss of Cuba, 1898–1914. *The Economic History Review*, 27(3), 431–441. <https://doi.org/10.1111/j.1468-0289.1974.tb01972.x>
- Harty, S. (2001). The Institutional Foundations of Substate National Movements. *Comparative Politics*, 33(2), 191. <https://doi.org/10.2307/422378>
- Hierro, M. J., & Queralt, D. (2021). The Divide Over Independence: Explaining Preferences for Secession in an Advanced Open Economy. *American Journal of Political Science*, 65(2), 422–442. <https://doi.org/10.1111/ajps.12549>
- Hroch, M. (1985). *Social Preconditions of National Revival in Europe: A Comparative Analysis of the Social Composition of Patriotic Groups among the Smaller European Nations*. Cambridge University Press.
- Hurtado, A. (1964). *Quaranta anys d'advocat: història del meu temps*. Ariel.
- IDESCAT. (2020). Codis territorials i d'entitats.
- Imai, K., & Kim, I. S. (2019). When Should We Use Unit Fixed Effects Regression Models for Causal Inference with Longitudinal Data? *American Journal of Political Science*, 63(2), 467–490. <https://doi.org/10.1111/ajps.12417>
- Imai, K., & Kim, I. S. (2021). On the Use of Two-Way Fixed Effects Regression Models for Causal Inference with Panel Data. *Political Analysis*, 29(3), 405–415. <https://doi.org/10.1017/pan.2020.33>
- Institut Cartogràfic i Geològic de Catalunya. (2020). Cartoteca digital.
- Instituto de Reformas Sociales. (1923). *Estadística de las huelgas*. Ministerio de Trabajo y Previsión Social.
- Izquierdo Ballester, S. (2002). *La primera victòria del catalanisme polític*. Editorial Pòrtic.
- Jiménez Guitèd, F. (1862). *Guia fabril é industrial de España*. Librería del Plus Ultra.
- Joseph i Mayol, M. (1970). *La impremta del meu pare. El regionalisme a la comarca*. Editorial Pòrtic.
- Jusko, K. L. (2017). *Who Speaks for the Poor?* Cambridge University Press. <https://doi.org/10.1017/9781108304382>
- Kalyvas, S. N. (1996). *The Rise of Christian Democracy in Europe*. Cornell University Press. <https://doi.org/10.7591/9781501731419>
- Kam, C. J. (2009). *Party Discipline and Parliamentary Politics*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511576614>
- Kasara, K., & Mares, I. (2017). Unfinished Business. *Comparative Political Studies*, 50(5), 636–664. <https://doi.org/10.1177/0010414016666856>
- Keller, S. (1963). *Beyond the Ruling Class: Strategic Elites in Modern Society*. Random House. <https://doi.org/10.4324/9781351289207>
- Kern, H. L., & Hainmueller, J. (2009). Opium for the Masses: How Foreign Media Can Stabilize Authoritarian Regimes. *Political Analysis*, 17(4), 377–399. <https://doi.org/10.1093/pan/mpp017>
- Kitschelt, H., & Wilkinson, S. I. (Eds.). (2007). *Patrons, Clients, and Policies*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511585869>
- Klimek, P., Yegorov, Y., Hanel, R., & Thurner, S. (2012). Statistical Detection of Systematic Election Irregularities. *Proceedings of the National Academy of Sciences*, 109(41), 16469–16473. <https://doi.org/10.1073/pnas.1210722109>

- Kocher, M. A., & Monteiro, N. P. (2016). Lines of Demarcation: Causation, Design-Based Inference, and Historical Research. *Perspectives on Politics*, 14(4), 952–975. <https://doi.org/10.1017/S1537592716002863>
- Lacasa, L., & Fernández-Gracia, J. (2019). Election Forensics: Quantitative Methods for Electoral Fraud Detection. *Forensic Science International*, 294, e19–e22. <https://doi.org/10.1016/j.forsciint.2018.11.010>
- Laitin, D. D. (1989). Linguistic Revival: Politics and Culture in Catalonia. *Comparative Studies in Society and History*, 31(2), 297–317. <https://doi.org/10.1017/S0010417500015838>
- Leemann, L., & Bochsler, D. (2014). A Systematic Approach to Study Electoral Fraud. *Electoral Studies*, 35, 33–47. <https://doi.org/10.1016/j.electstud.2014.03.005>
- Lehoucq, F. (2003). Electoral Fraud: Causes, Types, and Consequences. *Annual Review of Political Science*, 6(1), 233–256. <https://doi.org/10.1146/annurev.polisci.6.121901.085655>
- Lehoucq, F., & Molina, I. (2002). *Stuffing the Ballot Box: Fraud, Electoral Reform, and Democratization in Costa Rica*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511510250>
- Levitsky, S., & Way, L. (2002). The Rise of Competitive Authoritarianism. *Journal of Democracy*, 13(2), 51–65. <https://doi.org/10.1353/jod.2002.0026>
- Lindberg, S. I., Coppedge, M., Gerring, J., & Teorell, J. (2014). V-Dem: A New Way to Measure Democracy. *Journal of Democracy*, 25(3), 159–169. <https://doi.org/10.1353/jod.2014.0040>
- Linz, J. J. (1967). The Party System of Spain: Past and Future. In S. M. Lipset & S. Rokkan (Eds.), *Systems and Voter Alignments* (pp. 197–282). Free Press.
- Linz, J. J., & de Miguel, A. (1966). Within-Nation Differences and Comparisons: the Eight Spains. In R. L. Merritt & S. Rokkan (Eds.), *Comparing Nations: The Use of Quantitative Data in Cross-National Research* (pp. 267–319). Yale University Press.
- Lipset, S. M., & Rokkan, S. (1967). *Party Systems and Voter Alignments: Cross-National Perspectives*. The Free Press.
- Liu, L., Wang, Y., & Xu, Y. (2020). A Practical Guide to Counterfactual Estimators for Causal Inference with Time-Series Cross-Sectional Data. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3555463>
- Lizzeri, A., & Persico, N. (2004). Why did the Elites Extend the Suffrage? Democracy and the Scope of Government, with an Application to Britain's "Age of Reform". *The Quarterly Journal of Economics*, 119(2), 707–765. <https://doi.org/10.1162/0033553041382175>
- Llorens i Vila, J. (1992). *La Unió Catalanista i els orígens del catalanisme polític: dels orígens a la presidència del Dr. Martí i Julià (1891-1903)*. Publicacions de l'Abadia de Montserrat.
- Luebbert, G. M. (1991). *Liberalism, Fascism, or Social Democracy: Social Classes and the Political Origins of Regimes in Interwar Europe*. Oxford University Press.
- Lupu, N., & Riedl, R. B. (2013). Political Parties and Uncertainty in Developing Democracies. *Comparative Political Studies*, 46(11), 1339–1365. <https://doi.org/10.1177/0010414012453445>
- Magaloni, B. (2010). The Game of Electoral Fraud and the Ousting of Authoritarian Rule. *American Journal of Political Science*, 54(3), 751–765. <https://doi.org/10.1111/j.1540-5907.2010.00458.x>
- Maluquer de Motes, J. (1999). *España en la crisis de 1898. De la Gran Depresión a la modernización económica del siglo XX*. Península.
- Mancomunitat de Catalunya. (1919). *L'Obra realitzada: 1914-1919*. Mancomunitat de Catalunya.

- Mancomunitat de Catalunya. (1922). *El plet de les xarxes telefòniques catalanes*. Impremta de la Casa de Caritat.
- Mancomunitat de Catalunya. (1923a). *Guia de Téléfons de Catalunya*. Imp. Bayer Hons. y C.
- Mancomunitat de Catalunya. (1923b). *L'Obra realitzada: 1914-1923*. Mancomunitat de Catalunya.
- Mares, I. (2015). *From Open Secrets to Secret Voting*. Cambridge University Press. <https://doi.org/10.1017/CBO9781316178539>
- Mares, I. (forthcoming). *Protecting the Ballot: How First-Wave Democracies Ended Electoral Corruption*. Princeton University Press.
- Mares, I., & Queralt, D. (2015). The Non-Democratic Origins of Income Taxation. *Comparative Political Studies*, 48(14), 1974–2009. <https://doi.org/10.1177/0010414015592646>
- Mares, I., & Queralt, D. (2020). Fiscal Innovation in Nondemocratic Regimes: Elites and the Adoption of the Prussian Income Taxes of the 1890s. *Explorations in Economic History*, 77, 101340. <https://doi.org/10.1016/j.eeh.2020.101340>
- Mares, I., & Young, L. E. (2016). Buying, Expropriating, and Stealing Votes. *Annual Review of Political Science*, 19(1), 267–288. <https://doi.org/10.1146/annurev-polisci-060514-120923>
- Mares, I., & Young, L. E. (2019). *Conditionality & Coercion: Electoral Clientelism in Eastern Europe*. Oxford University Press. <https://doi.org/10.1093/oso/9780198832775.001.0001>
- Martinez-Bravo, M., Padró-i-Miquel, G., Qian, N., & Yao, Y. (2017). *The Rise and Fall of Local Elections in China: Theory and Empirical Evidence on the Autocrat's Trade-off* (tech. rep.). National Bureau of Economic Research. <https://doi.org/10.3386/w24032>
- Mebane, W. R. (2006). Election forensics: Vote counts and Benford's law. *Summer Meeting of the Political Methodology Society, UC-Davis*.
- Mebane, W. R. (2016). Election Forensics: Frauds Tests and Observation-level Frauds Probabilities. *Annual Meeting of the Midwest Political Science Association*.
- Meltzer, A. H., & Richard, S. F. (1981). A Rational Theory of the Size of Government. *Journal of Political Economy*, 89(5), 914–927. <https://doi.org/10.1086/261013>
- Michels, R. (1915). *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. The Free Press.
- Mills, C. W. (1956). *The Power Elite*. Oxford University Press.
- Mir, C. (1985). *Lleida (1890-1936): caciquisme polític i lluita electoral*. Publicacions de l'Abadia de Montserrat.
- Mokyr, J. (1998). The Political Economy of Technological Change: Resistance and Innovation in Economic History. In M. Berg & K. Bruland (Eds.), *Technological Revolutions in Europe: Historical Perspectives* (pp. 39–64). Edward Elgar Publishing.
- Mokyr, J. (2010). *The Enlightened Economy: An Economic History of Britain 1700-1850*. Yale University Press.
- Molas, I. (1973). *Lliga catalana: un estudi d'estasiologia*. Edicions 62.
- Moore, B. (1966). *Social Origins of Dictatorship and Democracy*. Beacon Press.
- Mor, M. (2022). Government Policies, New Voter Coalitions, and the Emergence of Ethnic Dimension in Party Systems. *World Politics*, 74(1), 121–166. <https://doi.org/10.1017/S0043887121000228>
- Moreno-Luzón, J. (2007). Political Clientelism, Elites, and Caciquismo in Restoration Spain (1875-1923). *European History Quarterly*, 37(3), 417–441. <https://doi.org/10.1177/0265691407078445>



- Mosca, G. (1939). *The Ruling Class*. McGraw-Hill Book Company.
- Nadal, J. (1987). La industria fabril española en 1900. Una aproximación. In J. Nadal, A. Carreras, & C. Sudrià (Eds.), *La economía española en el siglo xx* (pp. 23–61). Ariel.
- Nadal, J., Maluquer de Motes, J., Sudrià, C., & Cabana, F. (Eds.). (1988). *Història econòmica de la Catalunya contemporània*. Enciclopèdia Catalana.
- Nadal Ariño, J. (2007). El nacimiento del teléfono en España. Las dificultades del crecimiento de un nuevo sistema de comunicaciones. *Cuadernos de Historia Contemporánea*, 29, 35–56.
- North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511808678>
- Paniagua, V., & Vogler, J. P. (2021). Economic elites and the constitutional design of sharing political power. *Constitutional Political Economy*. <https://doi.org/10.1007/s10602-021-09338-6>
- Pareto, V. (1968). *The Rise and Fall of Elites*. The Bedminster Press Inc. <https://doi.org/10.4324/9781315134604>
- Pella i Forgas, J. (1905). *La Crisis del catalanisme*. Impremta de Henrich.
- Pepinsky, T. (2014). The Institutional Turn in Comparative Authoritarianism. *British Journal of Political Science*, 44(3), 631–653. <https://doi.org/10.1017/S0007123413000021>
- Pla, J. (1973). *Francesc Cambó: materials per a una història*. Destino.
- Planas, J. (2004). Els inicis del catalanisme a Granollers i al Vallès Oriental. *Anuari del Centre d'Estudis de Granollers*, 39–82.
- Planas, J. (2006). *Els propietaris i l'associacionisme agrari a Catalunya (1890-1936)*. Documenta Universitària.
- Pomés i Vives, J. (2000). *La Unió de Rabassaires: Lluís Companys i el republicanisme, el cooperativisme i el sindicalisme pagès a la Catalunya dels anys vint*. Publicacions de l'Abadia de Montserrat.
- Prados de la Escosura, L. (2003). *El progreso económico de España (1850-2000)*. Fundación BBVA.
- Prat de la Riba, E. (2000). Missatge en la presa de possessió de la Presidència de la Mancomunitat de Catalunya el 6 d'abril de 1914. In J. M. Ainaud de Lasarte & A. Balcells (Eds.), *Obra completa* (p. 761). Institut d'Estudis Catalans i Proa. (Original work published 1914)
- Przeworski, A. (1991). *Democracy and the Market*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139172493>
- Przeworski, A. (2010). *Democracy and the Limits of Self-Government*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511778490>
- Przeworski, A. (2018). *Why Bother With Elections*. Wiley.
- Przeworski, A., Alvarez, M. E., Cheibub, J. A., & Limongi, F. (2000). *Democracy and Development*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511804946>
- Przeworski, A., & Sprague, J. D. (1986). *Paper Stones: a History of Electoral Socialism*. University of Chicago Press.
- Pujol, E., & Santesmases, J. (Eds.). (2019). *Diccionari biogràfic dels diputats de la Mancomunitat de Catalunya (1914-1925)*. Diputació de Barcelona.
- Putnam, R. D. (1976). *The Comparative Study of Political Elites*. Prentice-Hall.
- Reuter, O. J., & Gandhi, J. (2011). Economic Performance and Elite Defection from Hegemonic Parties. *British Journal of Political Science*, 41(1), 83–110. <https://doi.org/10.1017/S0007123410000293>
- Ricart-Huguet, J. (2019). The Historical Turn in the Comparative Study of Political Elites. *Newsletter of the APSA Comparative Politics Section*.

- Rickard, S. J. (2020). Economic Geography, Politics, and Policy. *Annual Review of Political Science*, 23, 187–202. <https://doi.org/10.1146/annurev-polisci-050718-033649>
- Rickard, S. J. (2021). Incumbents Beware: The Impact of Offshoring on Elections. *British Journal of Political Science*, 1–23. <https://doi.org/10.1017/S0007123420000757>
- Riker, W. H. (1980). Implications from the Disequilibrium of Majority Rule for the Study of Institutions. *American Political Science Review*, 74(2), 432–446. <https://doi.org/10.2307/1960638>
- Roca, F. (1979). La política territorial de la Mancomunitat de Catalunya. *Política econòmica i territori a Catalunya 1901-1939*. Ketres Editora.
- Roca-Rosell, A. (2000). *Esteve Terradas i Illa. Semblança Biogràfica: conferència pronunciada davant del ple per Antoni Roca i Rosell el dia 20 d'octubre de 1997*. Institut d'Estudis Catalans.
- Roca-Rosell, A. (2005). Professionalism And Technocracy: Esteve Terradas And Science Policy In The Early Years Of The Franco Regime. *Minerva*, 43(2), 147–162. <https://doi.org/10.1007/s11024-005-2329-2>
- Rodrik, D. (1998). Why do More Open Economies Have Bigger Governments? *Journal of Political Economy*, 106(5), 997–1032. <https://doi.org/10.1086/250038>
- Rodrik, D. (2018). Populism and the Economics of Globalization. *Journal of International Business Policy*, 1(1-2), 12–33. <https://doi.org/10.1057/s42214-018-0001-4>
- Rokkan, S. (1970). *Citizens, Elections, Parties*. Universitatforlaget.
- Rokkan, S., & Urwin, D. W. (Eds.). (1982). *The Politics of Territorial Identity : Studies in European Regionalism*. SAGE Publications.
- Rokkan, S., & Urwin, D. W. (1983). *Economy, Territory, Identity: Politics of West European Peripheries*. SAGE Publications.
- Romer, P. M. (1990). Endogenous Technological Change. *Journal of Political Economy*, 98(5), S71–S102. <https://doi.org/10.1086/261725>
- Romero Salvador, C. (2021). *Caciques y caciquismo en España (1834-2020)*. Libros de la Catarata.
- Rozenas, A. (2017). Detecting Election Fraud from Irregularities in Vote-Share Distributions. *Political Analysis*, 25(1), 41–56. <https://doi.org/10.1017/pan.2016.9>
- Rubí, G. (2003). *El món de la política en la Catalunya urbana de la Restauració. El cas d'una ciutat industrial. Manresa: 1875-1923* (Doctoral dissertation). Universitat Autònoma de Barcelona.
- Rubí, G. (2006). *Els catalans i la política en temps del caciquisme: Manresa, 1875-1923*. Eumo Editorial.
- Rubí, G. (2019). Oligarchic Liberalism, Caciquism and Political Democratisation between 1876 and 1923. The Catalan Case. *Catalan Historical Review*, 12, 73–86. <https://doi.org/10.2436/20.1000.01.157>
- Rubí, G., & Armengol, J. (2012). *Vots, electors i corrupció. Una anàlisi de l'apatia política a Catalunya, 1869-1923*. Publicacions de l'Abadia de Montserrat.
- Rundlett, A., & Svolik, M. W. (2016). Deliver the Vote! Micromotives and Macrobehavior in Electoral Fraud. *American Political Science Review*, 110(1), 180–197. <https://doi.org/10.1017/S0003055415000635>
- Schedler, A. (2002). The Menu of Manipulation. *Journal of Democracy*, 13(2), 36–50. <https://doi.org/10.1353/jod.2002.0031>
- Scheve, K., & Serlin, T. (in preparation). The German Trade Shock and the The Rise of the Neo-Welfare State in Early 20th Century Britain.

- Schonhardt-Bailey, C. (1991). Specific Factors, Capital Markets, Portfolio Diversification, and Free Trade: Domestic Determinants of the Repeal of the Corn Laws. *World Politics*, 43(4), 545–569. <https://doi.org/10.2307/2010536>
- Segura, A. (1993). *Burguesia i propietat de la terra a Catalunya en el segle XIX: les comarques barcelonines*. Curial.
- Simpser, A. (2013). *Why Governments and Parties Manipulate Elections*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139343824>
- Simpson, J., & Carmona, J. (2020). *Why Democracy Failed: The Agrarian Origins of the Spanish Civil War*. Cambridge University Press. <https://doi.org/10.1017/9781108766999>
- Siroky, D. S., Mueller, S., Fazi, A., & Hechter, M. (2020). Containing Nationalism: Culture, Economics and Indirect Rule in Corsica. *Comparative Political Studies*. <https://doi.org/10.1177/0010414020957671>
- Solow, R. M. (1957). Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics*, 39(3), 312. <https://doi.org/10.2307/1926047>
- Sorens, J. (2012). *Secessionism: Identity, Interest, and Strategy*. McGill-Queen's Press.
- Stasavage, D. (2020). *The Decline and Rise of Democracy*. Princeton University Press. <https://doi.org/10.2307/j.ctvss3zz6>
- Stokes, S. C., Dunning, T., Nazanero, M., & Brusco, V. (2013). *Brokers, Voters and Clientism*. Cambridge University Press.
- Storm, E. (2004). The Problems of the Spanish Nation-Building Process around 1900. *National Identities*, 6(2), 143–156. <https://doi.org/10.1080/1460894042000248404>
- Tavits, M. (2008). Party Systems in the Making: The Emergence and Success of New Parties in New Democracies. *British Journal of Political Science*, 38(1), 113–133. <https://doi.org/10.1017/S0007123408000069>
- Teorell, J. (2017). Partisanship and Unreformed Bureaucracy: The Drivers of Election Fraud in Sweden, 1719–1908. *Social Science History*, 41(2), 201–225. <https://doi.org/10.1017/ssh.2017.8>
- Teorell, J., Ziblatt, D., & Lehoucq, F. (2017). An Introduction to Special Issue. *Comparative Political Studies*, 50(5), 531–554. <https://doi.org/10.1177/0010414016641977>
- Thewissen, S., & Rueda, D. (2019). Automation and the Welfare State: Technological Change as a Determinant of Redistribution Preferences. *Comparative Political Studies*, 52(2), 171–208. <https://doi.org/10.1177/0010414017740600>
- Tödter, K.-H. (2009). Benford's Law as an Indicator of Fraud in Economics. *German Economic Review*, 10(3), 339–351. <https://doi.org/10.1111/j.1468-0475.2009.00475.x>
- Ucelay-Da Cal, E., Pich, J., & González Vilalta, A. (Eds.). (2019). *L'aparença d'un poder propi. La Mancomunitat de Catalunya i el catalanisme*. Editorial Afers.
- Vall-Prat, P. (2021). Dataset of Historical Elections in Catalonia (DHEC): Micro-level Historical Results (1890–1923). *Data in Brief*, 36(107017), 1–12. <https://doi.org/10.1016/j.dib.2021.107017>
- Vall-Prat, P. (in press). Economic Shocks, Mobilization, and Regional Elite Splits. *Comparative Political Studies*.
- Varela Ortega, J. (1977). *Los amigos políticos: partidos, elecciones y caciquismo en la Restauración (1875-1900)*. Alianza.
- Varela Ortega, J. (2001). *El poder de la influencia: geografía del caciquismo en España (1875-1923)*. Centro de Estudios Políticos y Constitucionales.
- Vilanova, M. (1986). *Atlas Electoral de Catalunya durant la Segona República. Orientació del vot, participació i abstenció*. Fundació Jaume Bofill.

- Villa García, R. (2016). *España en las urnas: una historia electoral (1810-2015)*. Libros de la Catarata.
- Wang, T. (2020). The Electric Telegraph, News Coverage and Political Participation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3583123>
- Weingast, B. R. (1997). The Political Foundations of Democracy and the Rule of the Law. *American Political Science Review*, 91(2), 245–263. <https://doi.org/10.2307/2952354>
- Wilkinson, S. I. (2004). *Votes and Violence*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511510458>
- Xu, Y. (2022). Causal Inference with Time-Series Cross-Sectional Data: A Reflection. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3979613>
- Yeandle, A. (2021). Does Public Broadcasting Increase Voter Turnout? Evidence from the Roll Out of BBC Radio in the 1920s. *Electoral Studies*, 74. <https://doi.org/10.1016/J.ELECTSTUD.2021.102407>
- Zhang, M., Alvarez, R. M., & Levin, I. (2019). Election Forensics: Using Machine Learning and Synthetic Data for Possible Election Anomaly Detection (H. V. Ribeiro, Ed.). *PLOS ONE*, 14(10), e0223950. <https://doi.org/10.1371/journal.pone.0223950>
- Zhuravskaya, E., Petrova, M., & Enikolopov, R. (2020). Political Effects of the Internet and Social Media. *Annual Review of Economics*, 12(1), 415–438. <https://doi.org/10.1146/annurev-economics-081919-050239>
- Ziblatt, D. (2008). Does Landholding Inequality Block Democratization?: A Test of the “Bread and Democracy” Thesis and the Case of Prussia. *World Politics*, 60(4), 610–641. <https://doi.org/10.1353/wp.0.0021>
- Ziblatt, D. (2009). Shaping Democratic Practice and the Causes of Electoral Fraud: The Case of Nineteenth-Century Germany. *American Political Science Review*, 103(01), 1–21. <https://doi.org/10.1017/S0003055409090042>
- Ziblatt, D. (2017). *Conservative Parties and the Birth of Modern Democracy in Europe*. Cambridge University Press. <https://doi.org/10.1017/9781139030335>



# Appendices









# A

## Data. Supplementary Materials

### A.1 LIST OF ARCHIVES

#### **Provincial Archives**

- Arxiu General de la Diputació de Barcelona
- Arxiu General de la Diputació de Girona
- Arxiu General de la Diputació de Tarragona
- Arxiu General de la Diputació de Lleida

#### **County Archives**

- Arxiu Comarcal de l'Alt Camp
- Arxiu Comarcal de l'Alt Penedès
- Arxiu Comarcal del Bages
- Arxiu Comarcal del Baix Camp
- Arxiu Comarcal del Baix Llobregat
- Arxiu Comarcal del Baix Penedès
- Arxiu Comarcal del Berguedà
- Arxiu Comarcal de la Conca de Barberà
- Arxiu Comarcal del Garraf
- Arxiu Comarcal de la Noguera
- Arxiu Comarcal del Priorat
- Arxiu Comarcal de la Segarra
- Arxiu Comarcal de la Selva

- Arxiu Comarcal del Vallès Occidental
- Arxiu Comarcal del Vallès Oriental

#### **Local Archives**

- Arxiu Històric de la Ciutat de Barcelona
- Arxiu Històric Fidel Fita (Arenys de Mar)
- Arxiu Històric Municipal de Tarragona
- Arxiu Històric de Sabadell
- Arxiu Municipal de Badalona
- Arxiu Municipal de Borredà
- Arxiu Municipal de Granollers
- Arxiu Municipal de Vic
- Arxiu Municipal del Districte d'Horta-Guinardó

#### **Other Archives and Libraries**

- Arxiu de la Corona d'Aragó
- Arxiu Històric de Girona
- Arxiu Històric de Lleida
- Arxiu Històric de Tarragona
- Arxiu Nacional de Catalunya
- Biblioteca de l'Institut d'Història Jaume Vicens Vives (Universitat Pompeu Fabra)
- Biblioteca Nacional de Catalunya
- CRAI Biblioteca de Belles Arts (Universitat de Barcelona)
- CRAI Biblioteca de Dret (Universitat de Barcelona)
- CRAI Biblioteca d'Economia i Empresa–Recerca (Universitat de Barcelona)

## A.2 LIST OF DIGITIZED NEWSPAPER ARCHIVES

- Arxiu de Revistes Catalanes Antigues (ARCA)
- Digitized Newspapers by the Network of County Archives in Catalonia (XAC)
- Biblioteca Virtual de Prensa Histórica
- Provincial Local Newspaper Libraries
  - Digitized newspapers of the local libraries in the Barcelona Province: Trencadís
  - Digitized newspaper libraries in the province of Girona
  - Digitized newspaper libraries in the province of Lleida
  - Digitized newspaper libraries in the province of Tarragona

## A.3 ARCHIVAL DATA SOURCES. EXAMPLES

Número de propietarios de fincas	NÚMERO DE		Total general de propietarios Colonos y Ganaderos
Rústicas	Colonos	Ganaderos	

ESTADO gradual del número de contribuyentes figurados en este repartimiento según el importe de las cuotas que satisfacen.

ESCALA	NÚMERO de contribuyentes Inscriptos	IMPORTE de la contribución de los mismos — Pesetas	
Contribución hasta 10 pesetas . . . . .	68	268	18
» de 10 a 20 pesetas . . . . .	21	441	06
» de 20 a 30 id. . . . .	12	321	40
» de 30 a 40 id. . . . .	8	288	54
» de 40 a 50 id. . . . .	5	222	90
» de 50 a 100 id. . . . .	2	451	28
» de 100 a 200 id. . . . .	6	855	44
» de 200 a 300 id. . . . .	1	202	02
» de 300 a 500 id. . . . .	„	„	„
» de 500 a 1000 id. . . . .	„	„	„
» de 1000 a 2000 id. . . . .	„	„	„
» de 2000 a 5000 id. . . . .	„	„	„
» de 5000 en adelante . . . . .	„	„	„
TOTALES. . . . .	139	3249	98

Importa este repartimiento las figuradas tres mil doscientas cuarenta pesetas  
ochenta y dos céntimos.

En esta forma se da por concluido, acordando se exponga al público por ocho días previo anuncio al efecto de costumbre y «Boletín Oficial» de la provincia para las reclamaciones a que pudiera dar lugar; y lo firman los Sres. Concejales y Junta pericial en Fígols d'Organyà  
a trece de octubre de mil novecientos veinte y ocho

El Ayuntamiento  
José María  
Guinovart  
Juan Cortázar

La Junta-Pericial  
Francisco Linares  
Poliocho  
Manuel Linares

FIGURE A.1 Land Taxes. Example from the municipality of Fígols d'Organyà

Source: Arxiu Històric de Lleida.

# B

## Paper 1. Supplementary Materials

### B.1 MAPS

#### B.1.1 MUNICIPALITY-LEVEL EXPOSURE TO THE COLONIAL SHOCK

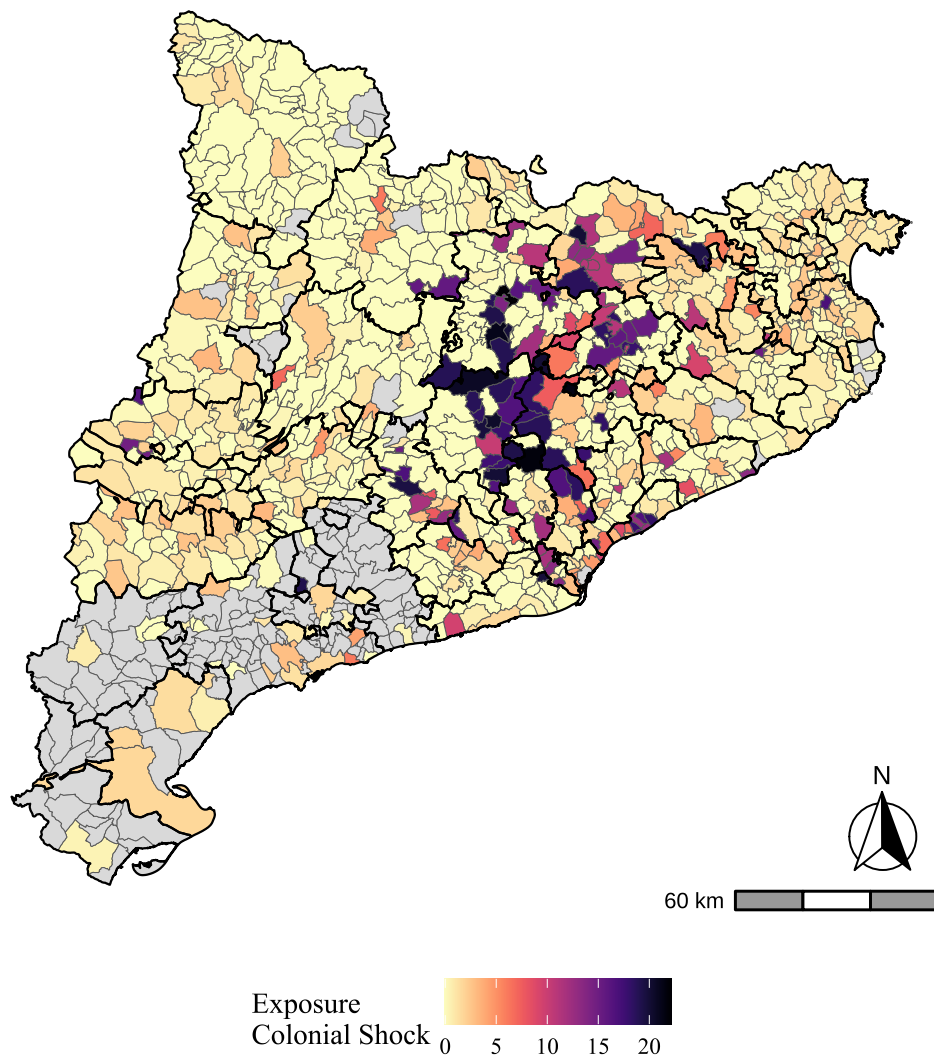


FIGURE B.1 Exposure to the Colonial Shock at the Municipality Level

*Note:* Municipalities in gray are those for which the indicator of exposure to the colonial shock is missing due to unavailable tax data in the archives.

B.1.2 1892 MANRESA ASSEMBLY: ORIGIN OF ATTENDING DELEGATES

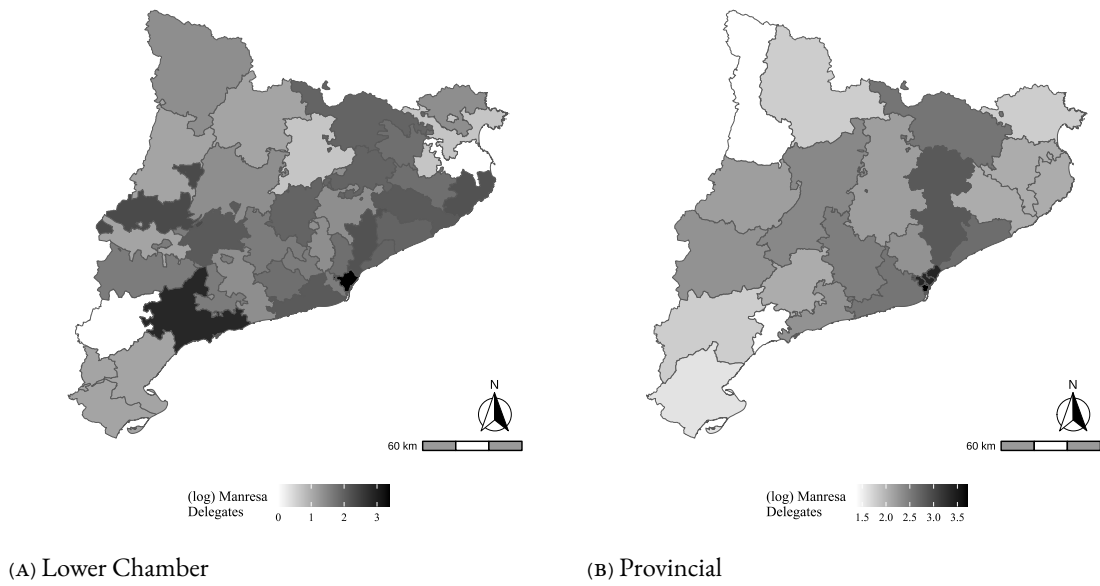


FIGURE B.2 (log) Manresa Delegates by Constituency

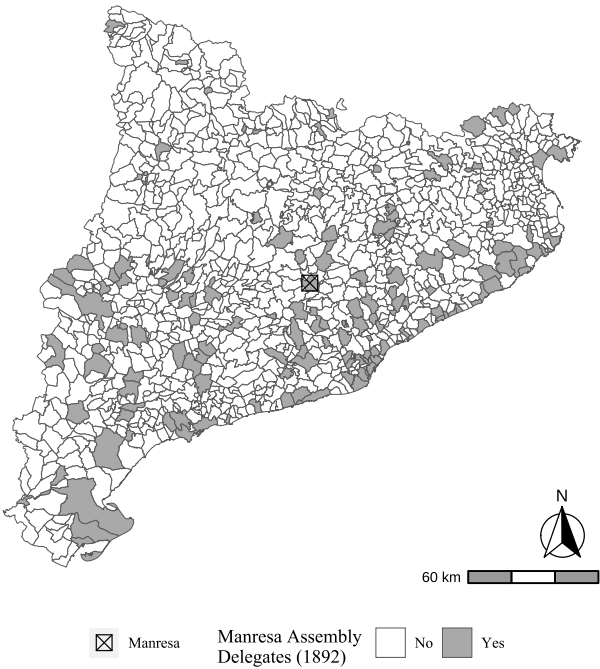


FIGURE B.3 Manresa Delegates by Municipality

## B.1.3 LLIGA WINNING MPs

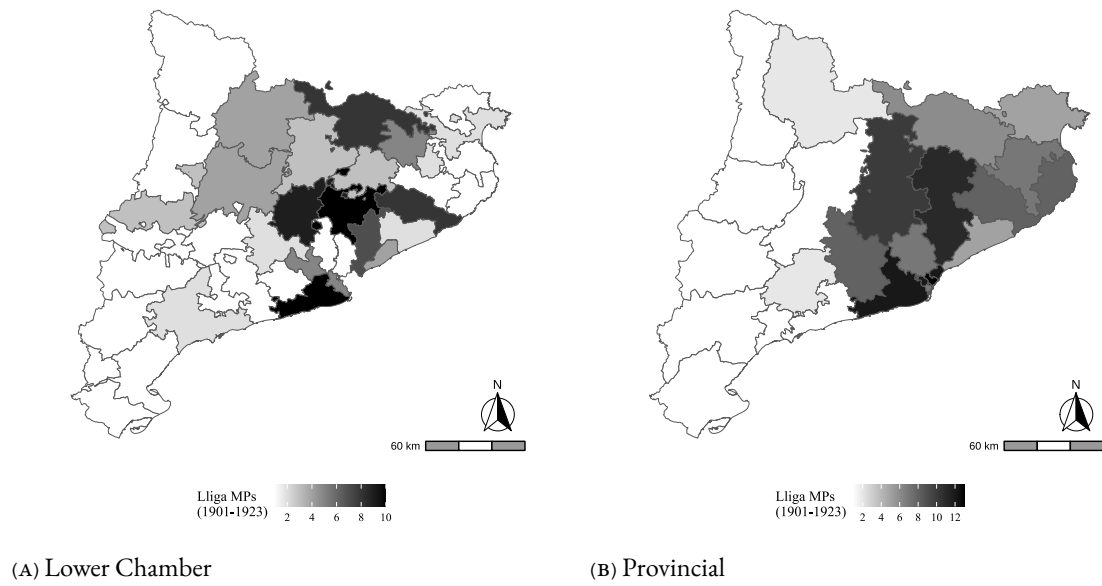


FIGURE B.4 Lliga Elected MPs by Constituency

*Note:* The Barcelona constituency in Lower Chamber elections appears as missing due to the large number of Lliga MPs elected. 37 Lliga MPs were elected in this constituency between 1901–1923.



## B.2 EXPOSURE TO COLONIAL SHOCK

## B.2.1 EXAMPLES OF INDICATOR CONSTRUCTION

## TAX CLASS EXPOSURE

TABLE B.1 Tax Class Exposure to Colonial Shock (Example)

Product Category	Exp. 1900 (Ptas)	Exp. 1895 (Ptas)	$\Delta$ 1900-1895	Weighted $\Delta$
A	0	10	-100	-10
B	5	10	-50	-5
C	12	80	-85	-68
Tax Class $q$	17	100	-83	-83

*Note:* Product A was not exported any more to the colonies in 1900, product B only exported half of it, and product C reduced by 85% its exports. However, when considering the exposure to the colonial shock of the tax class as a whole I employ a weighted measure considering the value of each product exports in 1895: C's exports represented an 80% of the total exported value of the three products in 1895, while A and B were only a 10% each. Thus, the exposure to the colonial shock for this tax class will be calculated as following:  $(-100) \times 0.1 + (-50) \times 0.1 + (-85) \times 0.8 = -83$ . The result gives us a reduction of 83% in exports towards the colonies for this specific tax class  $q$ .

## MUNICIPALITY-LEVEL EXPOSURE TO THE COLONIAL SHOCK

These examples are based on real-level data of local level taxes in 1914 for two different municipalities in the province of Barcelona.

TABLE B.2 Exposure to the Colonial Shock in the Municipality of Castellbell

Tax category	Taxpayers	Tax	Tax (%)	$ECS_q$	$ECS \times Tax\%$
<i>Wheat Merchant</i>	1	163.20	0.36	6.35	0.02
<i>Butcher</i>	6	230.40	0.51	0	0
<i>Garment making</i>	4	124.80	0.28	0	0
<i>Drinks Merchant</i>	4	96.00	0.21	0	0
<i>Grocery</i>	12	288.00	0.64	0	0
<i>Taproom</i>	4	76.80	0.17	0	0
<i>Charcoal seller</i>	1	19.20	0.04	0	0
<i>Wool Fuller</i>	2	1,099.56	2.46	0.93	0.02
<i>Cotton Spinning Machines</i>	10	22,643.31	50.60	22.16	11.21
<i>Cotton Looms</i>	8	17,638.46	39.42	22.16	8.73
<i>Dyers</i>	2	184.80	0.41	0	0
<i>White dyers</i>	2	141.68	0.32	0	0
<i>Yarn Garnishments</i>	2	152.46	0.34	0	0
<i>Warp Garnishments</i>	8	392.42	0.88	0	0
<i>Mechanic carpentry</i>	2	14.63	0.03	0	0
<i>Wood Band Saw</i>	2	77.00	0.17	0	0
<i>Wood Circular Saw</i>	1	61.32	0.14	0	0
<i>Blacksmith Workshop</i>	8	311.50	0.70	0	0
<i>Electricity Factory</i>	10	343.14	0.77	0.06	0.00
<i>Chemical lab</i>	1	224.00	0.50	0.21	0.00
<i>Brick Factory</i>	1	31.36	0.07	0	0
<i>Dam Mill</i>	4	20.02	0.04	0	0
<i>Shoemaker</i>	4	67.20	0.15	0	0
<i>Barber</i>	3	50.40	0.11	0	0
<i>Plumber</i>	3	50.40	0.11	0	0
<i>Herbalist</i>	1	16.80	0.04	0	0
<i>Blacksmith</i>	3	50.40	0.11	0	0
<i>Glazier</i>	1	16.80	0.04	0	0
<i>Baker</i>	5	84.00	0.19	0	0
<i>Tailor</i>	1	16.80	0.04	0	0
<i>Pharmacist</i>	1	62.50	0.14	0	0
<b><i>Municipality Total</i></b>	<b>117.00</b>	<b>44,749.36</b>	<b>100.00</b>		<b>19.99</b>

TABLE B.3 Exposure to the Colonial Shock in the Municipality of Collbató

<b>Tax category</b>	<b>Taxpayers</b>	<b>Tax</b>	<b>Tax (%)</b>	<b><math>ECS_q</math></b>	<b><math>ECS \times Tax(\%)</math></b>
<i>Drinks Merchant</i>	2	48.00	0.15	0	0
<i>Inn</i>	1	24.00	0.07	0	0
<i>Grocery</i>	4	96.00	0.29	0	0
<i>Butcher</i>	2	38.40	0.12	0	0
<i>Olive Press</i>	1	56.00	0.17	3.82	0.65
<i>Carpenter</i>	1	16.80	0.05	0	0
<i>Blacksmith</i>	1	16.80	0.05	0	0
<i>Baker</i>	2	33.60	0.10	0	0
<b><i>Municipality Total</i></b>	<b>14</b>	<b>329.60</b>	<b>1.00</b>		<b>0.65</b>

## B.2.2 IMAGES OF DATA SOURCES

## EXPORTS DATA

LA ISLA DE CUBA.

EXPORTACIÓN.

NOMENCLATURA.	UNIDAD.	CANTIDADES EXPORTADAS			TOTAL de cantidades.	TOTAL de valores. — Pesetas.
		En buques españoles.	En buques extranjeros.	Por tierra.		
<b>Clase 1.ª de la Tabla de valores oficiales.</b>						
Cal hidráulica y cemento.....	Kilogramos.	937.134	»	»	937.134	28.114
Aguas minerales.....	Litros.	144.157	»	»	144.157	108.118
Vidrio hueco, común u ordinario.....	Kilogramos.	483.310	»	»	483.310	169.159
Cristal y el vidrio que le imita.....	»	43.064	»	»	43.064	71.056
Ladrillos y baldosas.....	»	2.669.366	»	»	2.669.366	320.334
Tejas.....	»	1.586.262	»	»	1.586.262	237.939
Losetas y mosaicos.....	»	1.554.162	»	»	1.554.162	388.540
Azulejos.....	»	201.693	»	»	201.693	60.508
Barro ordinario vidriado.....	»	179.831	»	»	179.831	53.949
Loza ordinaria.....	»	329.047	»	»	329.047	263.238
Idem fina y porcelana.....	»	451.648	»	»	451.648	451.648
<b>Clase 2.ª de la Tabla de valores oficiales.</b>						
Oro en pasta y moneda.....	Hectogramos.	1.613	»	»	1.613	500.030
Plata en moneda.....	Valor.	»	»	»	»	16.416.992
Idem en joyería y vajilla.....	Hectogramos.	1.186	»	»	1.186	33.208
Hierro forjado en barras.....	Kilogramos.	2.454.926	»	»	2.454.926	613.732
Idem y acero labrado en cualquier forma.....	»	383.759	»	»	383.759	191.879
Armas de fuego.....	»	133.803	»	»	133.803	4.014.090
Hoja de lata.....	»	247.931	»	»	247.931	104.131
Cobre en planchas y clavos.....	»	41.695	»	»	41.695	72.966
Plomo labrado en cualquier forma.....	»	75.862	»	»	75.862	28.828
Cinc en barras y planchas.....	»	129.591	»	»	129.591	64.795
Los demás metales y aleaciones.....	»	22.905	»	»	22.905	45.810
<b>Clase 3.ª de la Tabla de valores oficiales.</b>						
Aceite de cacahute y otras semillas.....	Kilogramos.	358.149	»	»	358.149	390.382
Productos vegetales no expresados.....	»	28.166	»	»	28.166	30.983
Colores en polvo ó terrón.....	»	175.991	»	»	175.991	52.797
Idem preparados, tintas y barnices.....	»	237.387	»	»	237.387	308.603
Cloruro de sodio (sal común).....	»	26.286.202	»	»	26.286.202	394.293
Azarcón ó minio.....	»	59.565	»	»	59.565	26.804
Productos químicos no expresados.....	»	79.689	»	»	79.689	51.798
Idem farmacéuticos.....	»	11.453	»	»	11.453	91.624
Jabón duro.....	»	6.013.161	»	»	6.013.161	3.367.380
Cera y estearina en masas.....	»	33.391	»	»	33.391	50.086
Idem id. en velas.....	»	1.024.131	»	»	1.024.131	1.689.816
Perfumería y esencias.....	»	14.915	»	»	14.915	119.320
<b>Clase 4.ª de la Tabla de valores oficiales.</b>						
Algodón hilado.....	Kilogramos.	83.367	»	»	83.367	500.202
Tejidos de algodón blancos.....	»	3.520.416	»	»	3.520.416	15.841.872
Idem de id. teñidos y estampados.....	»	827.600	»	»	827.600	5.793.200
Idem de punto.....	»	150.944	»	»	150.944	1.056.608
<b>Clase 5.ª de la Tabla de valores oficiales.</b>						
Hilaza de cáñamo ó lino.....	Kilogramos.	30.319	»	»	30.319	74.282
Jarcia y cordelería.....	»	242.420	»	»	242.420	327.267
Tejidos llanos de cáñamo y lino.....	»	198.694	»	»	198.694	1.291.511
Idem cruzados de id. id.....	»	3.703	»	»	3.703	37.030
Encajes de hilo.....	»	6.080	»	»	6.080	912.000
Sacos vacíos.....	Uno.	2.940.819	»	»	2.940.819	2.940.819
<b>Clase 6.ª de la Tabla de valores oficiales.</b>						
Mantas.....	Kilogramos.	22.543	»	»	22.543	180.344
Paños y otros tejidos del ramo de pañería, de lana pura.....	»	82.460	»	»	82.460	1.484.280
Idem id. con mezcla de algodón.....	»	19.141	»	»	19.141	191.410
Bayetas y demás tejidos de lana pura.....	»	3.978	»	»	3.978	51.714
<b>Clase 7.ª de la Tabla de valores oficiales.</b>						
Tejidos lisos de seda pura ó con mezcla.....	Kilogramos.	5.612	»	»	5.612	533.140

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FIGURE B.5 Exports to Cuba in 1895 (partial view)

MUNICIPALITY-LEVEL INDUSTRIALIZATION TAXES

161

# Contribución Industrial

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AÑO DE 1922-23 PROVINCIA DE Gerona

DISTRITO MUNICIPAL DE S. Clemente Sesebas

Consta de 867 habitantes y le corresponde la 10<sup>a</sup> base de población

AGENCIA ADMINISTRATIVA  
DE LOS  
DE VICENTE CAROVAS Y SOLER  
C/ San Juan, 10 GERONA



## MATRÍCULA

que para el año citado y en cumplimiento de lo prevenido en el art. 65 del Reglamento de 28 de Mayo de 1896 y disposiciones complementarias, forma el Alcalde, de todos los individuos que existen en dicha población, sujetos por la Contribución industrial y comprendidos en las tarifas 1.<sup>a</sup>, 2.<sup>a</sup>, 3.<sup>a</sup>, 4.<sup>a</sup> y primera Sección de la 5.<sup>a</sup> vigentes, que con toda especificación se mencionan, a saber.



**BARCELONA**  
Imprenta de LA CASA DE LOS SECRETARIOS de Bayer Hermanos y Comp.<sup>a</sup>  
Paseo San Juan, núms. 6 y 10, bajos

(A) Cover File

FIGURE B.6 Municipality-level Tax Record Example: Sant Climent Sesebes

Número de				APELLIDOS Y NOMBRES de los contribuyentes		FOLIO	Calle y número de su casa habitación que se ejerce		Calle y número del local		CUOTAS para el Tesoro		RECARGOS MUNICIPALES		TOTAL		a por 100 para las actividades de comercio, etc.		TOTAL general		GRN MUN.	
Otros	Clas.	Regis.	Apartado del registro				Puesta	Ch.	Puesta	Ch.	Puesta	Ch.	Puesta	Ch.	Puesta	Ch.	Puesta	Ch.	Puesta	Ch.	Puesta	Ch.
1	16	2		Campos, Rafaela, Petrona	Propiedad, industria, arte u oficio por que contribuyen		Nueva	1	Nueva	1	151.30				151.30		9.98		209.56		52.47	
2	16	2		Campos, Rafaela, Petrona	idm		Nueva	4	Nueva	5	151.30				151.30		9.98		209.56		52.47	
3	19	1		Monter, Carlos, Roberto	idm		Quinta	5	Quinta	5	54				54		3.54		74.84		18.41	
4	19	1		Sola, Yolanda, Marín	idm		Nueva	5	Nueva	5	54				54		3.54		74.84		18.41	
5	19	12		Gutierrez, Pascual, Esteban	Nueva, nacional, por que contribuyen		Nueva	12	Nueva	12	24.60				24.60		3.54		74.84		18.41	
6	11	5		Alfaro, Daniel, Pedro	idm		Mayor	11	Mayor	11	36				36		3.54		74.84		18.41	
7	11	6		Alfaro, Daniel, Pedro	idm		idm	34	idm	34	36				36		3.54		74.84		18.41	
8	11	6		Alfaro, Daniel, Pedro	idm		Nueva	34	Nueva	34	36				36		3.54		74.84		18.41	
9	12	1		Alfaro, Daniel, Pedro	idm		Ciudad	1	Ciudad	1	28.80				28.80		3.54		74.84		18.41	
10	12	1		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
11	12	5		Alfaro, Daniel, Pedro	idm		Mayor	9	Mayor	9	28.80				28.80		3.54		74.84		18.41	
12	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
13	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
14	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
15	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
16	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
17	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
18	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
19	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
20	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
21	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
22	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
23	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
24	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
25	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
26	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
27	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
28	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
29	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
30	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
31	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
32	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
33	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
34	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
35	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
36	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
37	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
38	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
39	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
40	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
41	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
42	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
43	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
44	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
45	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
46	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
47	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
48	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
49	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
50	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
51	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
52	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
53	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
54	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
55	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
56	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
57	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
58	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
59	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
60	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
61	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
62	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
63	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
64	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
65	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
66	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
67	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
68	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
69	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
70	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
71	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
72	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
73	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
74	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	
75	12	5		Alfaro, Daniel, Pedro	idm		idm	19	idm	19	28.80				28.80		3.54		74.84		18.41	

## RESUMEN por tarifas de los industriales comprendidos en la presente matrícula, con las cuotas y recargos que satisfacen

BASE de población	Número de De tarifa	De contribuyentes	CUOTAS para el Tesoro		RECARGOS MUNICIPALES				TOTAL		6 por 100 de aumento para gastos de formación de matrícula, cobranza, etc.		TOTAL general		Cuota por correspondiente al trimestre
			Pesetas	Cts.	Pesetas	Cts.	Pesetas	Cts.	Pesetas	Cts.	Pesetas	Cts.	Pesetas	Cts.	
1.ª	11		662	70					211	96			918	09	228
2.ª															
3.ª	4		504						161	28			698	24	174
4.ª	11		346	50					111	88			480	25	120
1.ª Sección de la 5.ª															
TOTALES	26		1512	90					484	12			2096	88	524

## ESZADO de industriales y cuotas con arreglo a la siguiente

ESCALA	Número de contribuyentes	IMPORTE de las cuotas de tarifa		ESCALA	Número de contribuyentes	IMPORTE de las cuotas de tarifa	
		Pesetas	Cts.			Pesetas	Cts.
Hasta 3 pesetas				Suma anterior	19	848	26
De 3 a 6 pesetas				De 100 a 200 pesetas	4	480	24
De 6 a 10				De 200 a 300	2	419	14
De 10 a 20				De 300 a 500	1	349	24
De 20 a 30				De 500 a 1.000			
De 30 a 40	13	469	05	De 1.000 a 2.000			
De 40 a 50	3	149	69	De 2.000 a 5.000			
De 50 a 100	3	229	52	De 5.000 en adelante			
Suma y sigue	19	848	26	TOTAL	26	2096	88

Importa esta matrícula *dos mil noventa y seis pesetas ochenta y ocho centimos*

*S. Clemente Santes* a 22 de Enero de 1922  
 EL ALCALDE, *Jaime Malagrat* EL SECRETARIO, *Esteban Ghega*

## ESTADO demostrativo del número de industriales de cada epígrafe que figuran en la presente matrícula, con la cuota de tarifa que tienen señalada

TARIFA	CLASE	NÚMERO del epígrafe	NÚMERO de industriales	CUOTAS DE TARIFA		OBSERVACIONES
				Pesetas	Cts.	
1.ª	6.ª	2	2	419	12	
1.ª	9.ª	2	2	149	69	
1.ª	9.ª	12	1	39	83	
1.ª	11.ª	6	3	149	69	
1.ª	12.ª	1	1	39	92	
1.ª	12.ª	1a	1	39	92	
1.ª	12.ª	5	1	39	92	
3.ª		aportado 413	3	349	28	
3.ª		119	1	349	24	
4.ª	1.ª	aportado 4	1	150	94	
4.ª	7.ª	adina 42	10	349	24	
			26	2096	88	

*El copio conforma su original*

(c) Municipality-level summaries

FIGURE B.6 (continued) Municipality-level Tax Record Example: Sant Climent Sescebes

B.3 MECHANISMS: ANALYSES

B.3.1 ALTERNATIVE ASYMMETRIC PREFERENCES



TABLE B.4 District-Year: Alternative Asymmetric Preferences Measures

	Colonial Shock		Cotton Workers 1861		Cotton Looms 1861		Cotton Taxes 1910s		Wool 1861		Other Textile	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Industry Exposure	0.19*** (0.06)	-0.05 (0.08)	0.08 (0.15)	-0.93 (0.64)	0.29*** (0.10)	-0.15 (0.14)	0.04*** (0.01)	-0.01 (0.02)	-0.06** (0.03)	-0.46 (0.37)	-0.01 (0.02)	-0.00 (0.09)
(log) Mobilization	1.14*** (0.35)	0.42 (0.29)	1.09*** (0.31)	0.80*** (0.29)	1.31*** (0.38)	0.85*** (0.29)	1.14*** (0.36)	0.59** (0.24)	1.01*** (0.28)	0.98*** (0.26)	1.11*** (0.32)	1.14*** (0.40)
Industry Exposure × (log) Mobilization		0.18*** (0.06)		0.52* (0.31)		0.36** (0.15)		0.04*** (0.01)		0.23 (0.21)		-0.00 (0.05)
Constant	10.87 (11.84)	16.33 (11.52)	12.69 (12.53)	19.23 (12.01)	15.32 (11.54)	20.42* (10.65)	9.51 (11.86)	14.39 (11.40)	14.97 (12.67)	14.96 (12.51)	13.07 (12.56)	12.97 (12.56)
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Geography FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	398	398	398	398	398	398	398	398	398	398	398	398
Pseudo $R^2$	0.28	0.30	0.25	0.26	0.28	0.30	0.28	0.30	0.25	0.25	0.25	0.25

Logistic Estimation. **DV:** Lliga Regional elite candidate (Binary). | **Controls:** Election type, district magnitude, by-election %, literacy, % not born in province, landowners organizations, and (log) population. | (**Std. Err.**): Clustered at the district level. | **Notes:** 1) Names on columns detail the main independent variable of interest under the label. 2) Geography FE include Province FEs and BCN capital FEs. 3) 1900 data has been interpolated between 1861 and 1930s data.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.3.2 TYPE OF ELECTIONS

TABLE B.5 Results by Type of Elections

	Legislative Districts		Provincial Districts	
	(1)	(2)	(3)	(4)
Colonial Shock	0.18*** (0.06)	−0.07 (0.09)	−0.01 (0.11)	0.26 (0.43)
(log) Identity Mobilization	0.92** (0.36)	0.20 (0.33)	−0.26 (0.95)	0.39 (1.43)
Colonial Shock × (log) Identity Mobilization		0.17*** (0.06)		−0.11 (0.17)
Constant	−2.68 (14.48)	3.73 (14.63)	−77.39*** (11.15)	−77.99*** (11.22)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Time Trend	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Observations	417	417	169	169
Pseudo $R^2$	0.30	0.32	0.65	0.65

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | (**Std. Err.**): Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.3.3 TIME PERIODS

TABLE B.6 Main results, by period

	All	1901–07	1909–13	1914–17	1918–23
Colonial Shock	−0.12 (0.09)	−1.66** (0.66)	0.76** (0.32)	0.42 (0.45)	−0.28*** (0.10)
(log) Identity Mobilization	0.16 (0.31)	−0.36 (0.96)	3.69* (2.01)	2.19** (1.10)	−0.64 (0.39)
Colonial Shock × (log) Identity Mobilization	0.19*** (0.06)	1.02*** (0.40)	−0.12 (0.19)	0.24 (0.31)	0.25*** (0.07)
Constant	13.35 (13.18)	65.28 (41.43)	78.98* (41.64)	3.41 (30.86)	32.02* (16.59)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Observations	409	147	41	74	136
Pseudo $R^2$	0.33	0.40	0.43	0.63	0.28

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate in Lower Chamber elections | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | **(Std. Err.)**: Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

#### B.4 TESTING PRE-TREATMENT DIFFERENCES

In this section I present cross-sectional evidence on the “parallel trends” assumption. Although the outcome of interest is not available before the colonial shock, we should expect our main treatment indicators to be uncorrelated with previous political outcomes, or at least not to be correlated with indicators reflecting elite weakness already before the shock. The following figures show scatterplots in which the unit of analysis is the constituency and it relates the main explanatory variables to three different political outcomes. First, compliance with the pacific turn: values close to 100 reflect that the elected MP was always belonging to the party calling the elections, and close to 0 reflecting the opposite. Second, percentage of non-monarchist candidates elected; this reflects whether monarchist elites were weaker in the constituencies. Third, turnout levels.

##### B.4.1 COLONIAL SHOCK

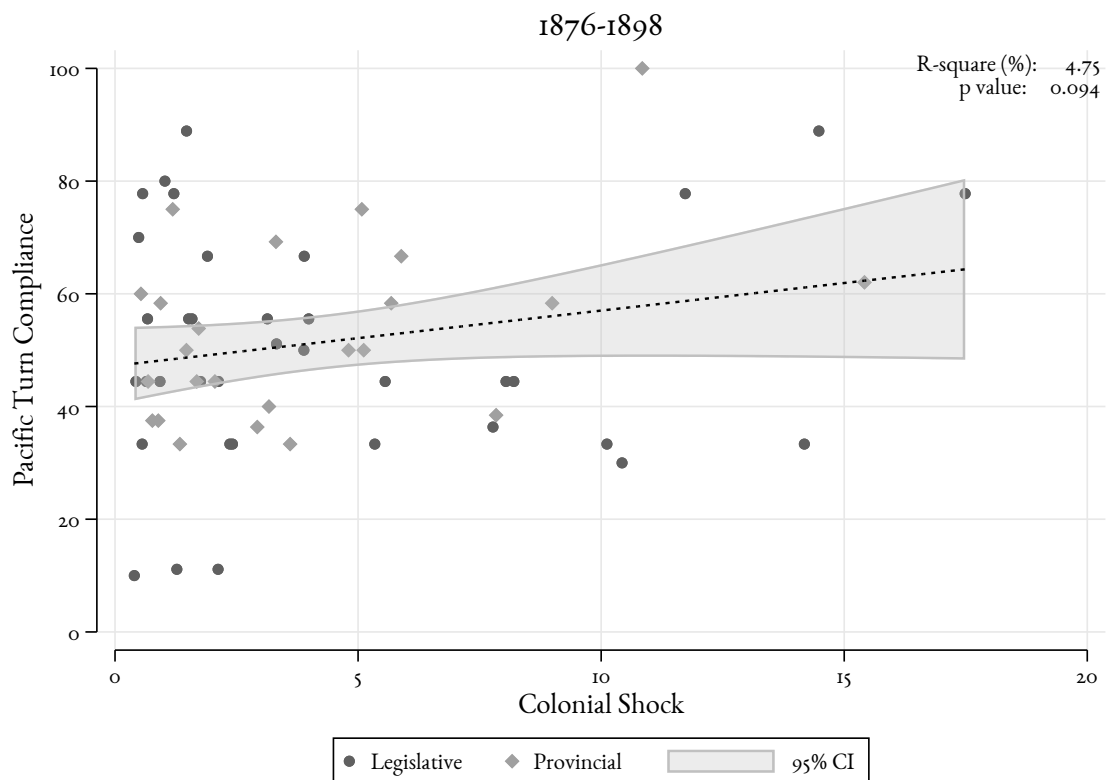


FIGURE B.7 Colonial Shock vs. Fit to Pacific Turn before 1898

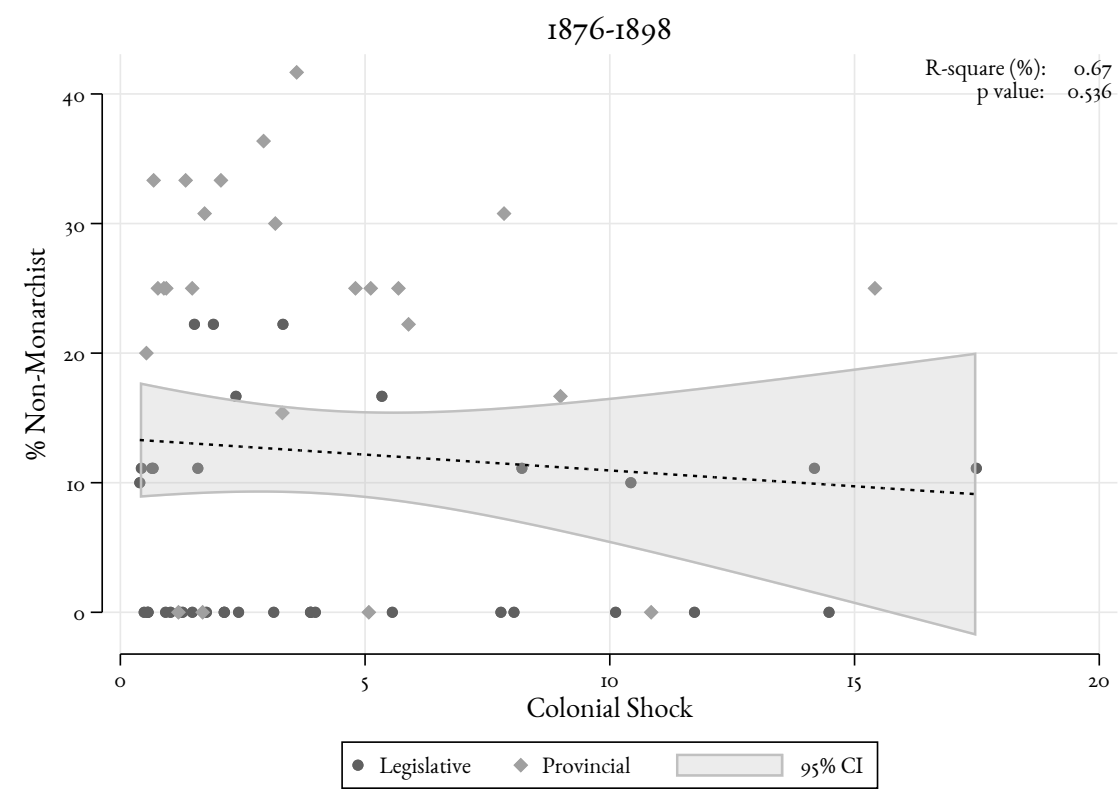


FIGURE B.8 Colonial Shock vs. % Non-Monarchist MPs before 1898

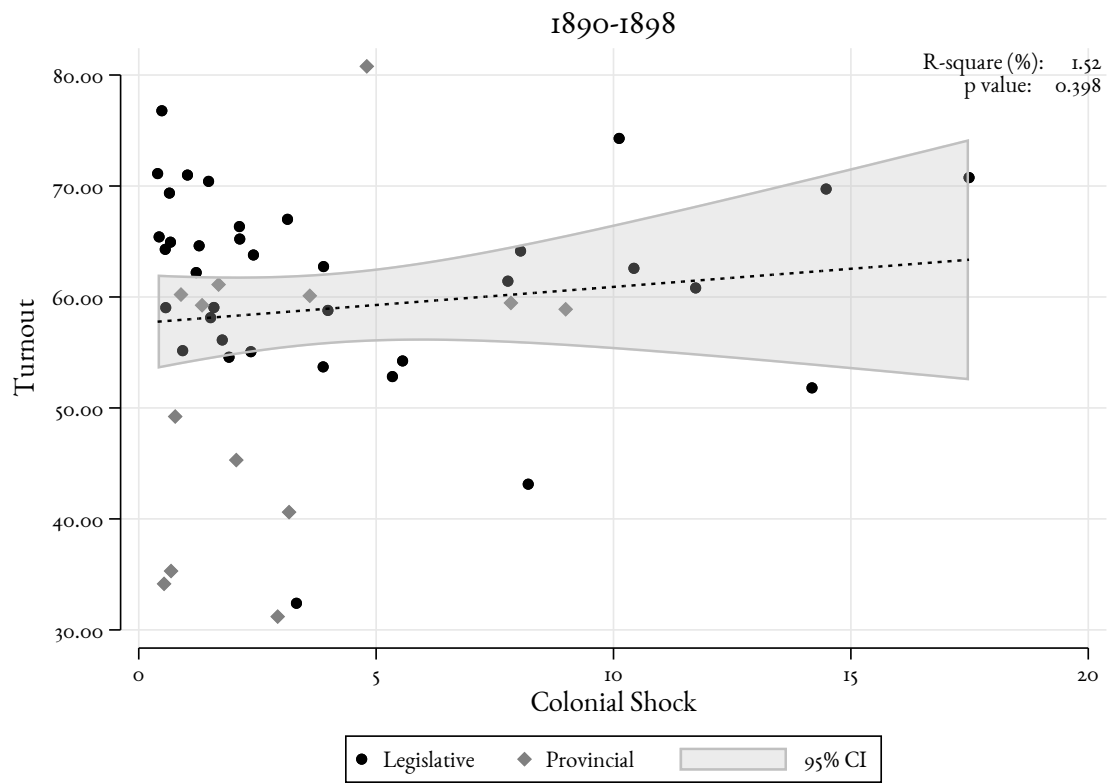


FIGURE B.9 Colonial Shock vs. Turnout before 1898

B.4.2 MOBILIZATION

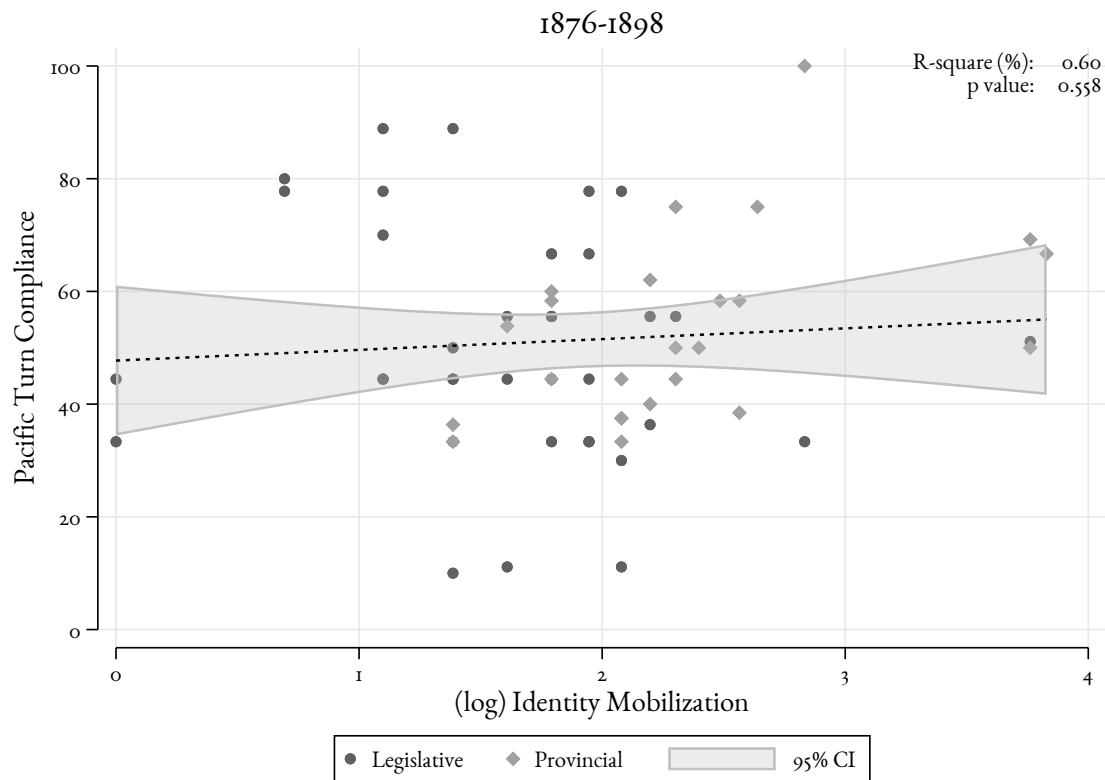
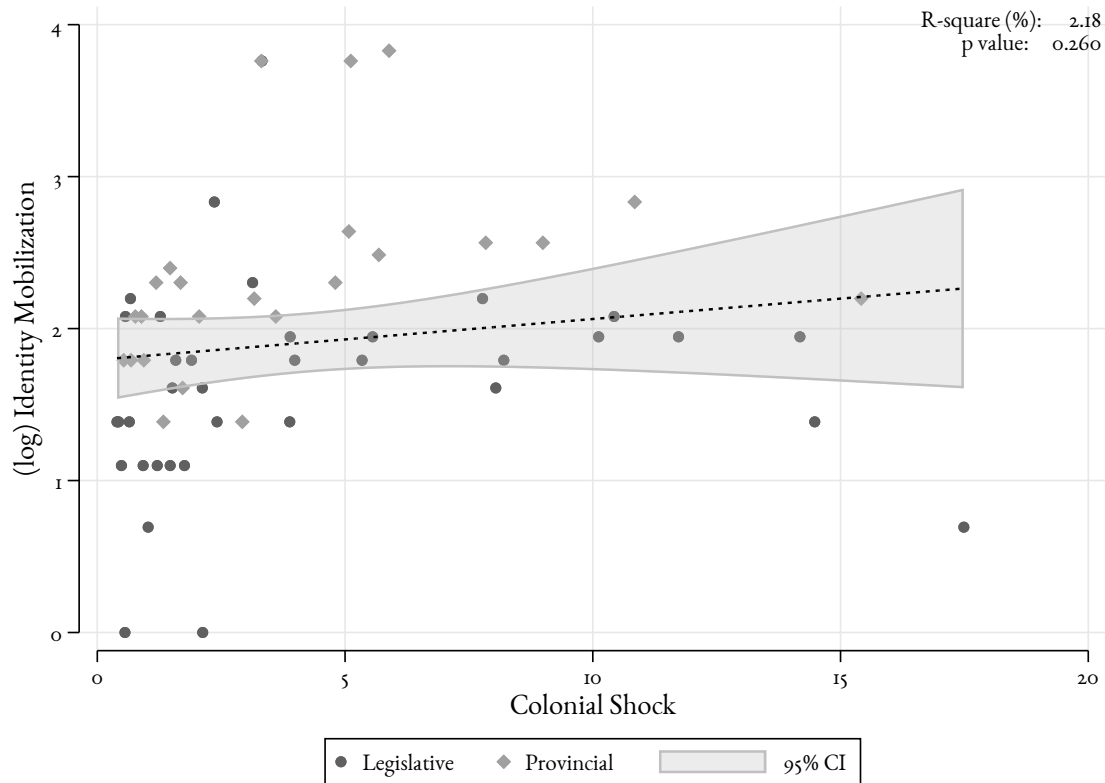


FIGURE B.10 (log) Identity Mobilization vs. Fit to Pacific Turn before 1898

## B.4.3 COLONIAL SHOCK AND MOBILIZATION

Test reflecting whether constituencies more affected by the economic consequences of the colonial shock were also those where regional elites had access to larger numbers of identity-based mobilization agents. The scatterplot reflects that there was no such relationship and that the exposure to the colonial shock measure is not simply capturing a more pro-Catalan political trajectory in the past.





## B.5 ROBUSTNESS CHECKS

## B.5.1 BIVARIATE ASSOCIATION: COLONIAL SHOCK AND LLIGA CANDIDACY

TABLE B.7 Exposure to Colonial Shock Bivariate Results

	(1)	(2)	(3)	(4)
Colonial Shock	0.16*** (0.03)	0.09** (0.03)	0.19*** (0.03)	0.10** (0.03)
Prov FE	<i>N</i>	<i>Y</i>	<i>N</i>	<i>Y</i>
Time Trend	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	586	586	586	586
Pseudo $R^2$	0.08	0.12	0.17	0.23

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | (**Robust Standard Errors**)\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.5.2 VALIDITY OF HETEROGENEOUS EFFECTS

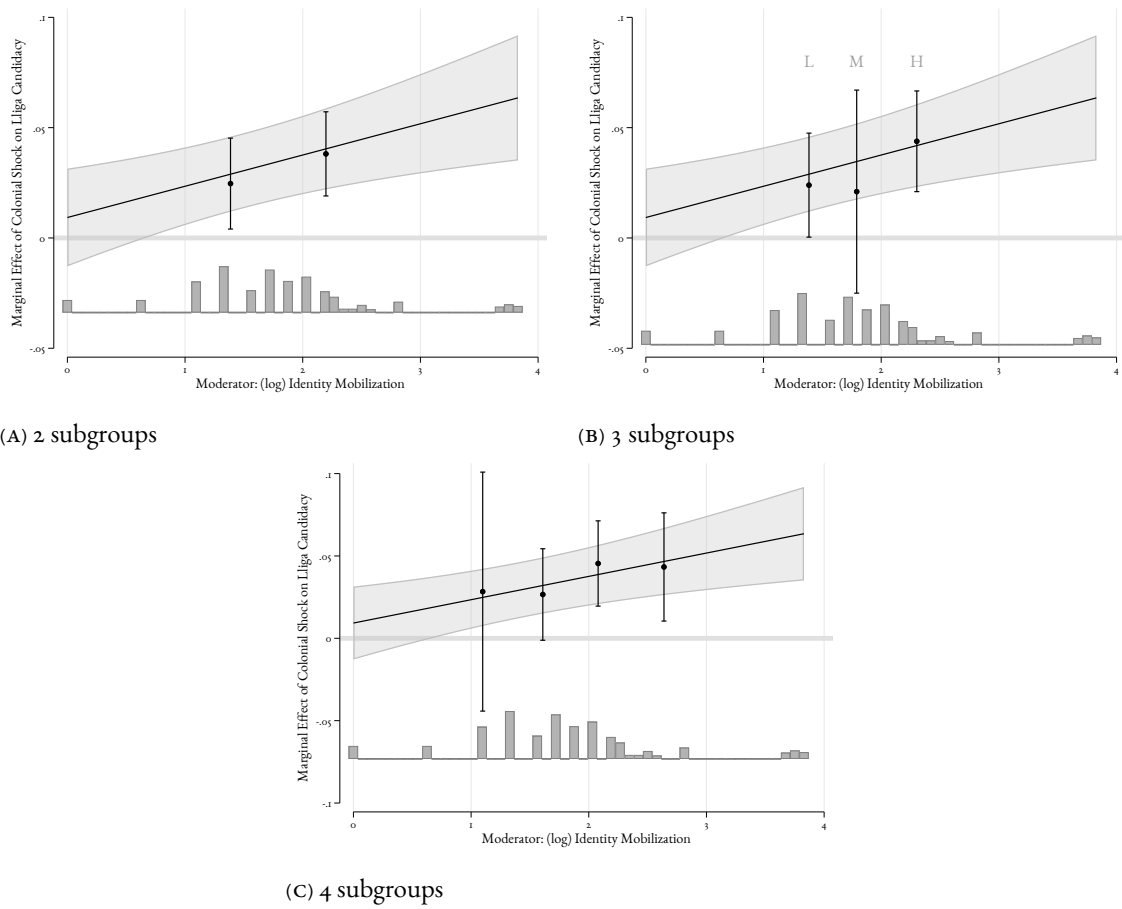


FIGURE B.12 Robustness of Heterogeneous Effects

## B.5.3 RESTRICTED SAMPLES

TABLE B.8 Baseline Results excluding Barcelona

	(1)	(2)	(3)	(4)
Colonial Shock	0.28*** (0.07)	0.23*** (0.07)	0.21*** (0.06)	0.06 (0.08)
(log) Identity Mobilization	0.99** (0.41)	1.19** (0.49)	1.02*** (0.33)	0.62* (0.33)
Colonial Shock × (log) Identity Mobilization				0.10** (0.04)
Constant	-9.36 (7.29)	-1.99 (8.13)	-6.73 (5.93)	-4.15 (6.47)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Time Trend	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	554	554	554	554
Pseudo $R^2$	0.22	0.25	0.32	0.33

Logistic Estimation. **DV**: Binary, regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | (**Std. Err.**): Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

TABLE B.9 Robustness: Analyses excluding constituencies in Tarragona province

	(1)	(2)	(3)	(4)
Colonial Shock	0.22*** (0.07)	0.18** (0.07)	0.14** (0.06)	−0.05 (0.07)
(log) Identity Mobilization	0.84* (0.49)	0.87 (0.56)	0.89** (0.38)	0.31 (0.34)
Colonial Shock × (log) Identity Mobilization				0.12** (0.05)
Constant	−7.25 (6.98)	−8.27 (8.23)	−8.32 (5.26)	−6.13 (5.61)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	482	464	464	464
Pseudo $R^2$	0.22	0.27	0.35	0.36

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | **(Std. Err.)**: Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.5.4 ALTERNATIVE IDENTITY MOBILIZATION MEASUREMENT

TABLE B.10 Robustness: Alternative Identity Mobilization (# Manresa Delegates)

	(1)	(2)	(3)	(4)
Colonial Shock	0.26*** (0.07)	0.24*** (0.07)	0.19*** (0.06)	0.09 (0.07)
# Manresa Delegates	0.17** (0.08)	0.23*** (0.08)	0.22*** (0.06)	0.14** (0.07)
Colonial Shock × # Manresa Delegates				0.02** (0.01)
Constant	-5.21 (8.97)	2.88 (10.59)	-2.00 (8.32)	-0.79 (8.35)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	554	547	547	547
Pseudo $R^2$	0.22	0.28	0.36	0.36

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | **(Std. Err.)**: Clustered at the District level. | **(Note)**: Analyses exclude the Barcelona constituencies.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

TABLE B.11 Robustness: Alternative Identity Mobilization (% Municipalities with Delegates)

	(1)	(2)	(3)	(4)
Colonial Shock	0.25*** (0.07)	0.23*** (0.08)	0.21*** (0.07)	0.08 (0.08)
% Localities Delegates	4.36 (3.25)	5.92** (3.01)	2.40 (2.27)	−0.46 (2.18)
Colonial Shock × % Localities Delegates				1.07** (0.54)
Constant	−9.82 (6.53)	−7.62 (7.37)	−13.46** (6.14)	−10.48 (6.43)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	586	580	580	580
Pseudo $R^2$	0.25	0.30	0.37	0.38

Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | (**Std. Err.**): Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

TABLE B.12 Robustness: Alternative Identity Mobilization (Delegates per 10k Inhabitants)

	(1)	(2)	(3)	(4)
Colonial Shock	0.27*** (0.07)	0.24*** (0.07)	0.20*** (0.06)	0.05 (0.07)
Delegates/10k People	1.00** (0.45)	1.15** (0.48)	1.00*** (0.37)	0.47 (0.38)
Colonial Shock × Delegates/10k People				0.13*** (0.05)
Constant	-19.26*** (5.67)	-19.12*** (6.31)	-18.96*** (6.13)	-17.36*** (6.08)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	586	580	580	580
Pseudo $R^2$	0.26	0.31	0.38	0.39

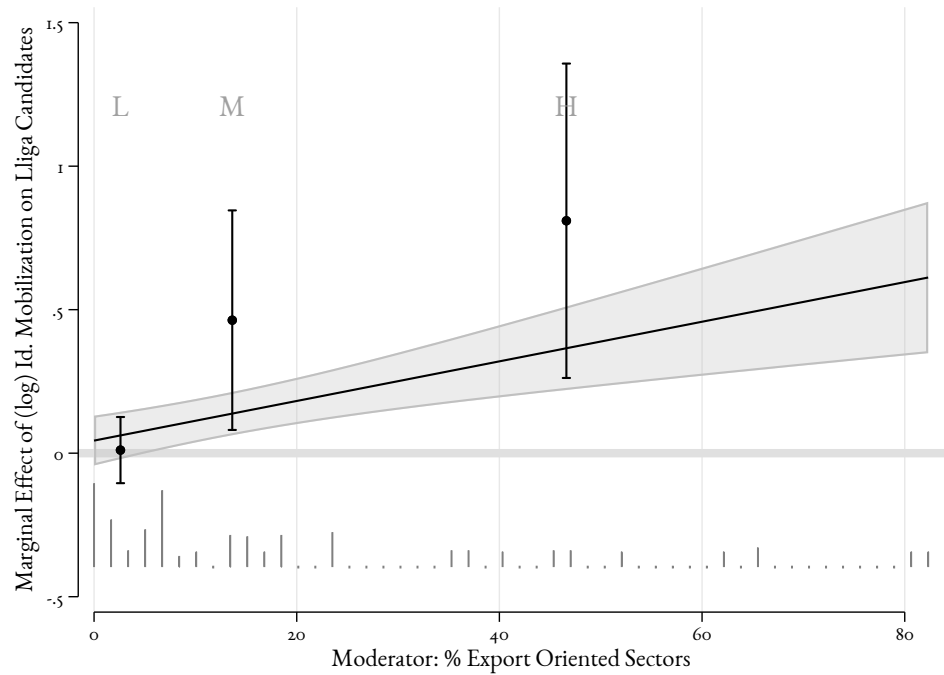
Logistic Estimation. **DV**: Binary regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | (**Std. Err.**): Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

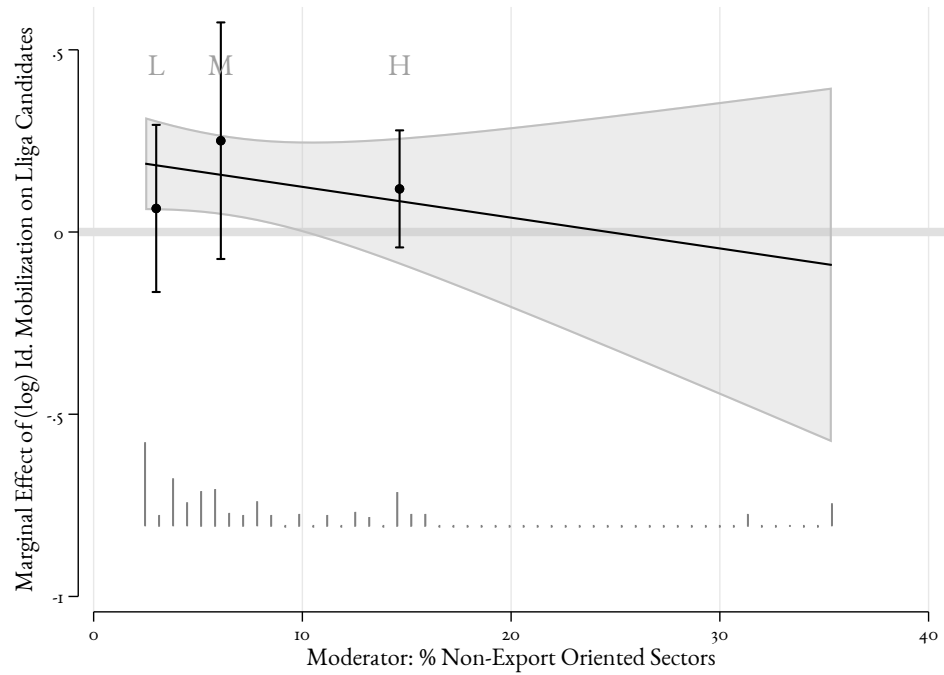
#### B.5.5 ALTERNATIVE COLONIAL SHOCK MEASURE

The following robustness tests rely on the specific industry characteristics, distinguishing between different industrial sectors based on the amount of taxes paid by each sector at the constituency level. To classify sectors into export-oriented and non-export oriented I rely on export statistics to Cuba, Puerto Rico, and the Philippines (the three colonies lost in 1898) in 1895 and 1900. Cotton, wood/cork, and paper were among the most relevant exports to the colonies. The wool sector was exporting much less than cotton, and together with ceramics, metal, chemistry, and other types of textiles were much less export oriented. The value of exports of export-oriented sectors represented between 3 and 10 times the exports of non-export oriented sectors. The following analyses distinguish constituencies based on the different relevance of different (groups of) industries.



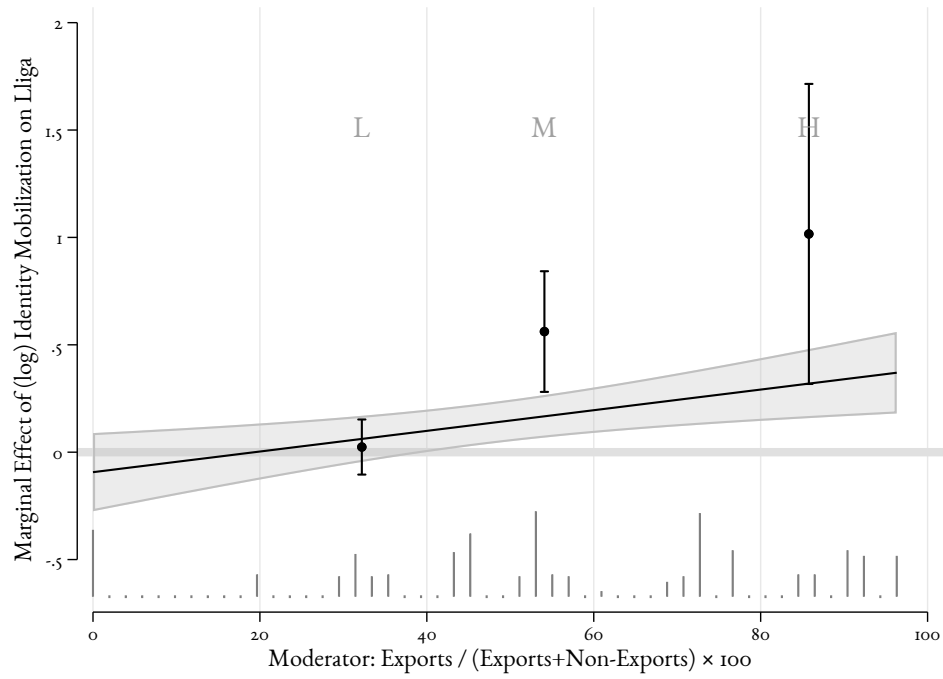


(A) Export Oriented Sectors: Cotton, Wood/Cork, Paper

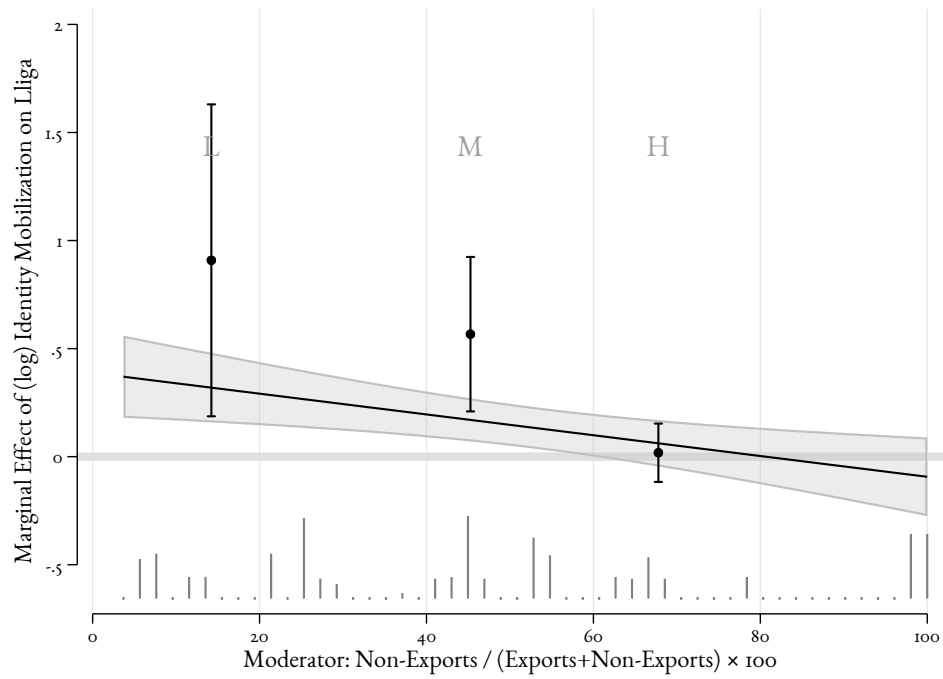


(B) Non-Export Oriented Sectors: Ceramics, Chemistry, Metal, Wood, Hemp, and Linen

FIGURE B.13 Export Vs. Non-Export Oriented Sectors



(A) Exports vs. Non-Exports



(B) Non-Exports vs. Exports

FIGURE B.14 Export Vs. Non-Export Oriented Sectors

*Note:* Exports Sectors include Cotton, Wood/Cork, Paper. Non-Exports Sectors include Ceramics, Chemistry, Metal, Wood, Hemp, and Linen.

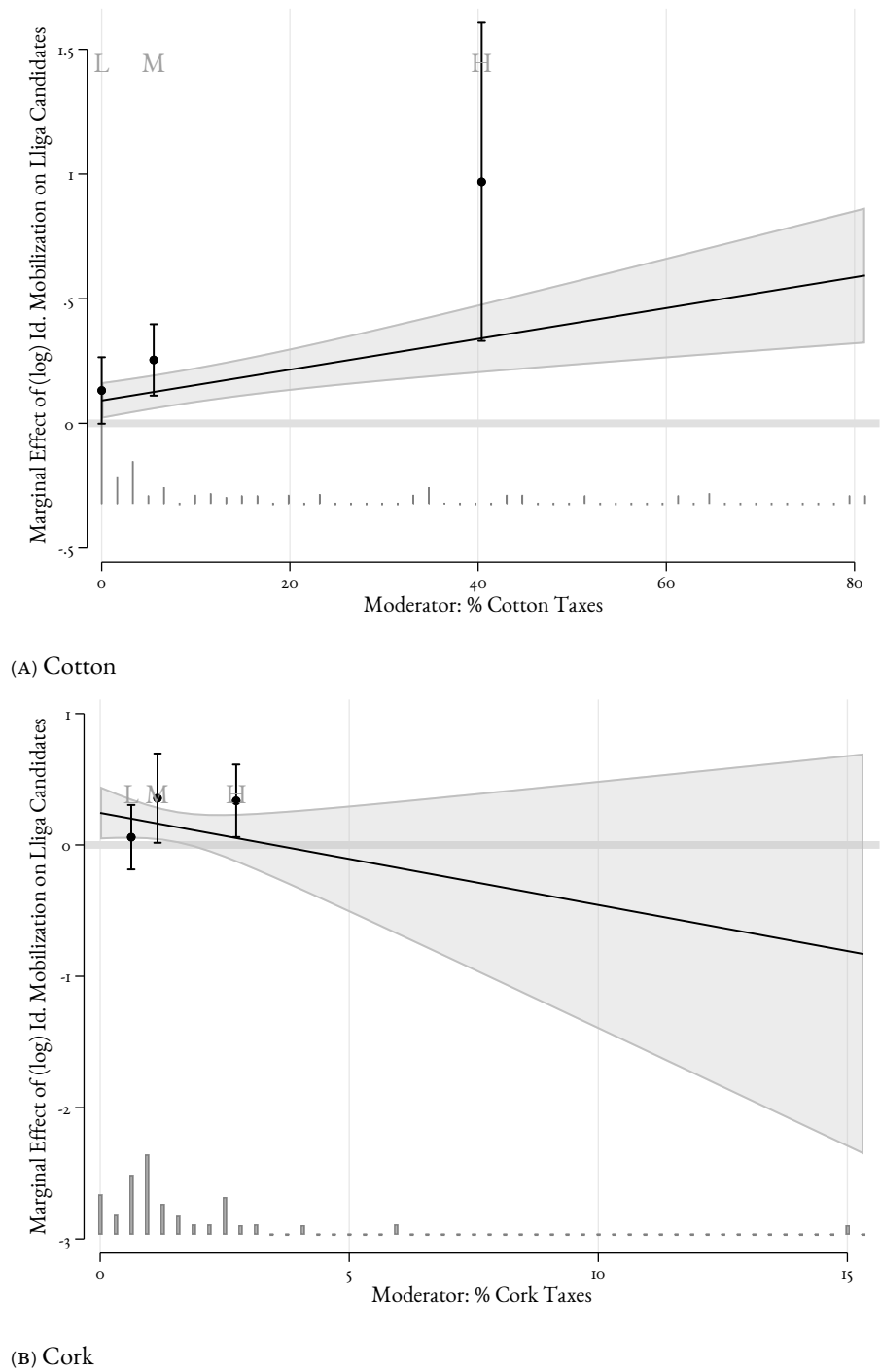
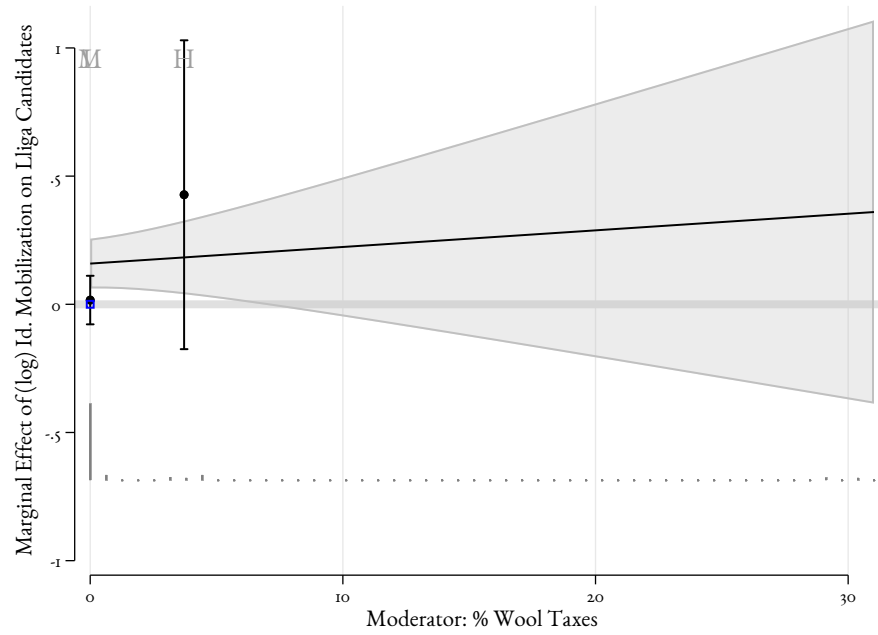
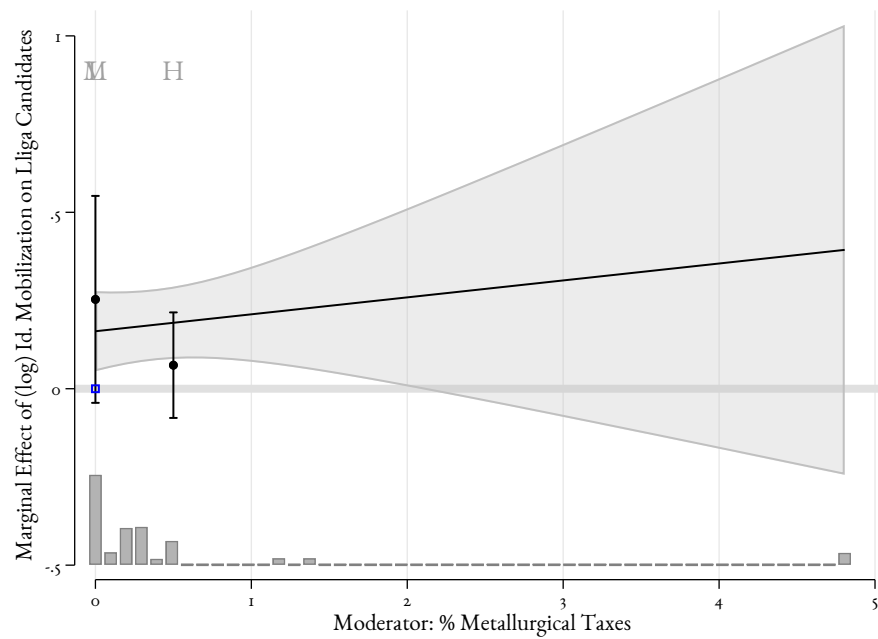


FIGURE B.15 Export Oriented Sectors



(A) Wool



(B) Metallurgy

FIGURE B.16 Non-Export Oriented Sectors

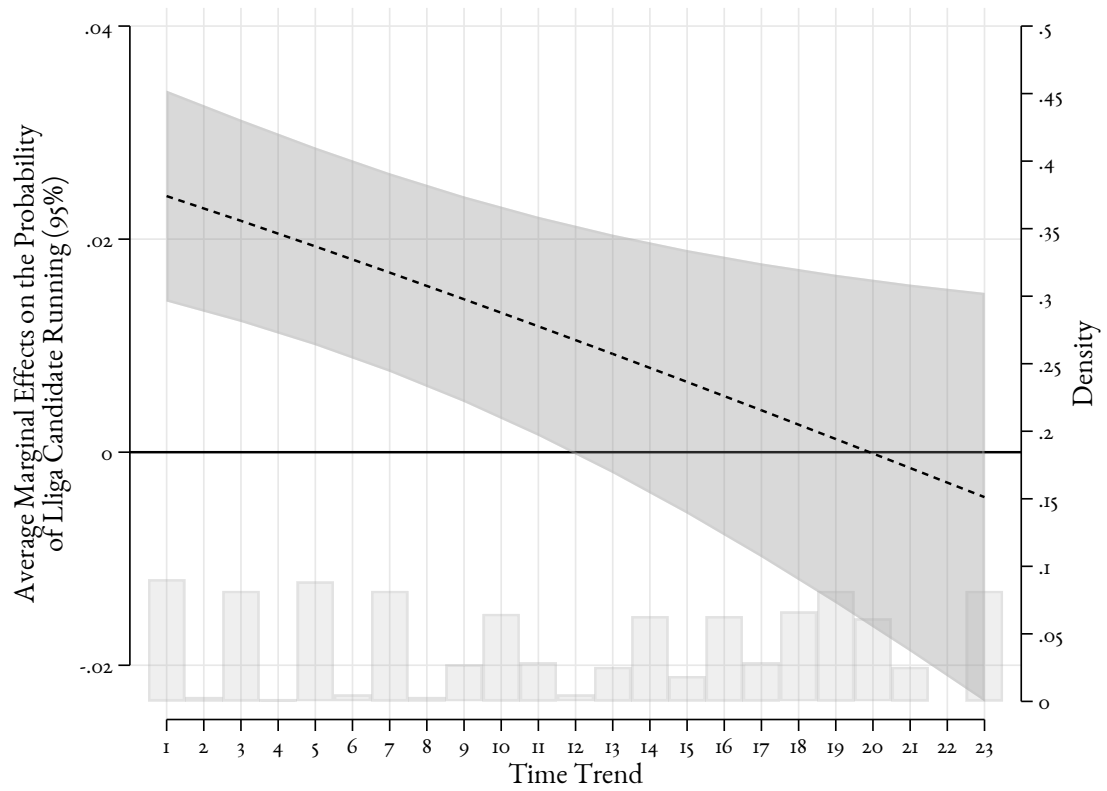
## B.5.6 TIME ROBUSTNESS

TABLE B.13 Baseline Results on Regional Elite Fragmentation with Year FE

	(1)	(2)	(3)	(4)
Colonial Shock	0.25*** (0.06)	0.22*** (0.07)	0.17*** (0.06)	0.02 (0.06)
(log) Identity Mobilization	0.91** (0.42)	1.07** (0.50)	1.04*** (0.35)	0.63* (0.33)
Colonial Shock × (log) Identity Mobilization				0.10** (0.05)
Constant	-10.97* (5.92)	-10.14 (7.09)	-11.58** (4.89)	-10.14* (5.21)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Year FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	586	580	580	580
Pseudo $R^2$	0.25	0.30	0.38	0.38

Logistic Estimation. **DV**: Binary, regional elite (Lliga) candidate | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | (**Std. Err.**): Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

FIGURE B.17 Colonial Shock  $\times$  Time Trend

*Note:* Value 1 in the Time Trend variable refers to year 1901, value 2 to 1902...

## B.5.7 STRATEGIC DECISION

TABLE B.14 DV: Victory Lliga Candidate

	(1)	(2)	(3)	(4)
Colonial Shock	0.31*** (0.07)	0.26*** (0.06)	0.28*** (0.06)	0.13 (0.10)
(log) Identity Mobilization	1.76*** (0.59)	2.16*** (0.72)	1.66*** (0.46)	1.14** (0.55)
Colonial Shock × (log) Identity Mobilization				0.09** (0.04)
Constant	7.95 (10.55)	18.20* (11.03)	7.78 (7.79)	12.85 (7.90)
Controls	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Time Trend	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Prov FE	<i>N</i>	<i>N</i>	<i>Y</i>	<i>Y</i>
Observations	554	554	554	554
Pseudo $R^2$	0.23	0.27	0.34	0.34

Logistic Estimation. **DV**: Binary, Lliga candidate elected MP | **Controls**: Election Type, By-election %, Literacy, % not born in province, (log) Industrialization, Peasants Organizations, Landowners Organizations, distance to Manresa, and mean (log) population. | **(Std. Err.)**: Clustered at the District level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.5.8 CROSS-SECTION EVIDENCE

TABLE B.15 Robustness: Alternative DV analyses, and differences across election types

	All Districts			Legislative	Provincial
	(1)	(2)	(3)	(4)	(5)
Colonial Shock	0.40*** (0.09)	0.32*** (0.12)	0.37* (0.21)	0.01 (0.14)	-0.07 (0.26)
Identity Mobilization		0.28*** (0.10)	0.32** (0.15)	0.32* (0.18)	-0.06 (0.18)
Colonial Shock × Identity Mobilization			-0.01 (0.02)	0.09** (0.03)	0.01 (0.02)
Constant	2.73*** (0.50)	30.67*** (10.47)	29.71*** (10.65)	42.10** (20.48)	3.16 (12.38)
Controls	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Province FE	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
Observations	60	60	60	36	24
Adjusted $R^2$	0.28	0.44	0.43	0.57	0.74

OLS Estimation. **DV**: Number of regional elite (Lliga) candidates. | **Std. Err.**: Robust, displayed in parentheses.  
| **Controls**: mean (log) population and distance to Manresa. | **Note**: District-level results regarding economic composition are not based on the full sample of municipalities for districts in the Tarragona province, Colonial Shock indicators are based on a partial sample of municipalities.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



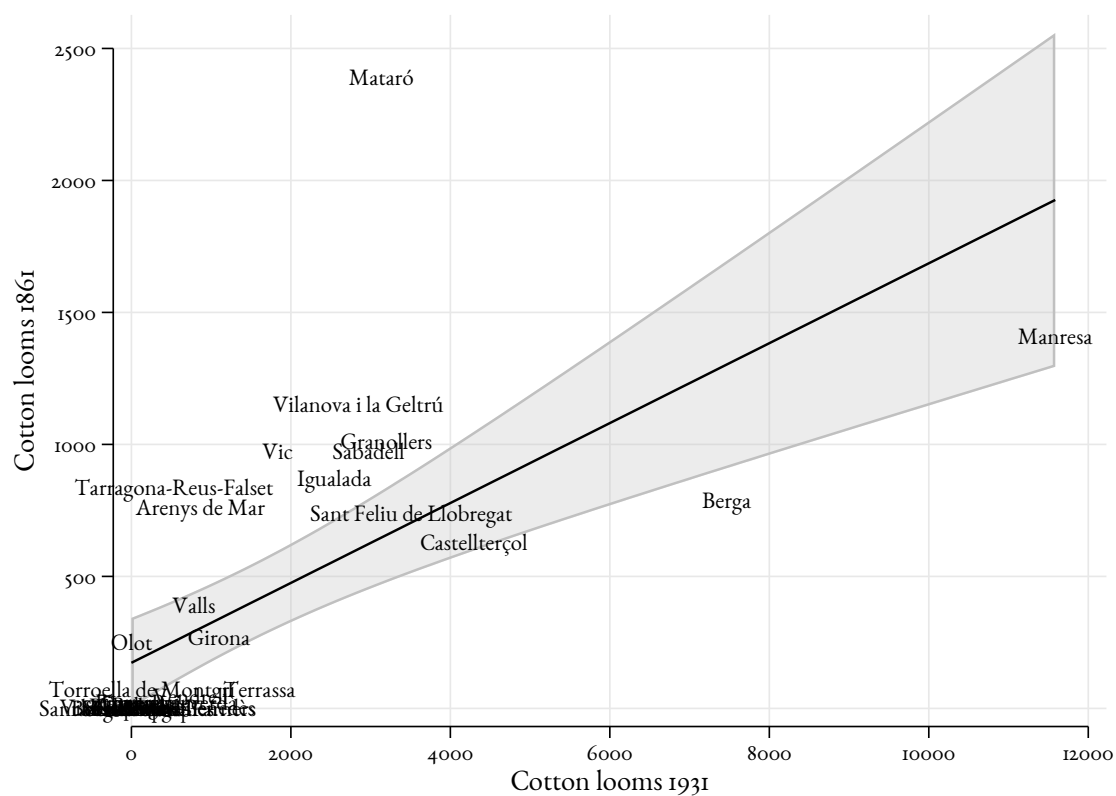


FIGURE B.18 Correlation Between the number of Cotton Looms in 1861 and 1931

TABLE B.16 District-level: Alternative pre-1900 measures

	1861				1900					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1k Cotton Workers	0.65*** (0.10)	0.44*** (0.14)								
% Cotton Looms			0.21*** (0.03)	0.20*** (0.06)						
% Wool Factories					0.04 (0.05)	-0.08 (0.06)				
% Cotton Looms							0.28*** (0.07)	0.26*** (0.09)		
% Cotton Spindles									0.27*** (0.07)	0.20** (0.09)
Constant	3.57*** (0.41)	29.77** (12.34)	3.68*** (0.40)	27.18** (12.47)	4.28*** (0.44)	23.66* (12.20)	3.47*** (0.41)	42.27*** (13.40)	3.51*** (0.43)	36.81*** (12.62)
Identity	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Province FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Barcelona dummy	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	60	60	60	60	60	60	60	60	60	60
Adjusted R <sup>2</sup>	0.21	0.38	0.19	0.39	-0.01	0.35	0.24	0.42	0.22	0.40

DV: Number of regional elite (Liga) candidates. | Controls: Distance to Manresa and mean (log) Population. | (Std. Err.): Robust. | Note: 1900 data has been interpolated between 1861 and 1930s data.  
 \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



# C

## Paper 2. Supplementary Materials

### C.1 ANECDOTAL EVIDENCE



FIGURE C.1 Slogan Encouraging To Vote Early in the Morning

Source: *La Veu de Catalunya*. April 20, 1907 (p.2). On-line access [here](#).

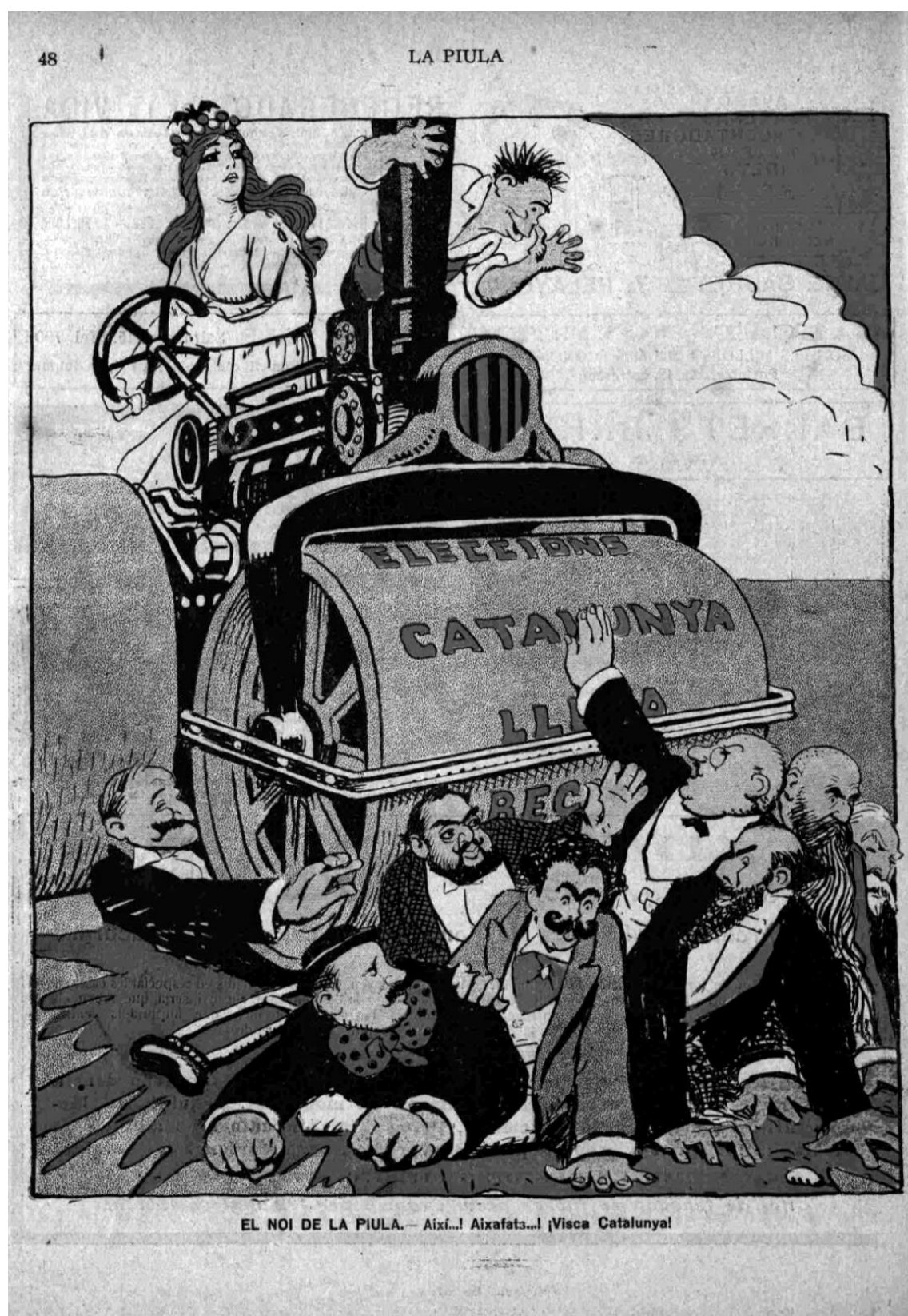


FIGURE C.2 Cartoon Representing Regional Elites Defeating Monarchist Elites in Elections

Source: *La Piula*. April 6, 1916 (p.48). On-line access [here](#).



FIGURE C.3 Cartoon Representing the Lliga Leader Cambó (left) Buying “Election Lottery Tickets”

Source: *L'Esquella de la Torratxa*. February 22, 1918 (p.133). On-line access [here](#).



FIGURE C.4 Cartoon Representing an Elite Member Buying Votes

Source: *L'Esquella de la Torratxa*. February 22, 1918 (p.140). On-line access [here](#).

## C.2 DESCRIPTIVE

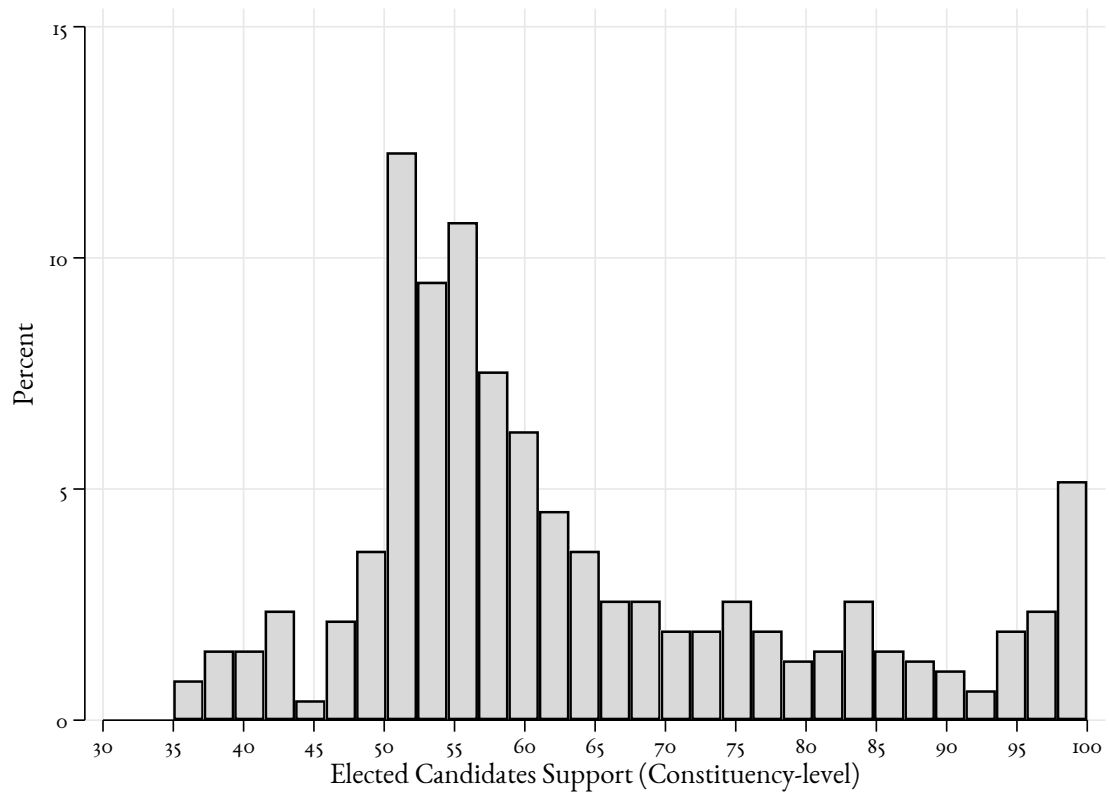


FIGURE C.5 Constituency-level Support for Elected Candidates



C.3 BENFORD EXTRA FIGURES

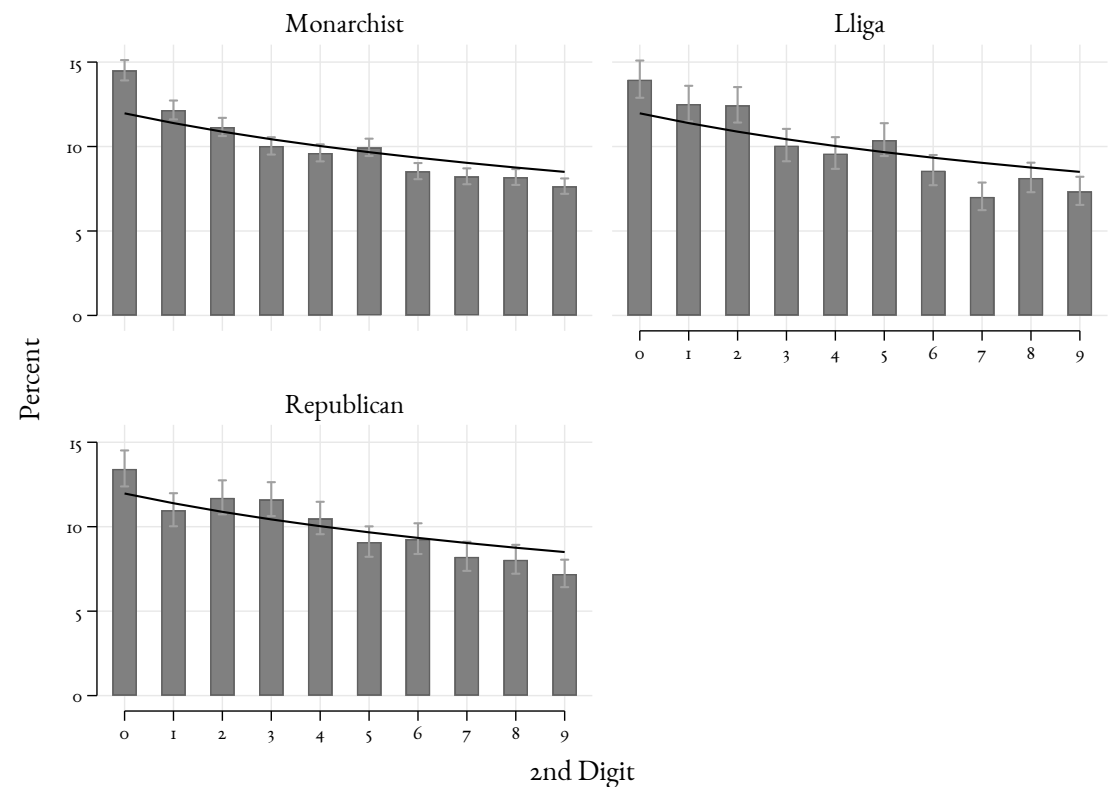


FIGURE C.6 Benford's Distribution Adjustment (90% CI) of Votes to Elected MPs by Party

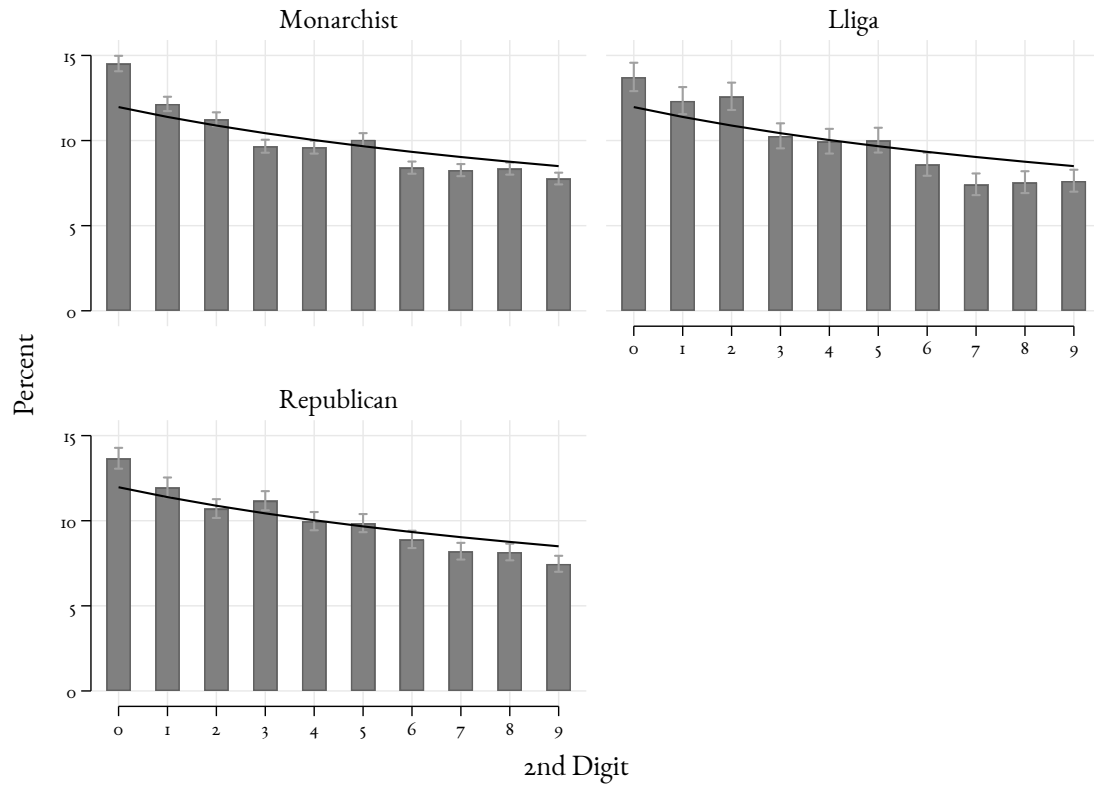


FIGURE C.7 Benford's Distribution Adjustment (90% CI) of Votes to All Candidates by Party

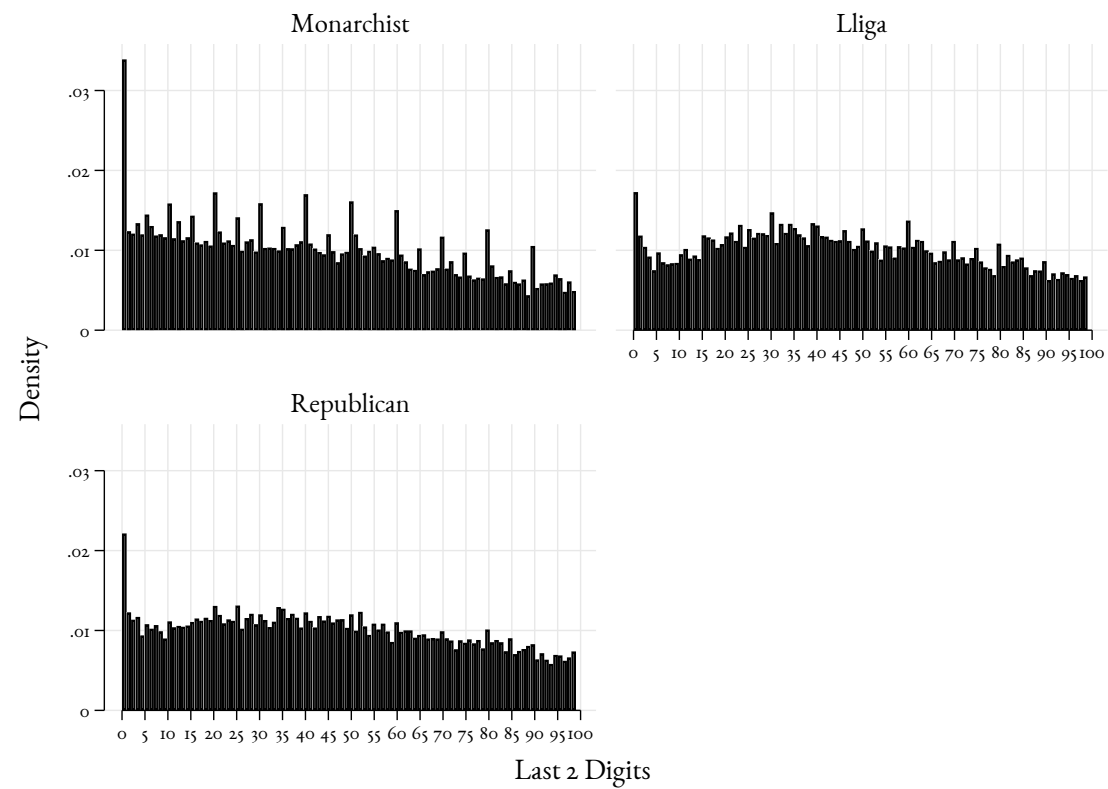


FIGURE C.8 Last 2 Digit Distribution

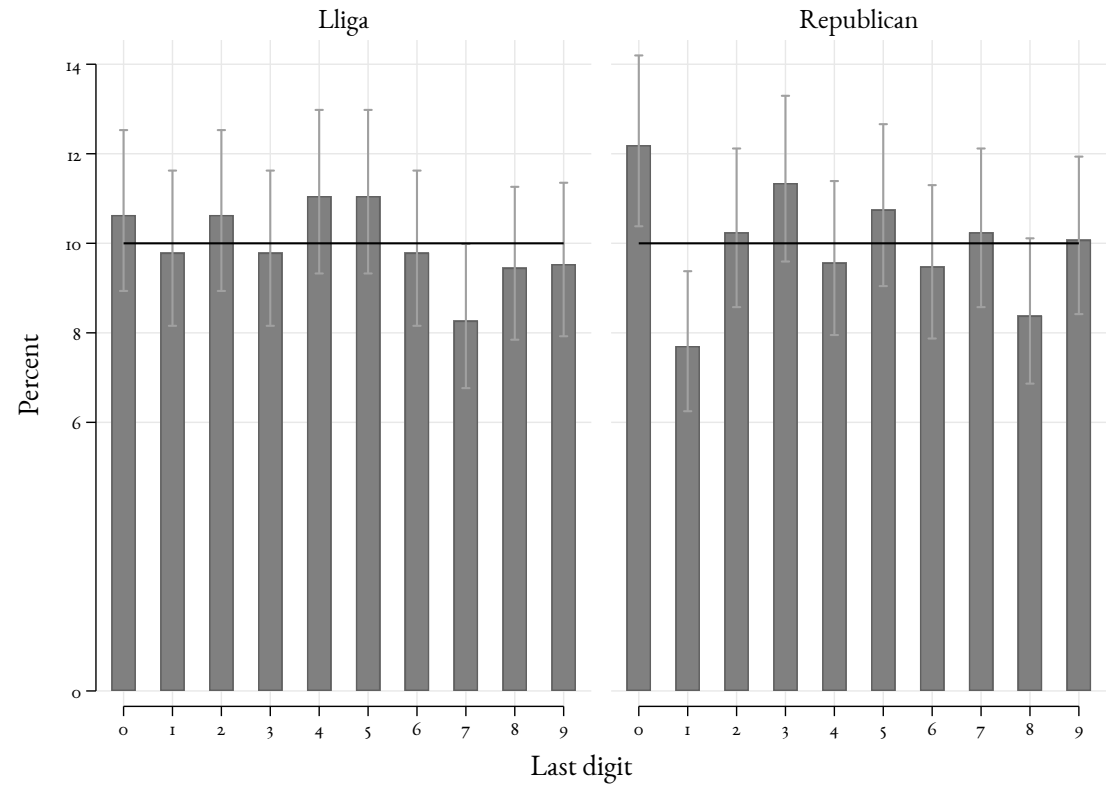


FIGURE C.9 Last Digit Test. No Monarchist Candidates

C.4 MARGIN OF VICTORY EXTRA FIGURES

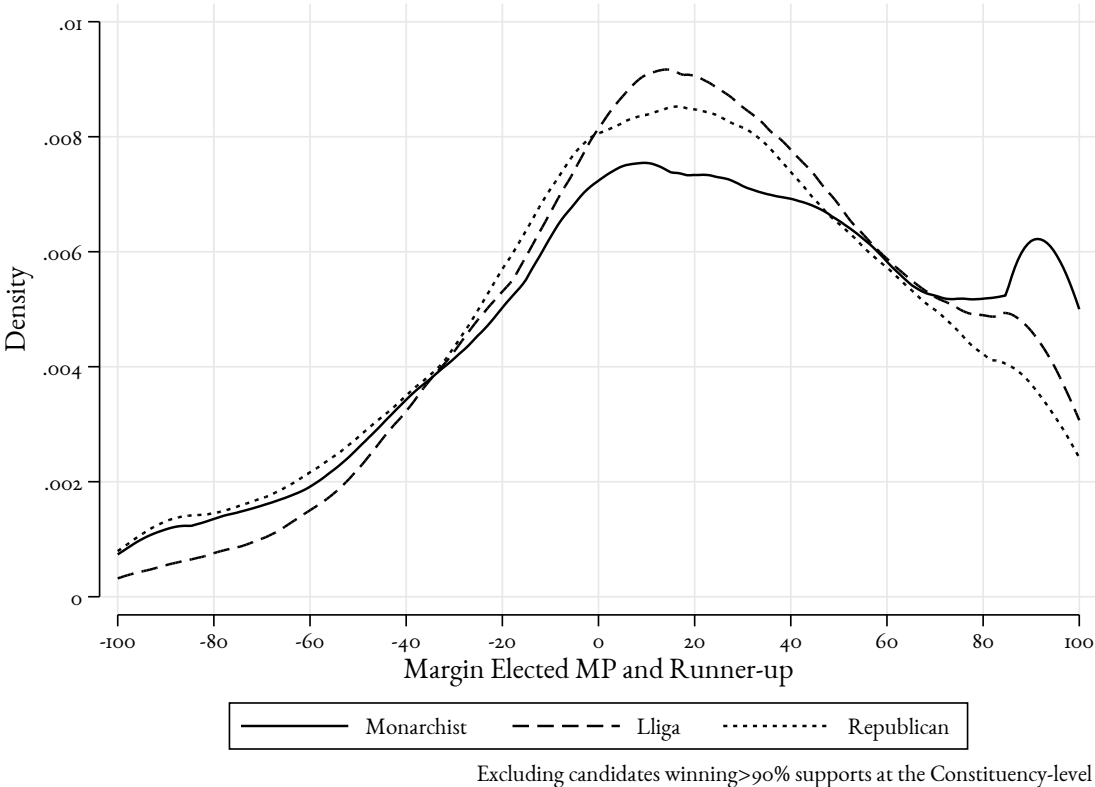


FIGURE C.10 Margin of Victory Excluding Candidates Winning > 90% Support At the Constituency-Level

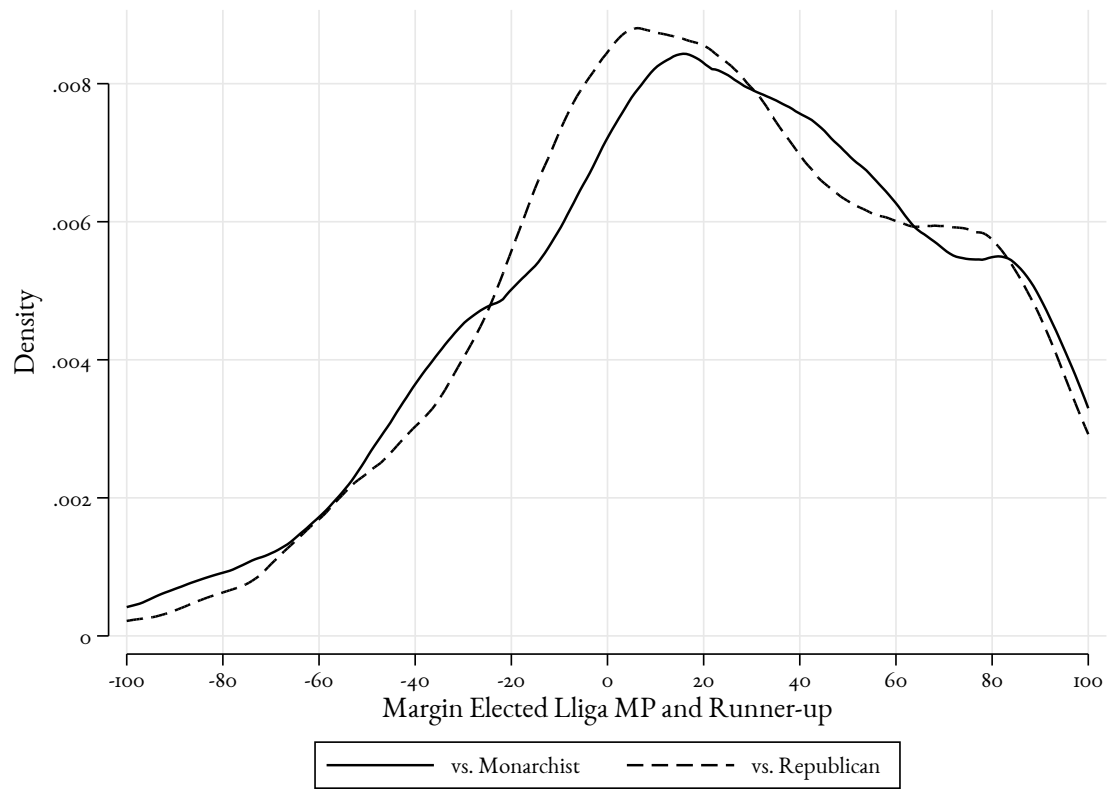


FIGURE C.11 Margin of Victory For Lliga Candidates Excluding Candidates Winning > 90% Support At the Constituency-Level

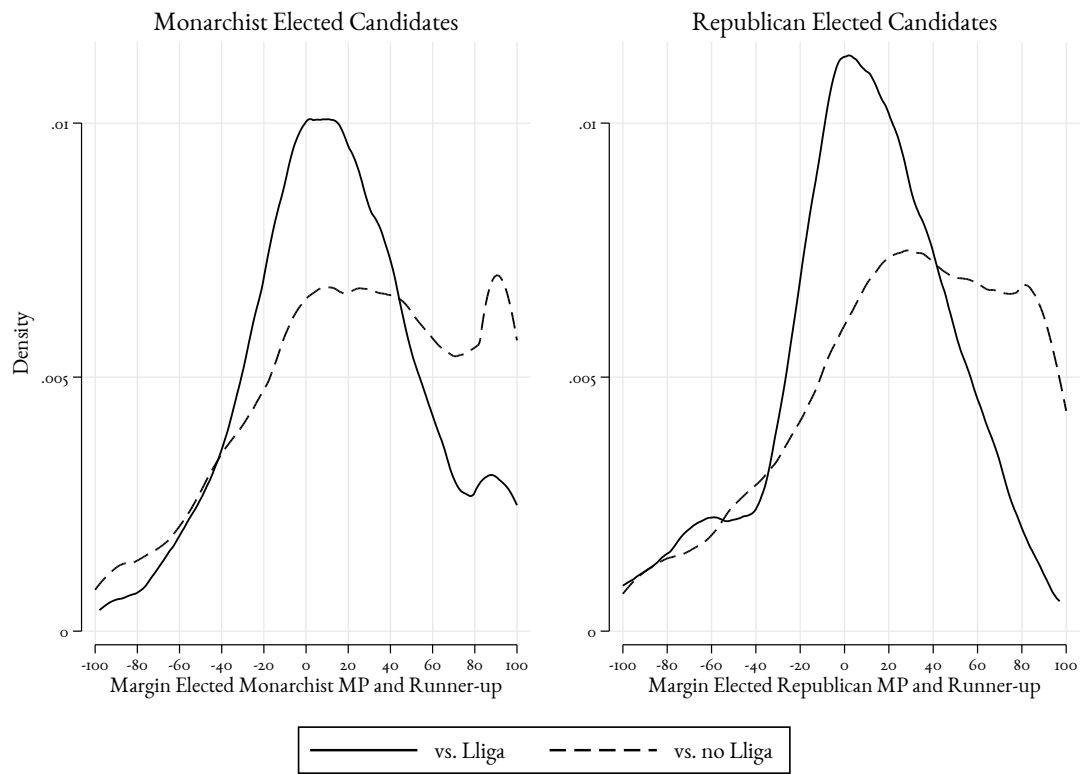
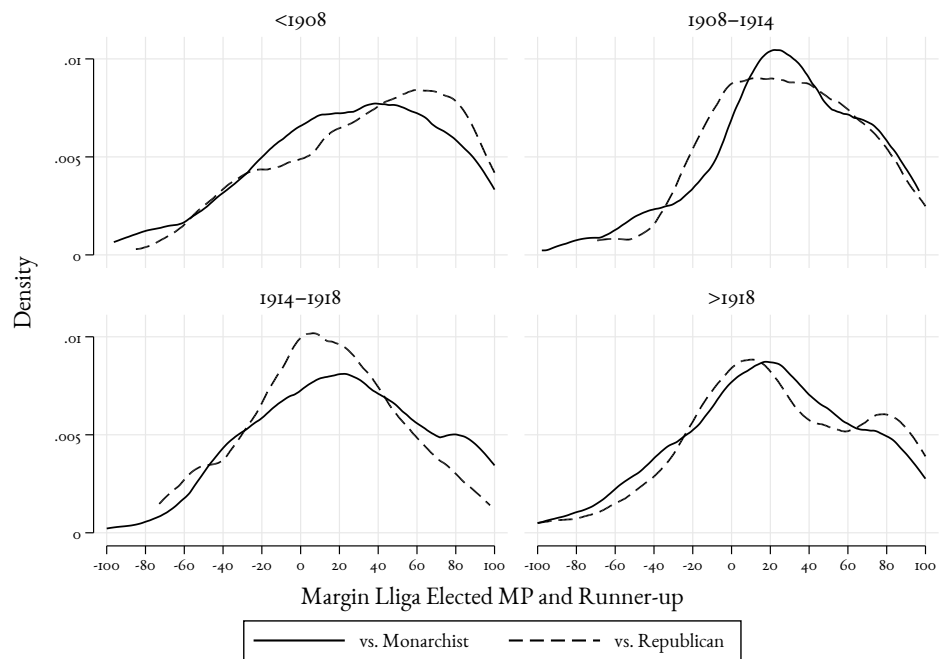
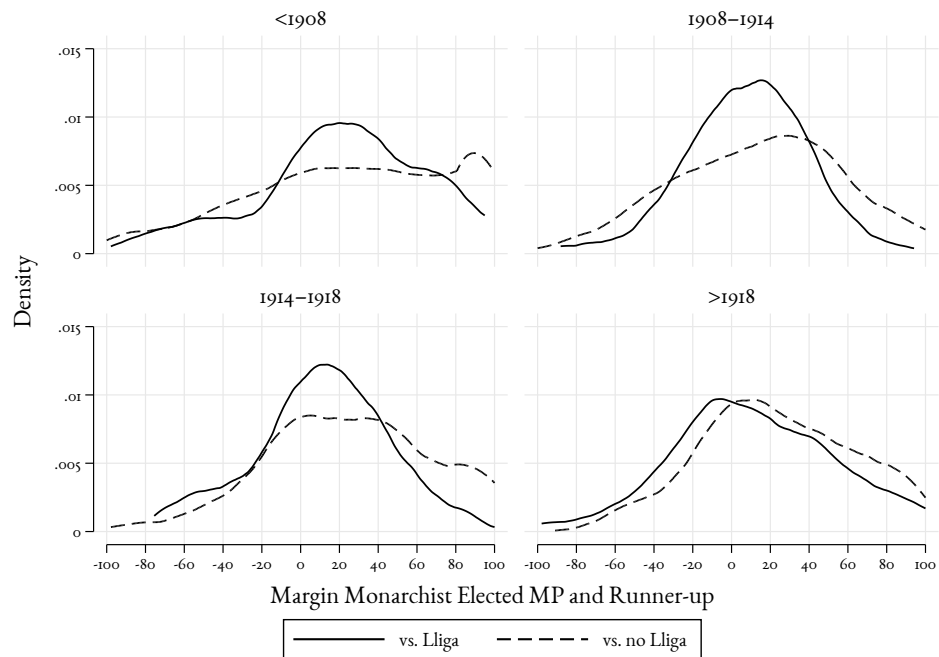


FIGURE C.12 Margin of Victory in Three-Way Races



(A) Margin of Victory of Lliga Elected Candidates



(B) Margin of Victory of Monarchist Elected Candidates

FIGURE C.13 Margin of Victory Over Time



C.5 SIMULATIONS

MONARCHIST CANDIDATES

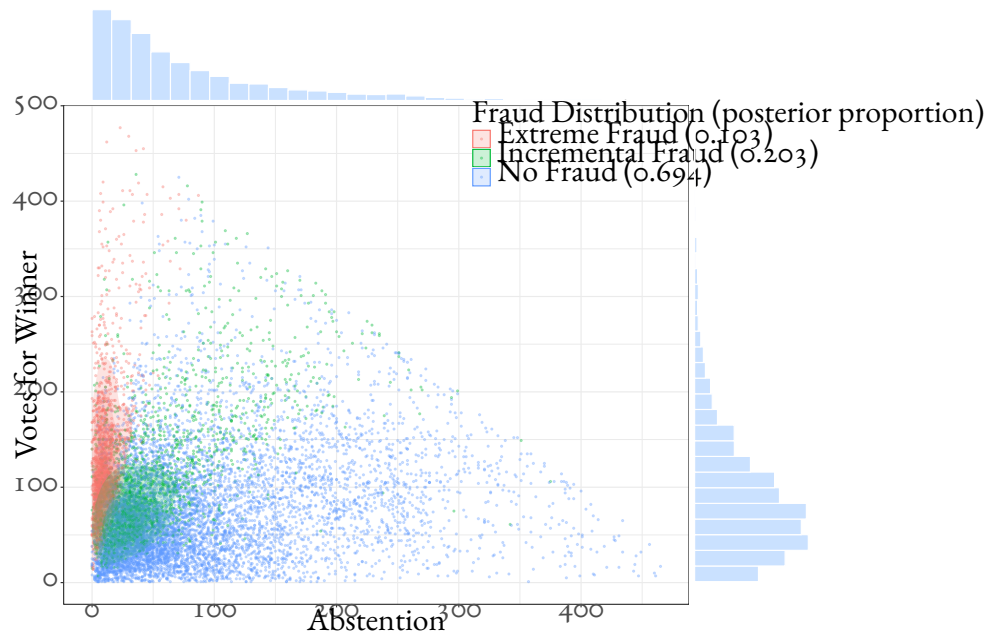


FIGURE C.14 Estimated Fraud Monarchist Candidate Winning Elections

LLIGA CANDIDATES

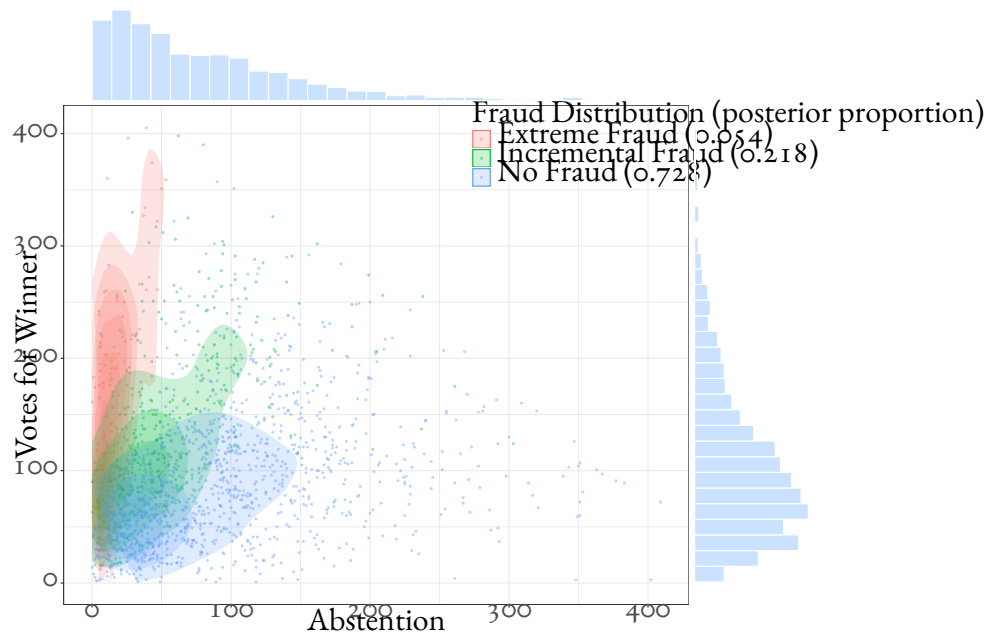


FIGURE C.15 Estimated Fraud Lliga Candidate Winning Elections

REPUBLICAN CANDIDATES

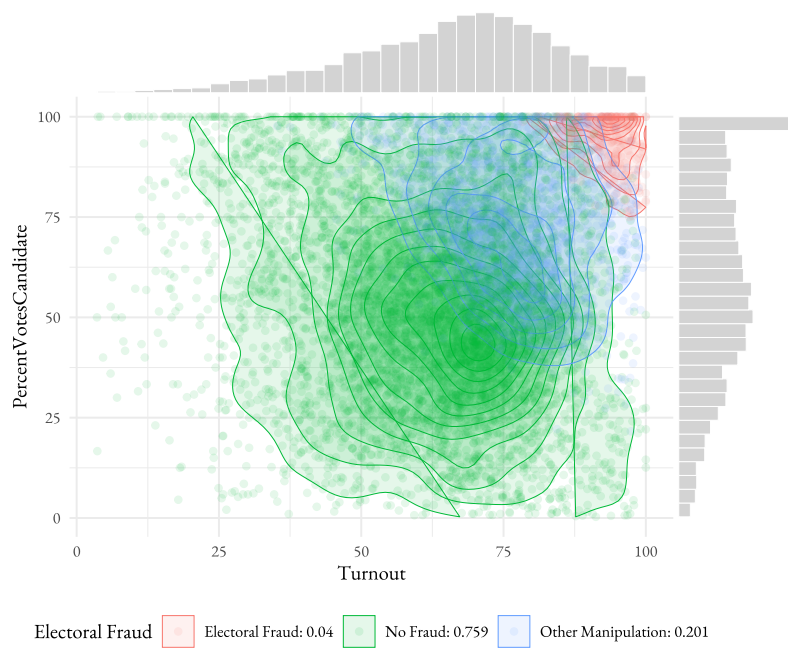


FIGURE C.16 Estimated Fraud Republican Candidates

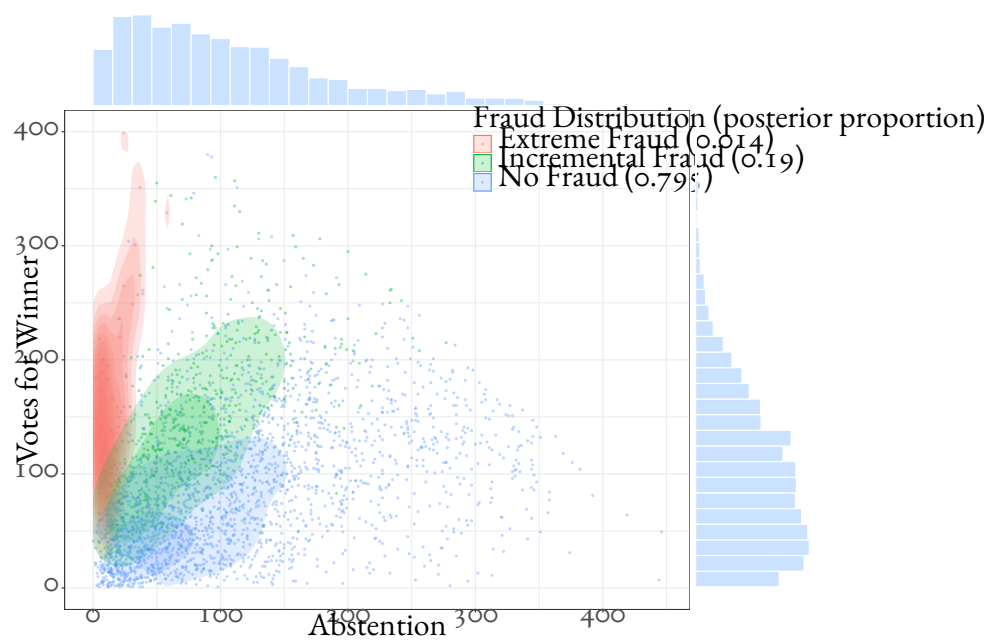


FIGURE C.17 Estimated Fraud Republican Candidate Winning Elections

C.5.1 DIFFERENT TYPES OF COMPETITION

MONARCHIST WINNING CANDIDATE VS. ...

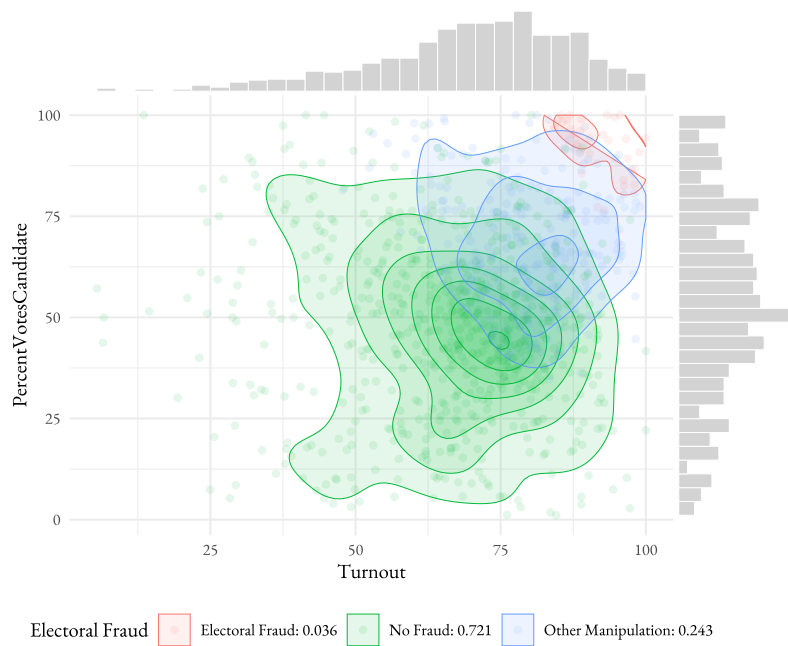


FIGURE C.18 Monarchist Elected Candidate vs. Lliga Candidate

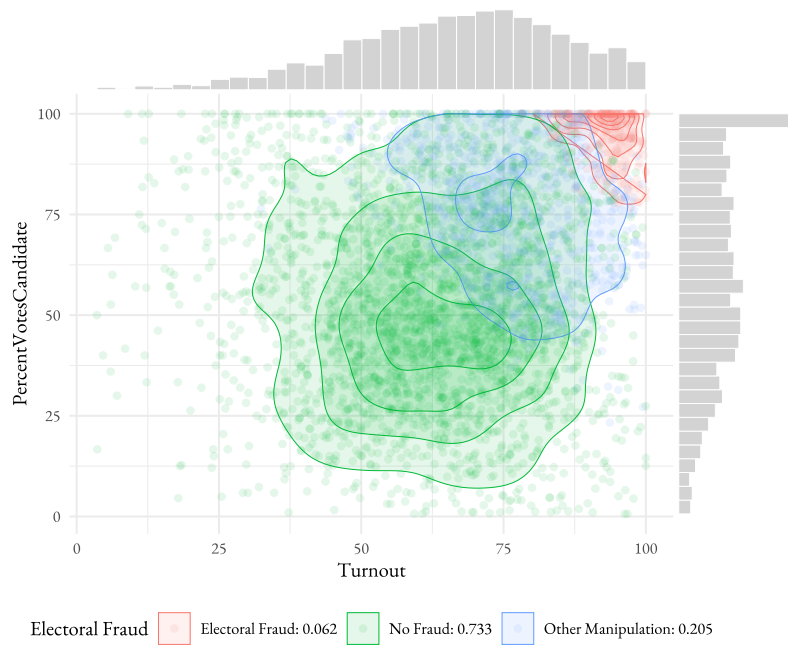


FIGURE C.19 Monarchist Elected Candidate vs. Republican Candidate

LLIGA WINNING CANDIDATE VS. ...

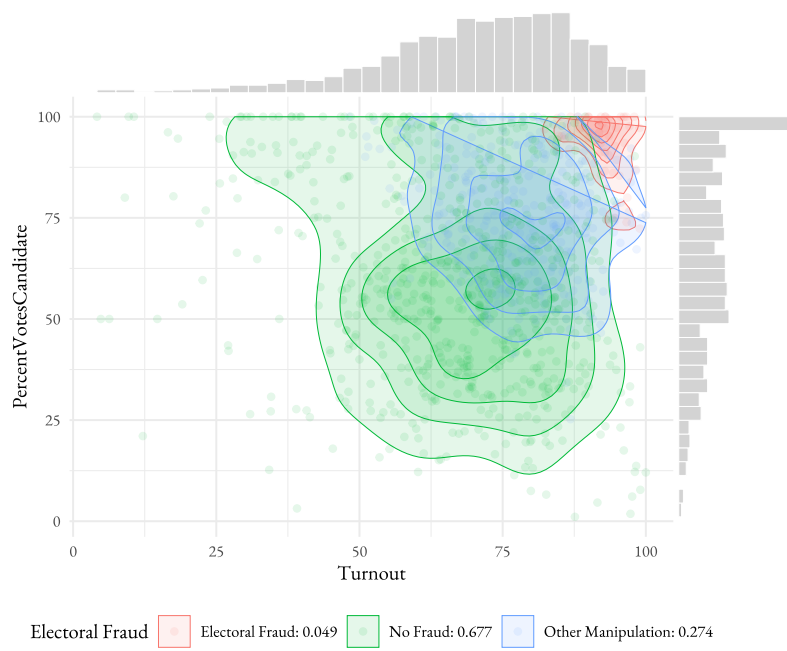


FIGURE C.20 Lliga Elected Candidate vs. Monarchist Candidate

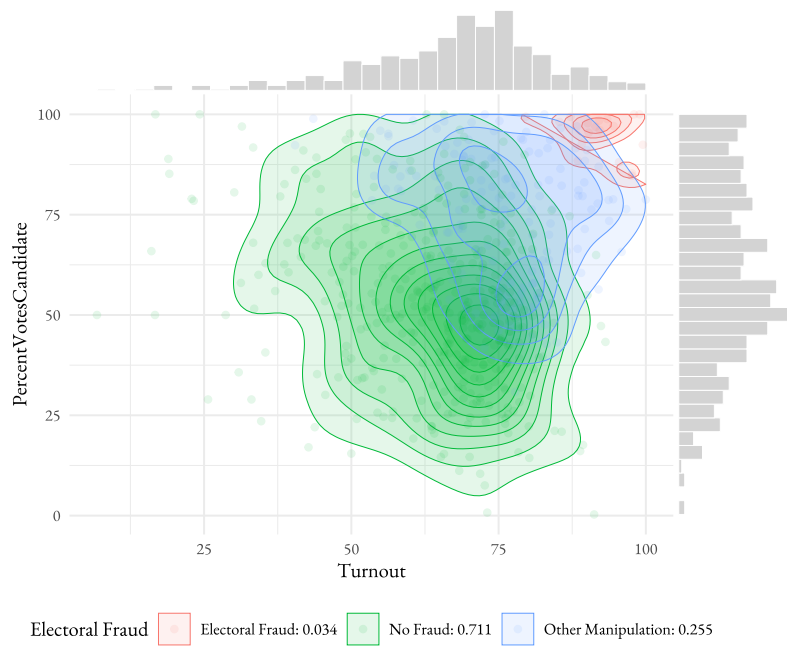


FIGURE C.21 Lliga Elected Candidate vs. Republican Candidate

REPUBLICAN WINNING CANDIDATE VS. ...

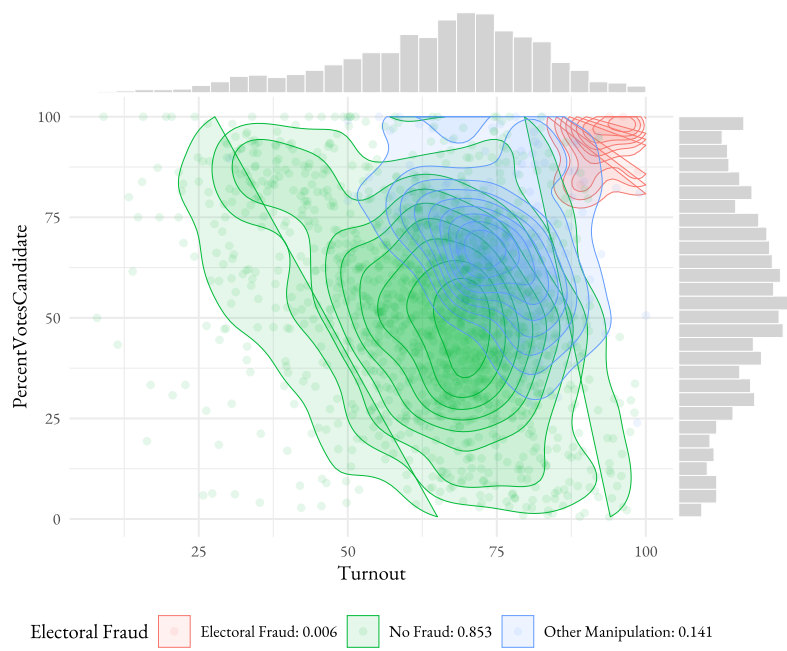


FIGURE C.22 Republican Elected Candidate vs. Monarchist Candidate

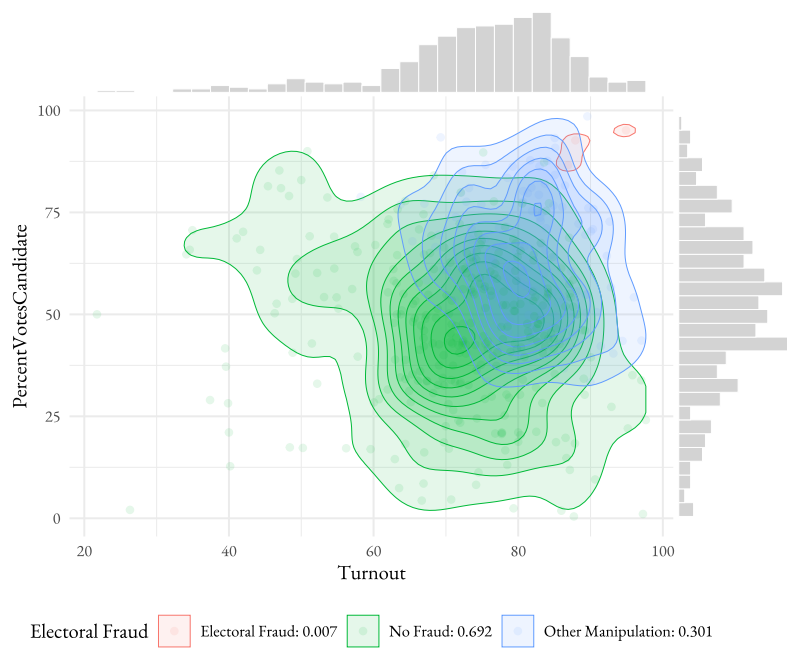


FIGURE C.23 Republican Elected Candidate vs. Lliga Candidate

## C.5.2 LOGISTIC ESTIMATION

TABLE C.1 Logistic Estimation

	M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>
Constant	0.136 (1.269)	−0.601 (1.287)	−0.257 (1.273)
Lliga	−0.366** (0.136)	2.773** (0.931)	−0.355** (0.136)
Land Gini	3.030*** (0.584)	3.892*** (0.637)	2.982*** (0.586)
Lliga × Land Gini		−4.676*** (1.392)	
Republican	−0.193+ (0.111)	−0.186+ (0.111)	−0.102 (0.115)
% Indust. Work.	0.001 (0.003)	0.001 (0.003)	0.008* (0.004)
Republican × % Work.			−0.021** (0.007)
Num.Obs.	9,684	9,684	9,684

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Standard errors in parentheses

*Note:* Controls included: Monarchist candidate, constituency magnitude, industrialization, population, % of women, and distance to constituency capital

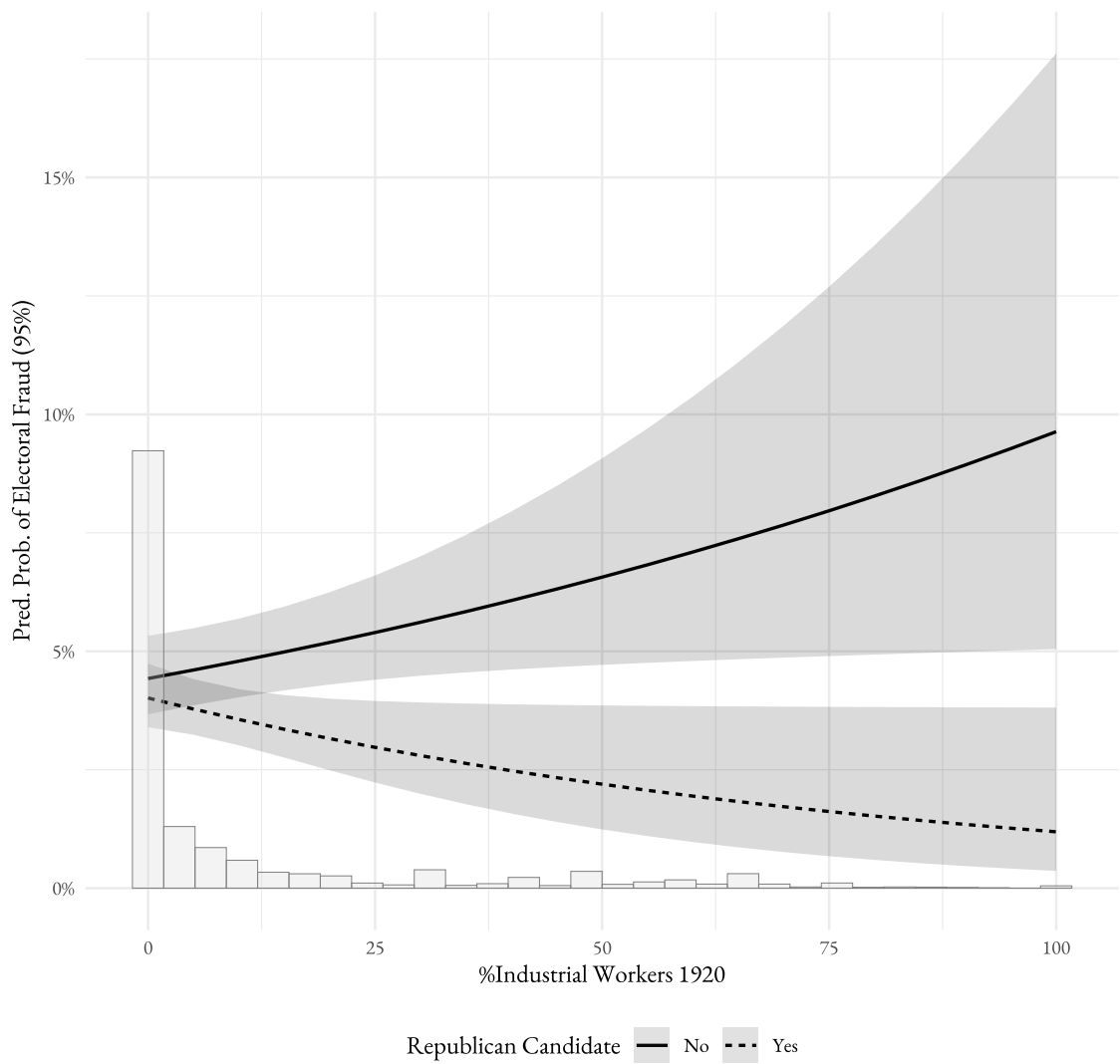
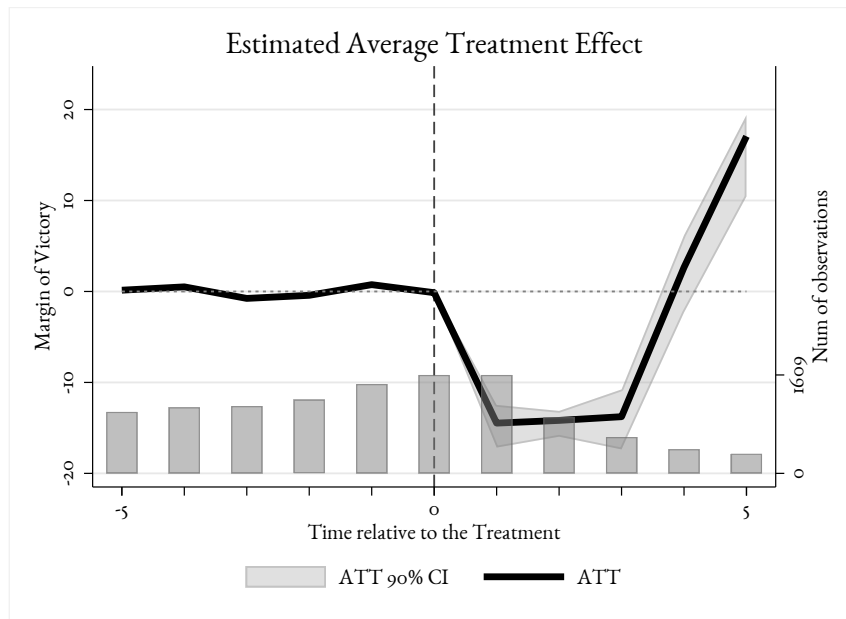


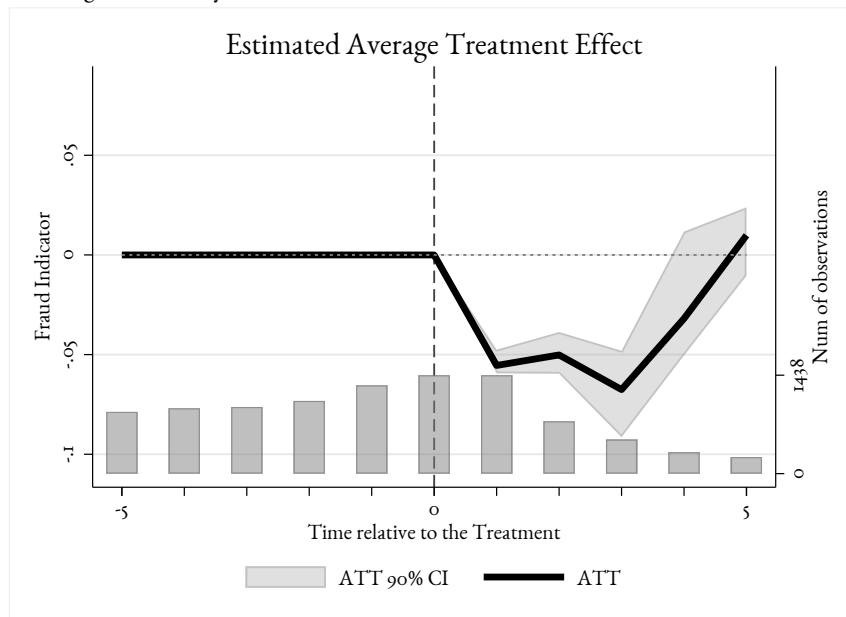
FIGURE C.24 Heterogeneous Effects of Republican Candidate and % Industrial Workers on Electoral Fraud (Logistic Estimation)

## C.6 EVENT-STUDY

## C.6.1 LLIGA



(A) Margin of Victory

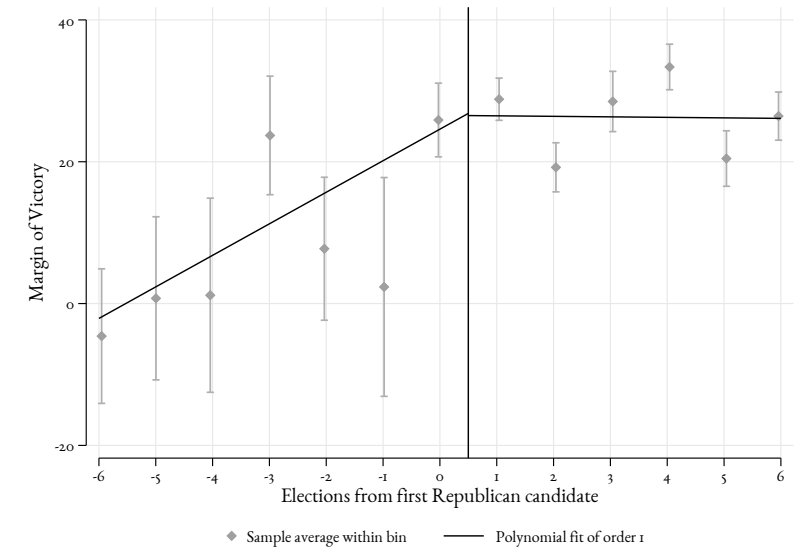


(B) Turnout and Winner Support

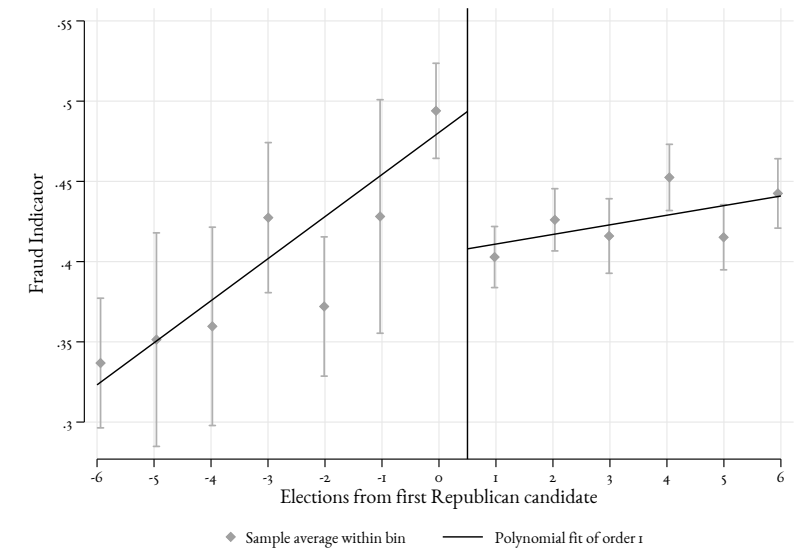
FIGURE C.25 Event-Study. Lliga Entrance (Counter-factual Data)



C.6.2 REPUBLICANS

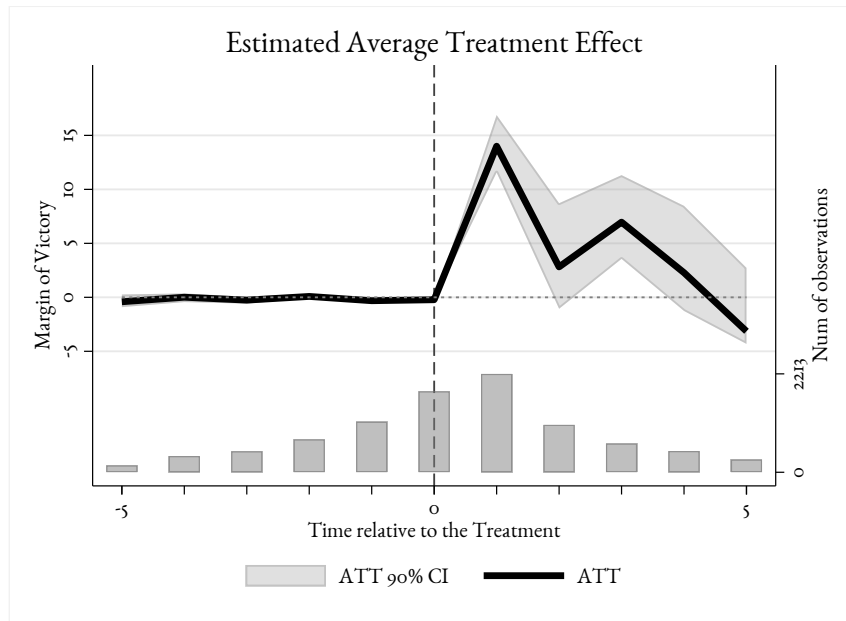


(A) Margin of Victory

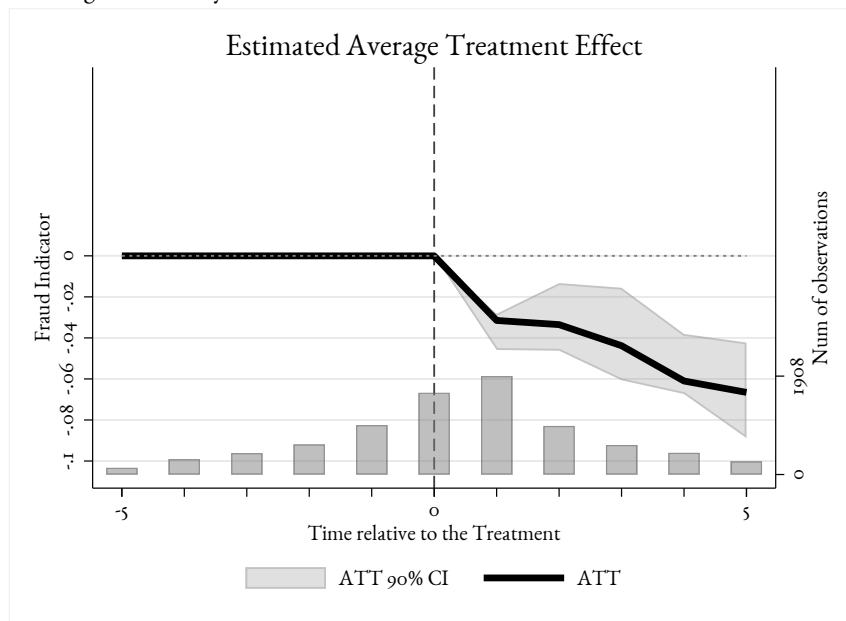


(B) Turnout and Winner Support

FIGURE C.26 Event Study. Republicans Entrance (Raw Data)



(A) Margin of Victory



(B) Turnout and Winner Support

FIGURE C.27 Event-Study. Republicans Entrance (Counter-factual Data)

## C.7 ROBUSTNESS: MULTINOMIAL ESTIMATION

TABLE C.2 Multinomial Model of Fraud Estimations

		Model 1
Other Manipulation	Constant	−0.161 (0.784)
	Lliga	0.198** (0.072)
	Monarchist	−0.013 (0.101)
	Republican	0.108+ (0.065)
	Magnitude	−0.309*** (0.067)
	Land Gini	0.069 (0.360)
	(log) Taxes	−0.010 (0.026)
	(log) Population	−0.084 (0.052)
	% Females	−0.006 (0.014)
	Dist. Const. Capital	0.010*** (0.002)
Electoral Fraud	Constant	0.564 (1.282)
	Lliga	−0.325* (0.137)
	Monarchist	−0.223 (0.192)
	Republican	−0.177 (0.111)
	Magnitude	−0.048 (0.113)
	Land Gini	3.056*** (0.587)
	(log) Taxes	−0.169*** (0.041)
	(log) Population	−0.165+ (0.092)
	% Females	−0.068** (0.022)
	Dist. Const. Capital	0.034*** (0.004)
Num.Obs.		9,684

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
Standard errors in parentheses

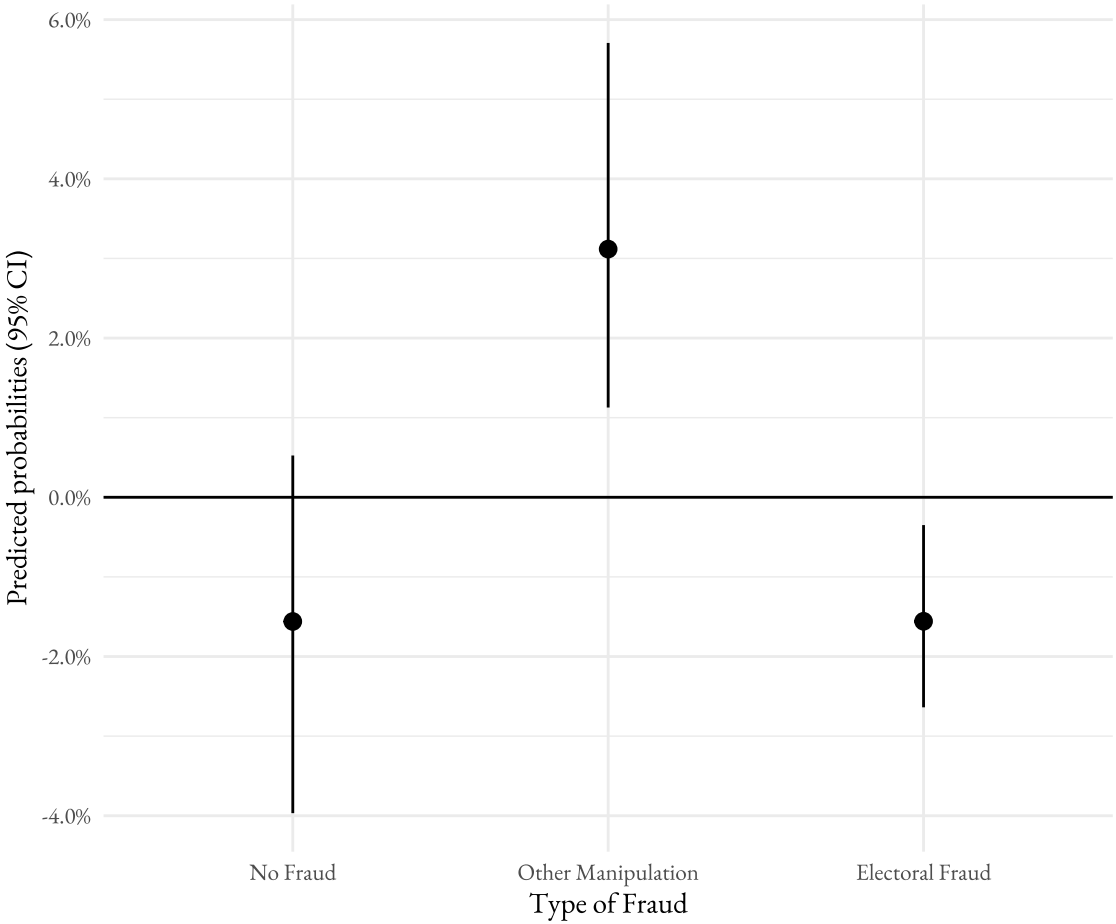
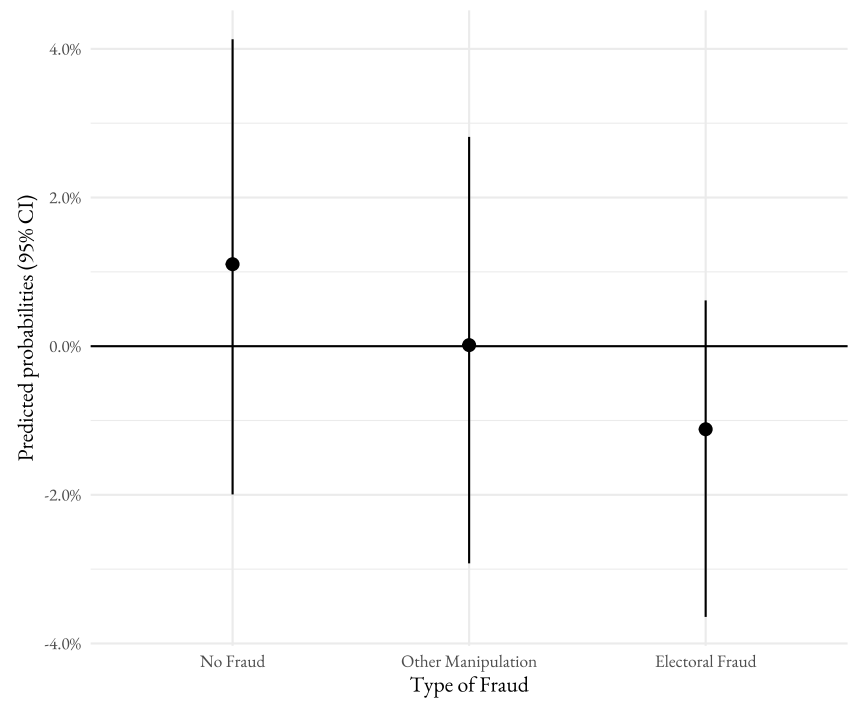
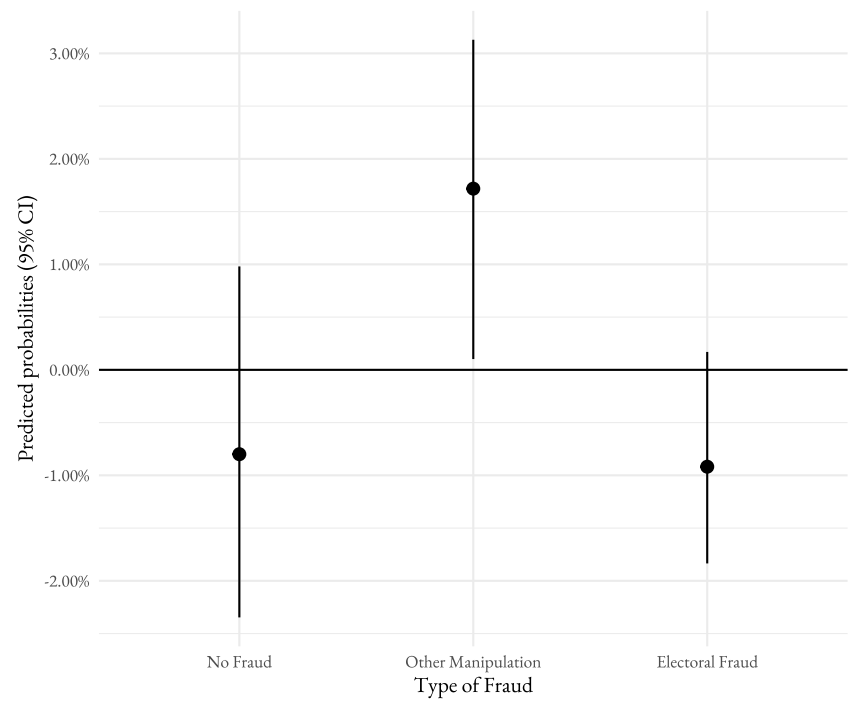


FIGURE C.28 Lliga Impact on Estimated Fraud



(A) Monarchist



(B) Republican

FIGURE C.29 Multinomial Estimation Predicted Probabilities

## C.7.1 MECHANISMS

TABLE C.3 Multinomial Models of Fraud Estimations. Interactive Effects

		Model 1	Model 2
Other Manipulation	Constant	0.096 (0.799)	−0.334 (0.803)
	Lliga × Land Gini	1.267+ (0.763)	
	Lliga	−0.663 (0.525)	0.204** (0.072)
	Land Gini	−0.285 (0.417)	0.100 (0.363)
	Republican × % Work.		−0.001 (0.003)
	Republican	0.107+ (0.065)	0.112 (0.069)
	% Indust. Work.		−0.001 (0.003)
Electoral Fraud	Constant	−0.129	0.157
	Lliga × Land Gini	−4.435** (1.402)	
	Lliga	2.650** (0.937)	−0.313* (0.137)
	Land Gini	3.856*** (0.641)	2.996*** (0.590)
	Republican × % Work.		−0.021** (0.007)
	Republican	−0.171 (0.111)	−0.081 (0.115)
	% Indust. Work.		0.008* (0.004)
Num.Obs.		9,684	9,684

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Standard errors in parentheses

Controls included: Monarchist candidate, constituency magnitude, industrialization, population, % of women, and distance to constituency capital

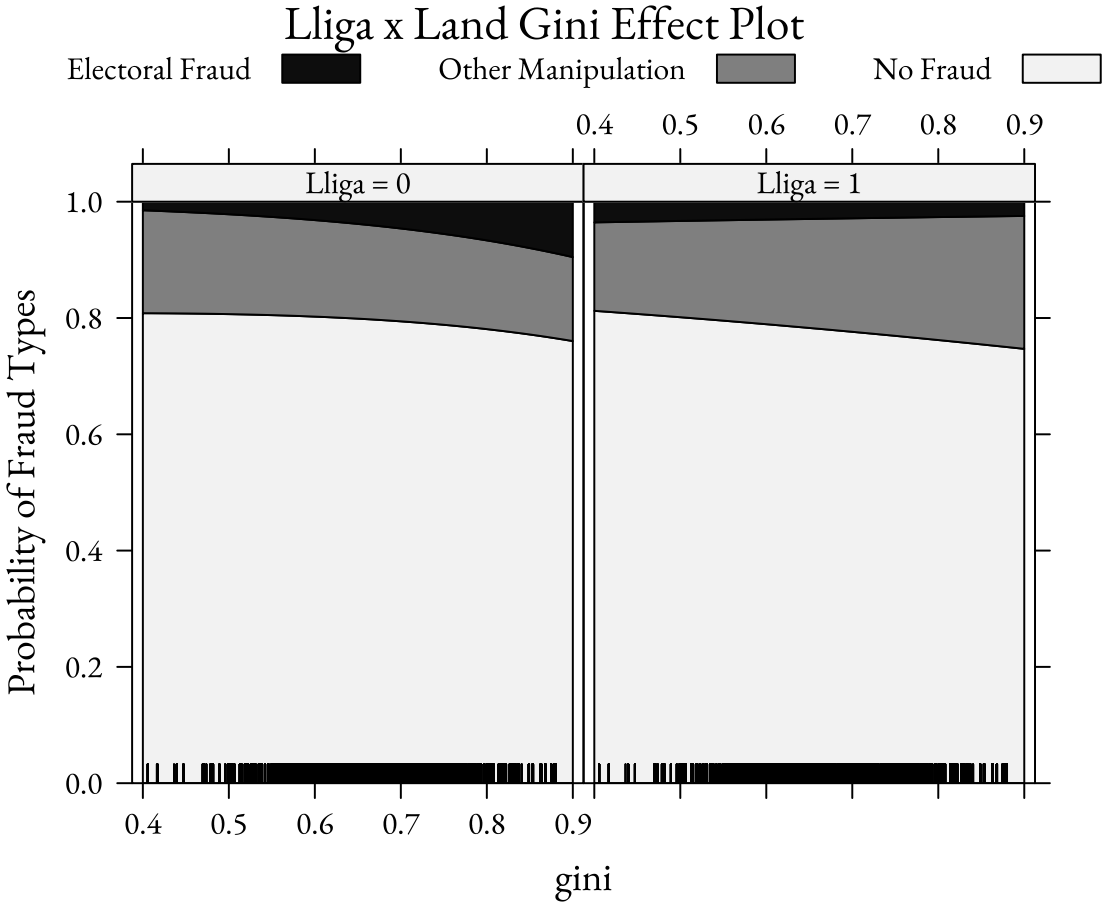


FIGURE C.30 Heterogeneous Effects of Lliga Candidate and Land Gini on Electoral Fraud

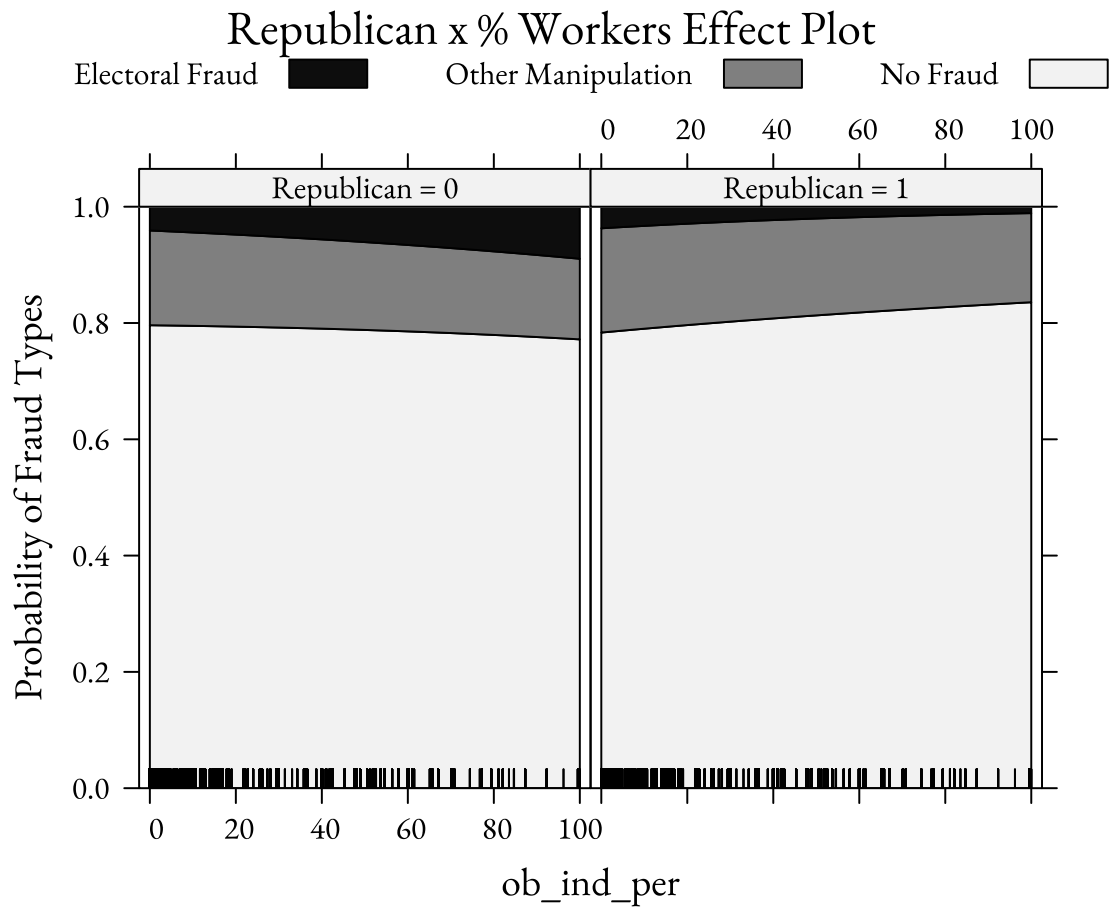


FIGURE C.31 Heterogeneous Effects of Republican Candidate and % Industrial Workers on Electoral Fraud





# D

## Paper 3. Supplementary Materials

### D.1 EXTRA FIGURES

#### D.1.1 TELEPHONE EXTENSION

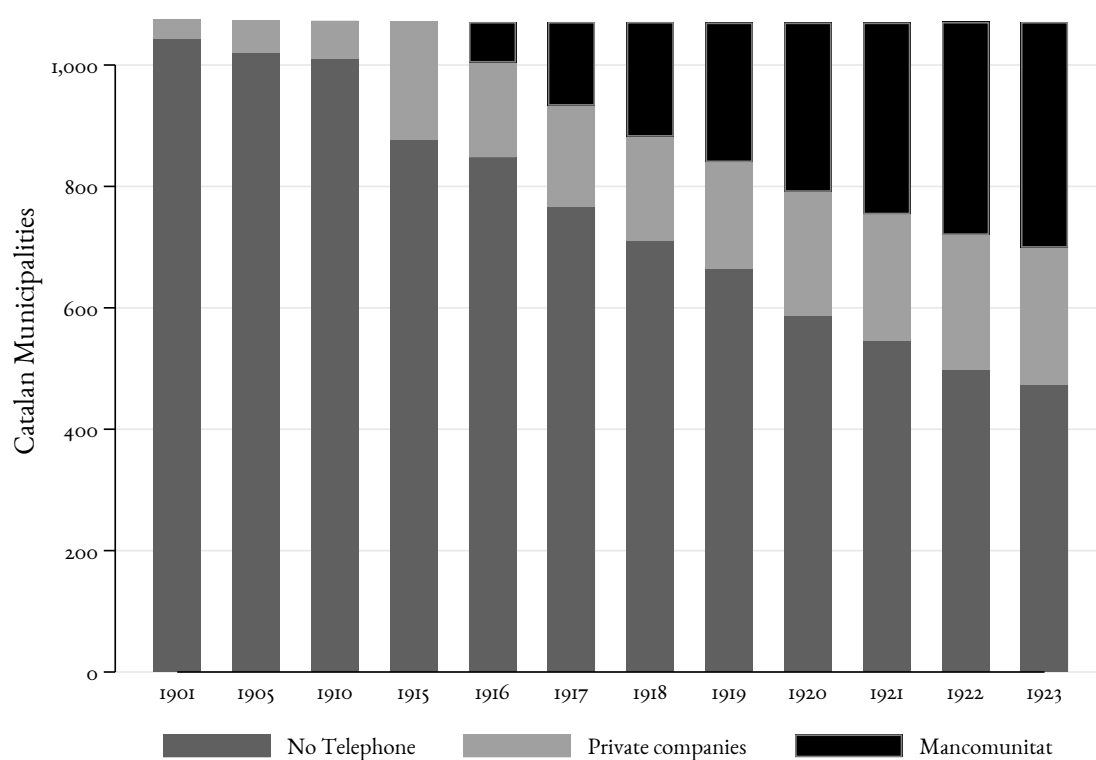


FIGURE D.1 Municipalities Connected for the First Time to Telephone Networks

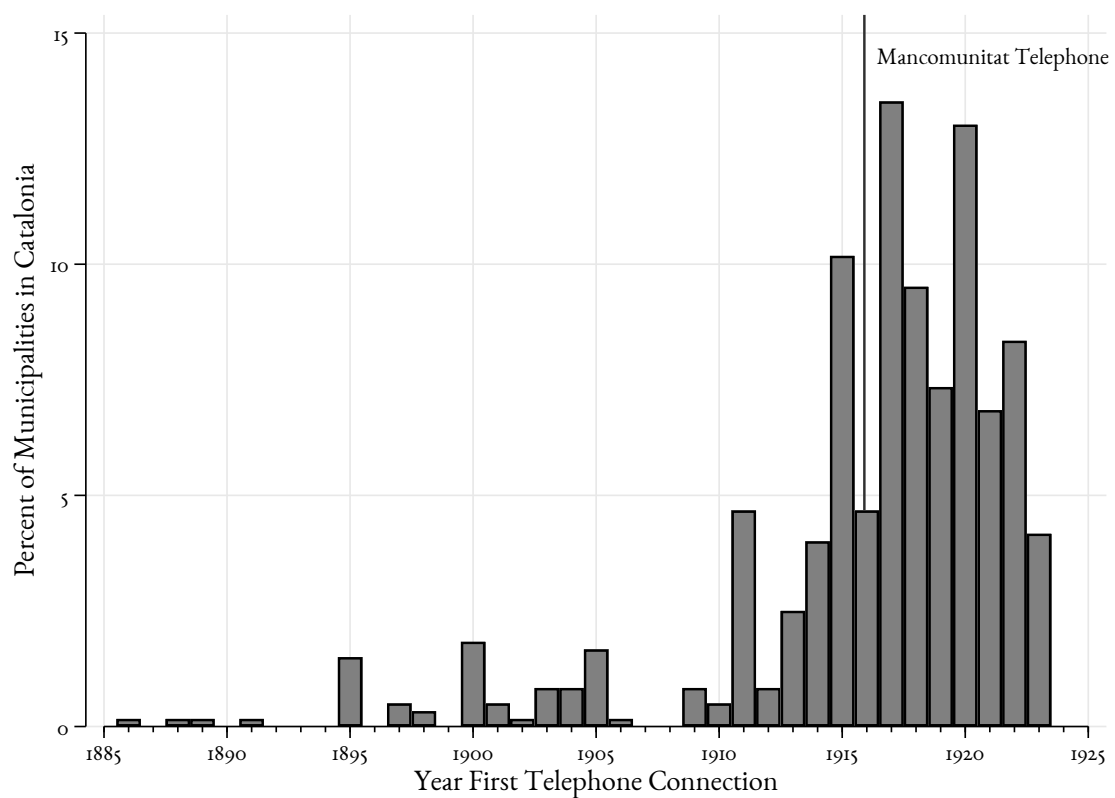


FIGURE D.2 Proportion of Municipalities Connected to Private or Mancomunitat Telephone Networks by Year of First Telephone Connection

## D.1.2 TELEPHONE DISTANCES

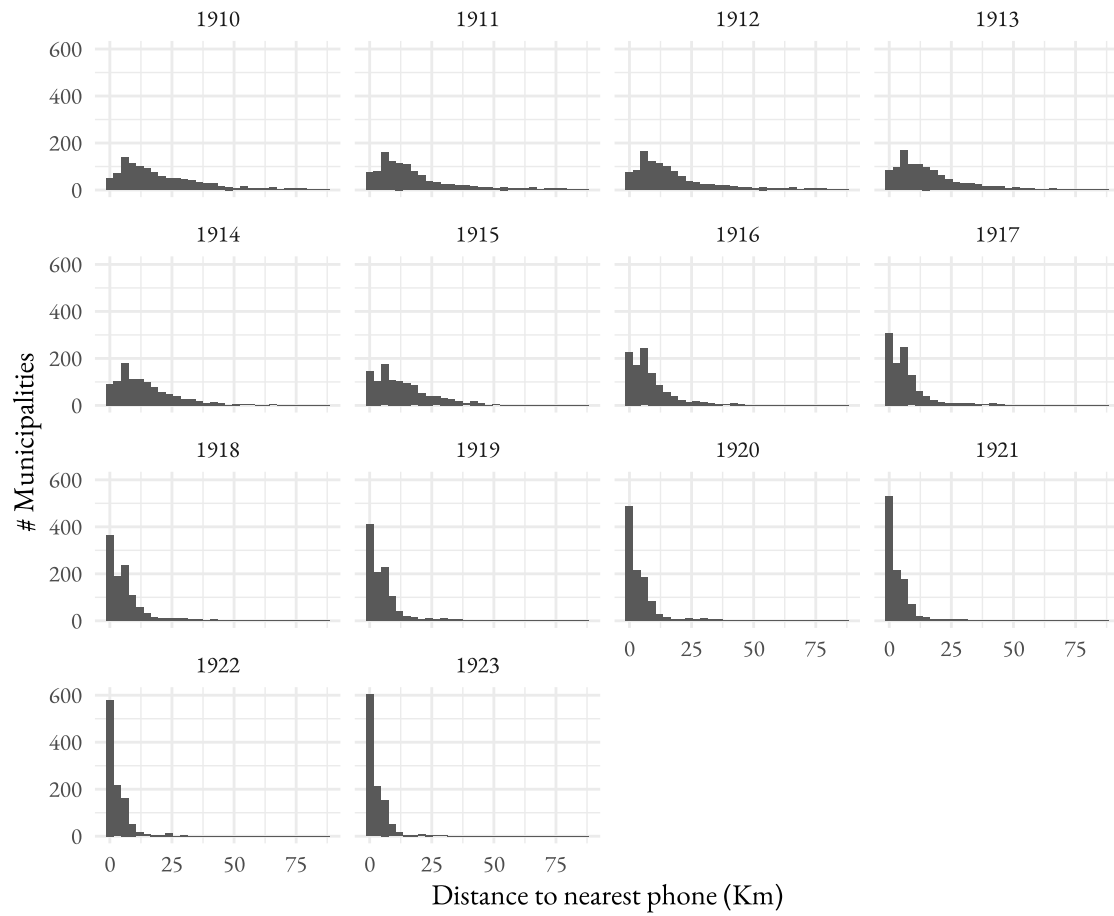


FIGURE D.3 Evolution in the Locality-Level Distance to a Phone Connection by Year

D.1.3 ANECDOTAL EVIDENCE

## Telefonía de la Mancomunidad

Consiguióse al efecto. Las banderolas de la Mancomunidad, paseadas por los pueblucos del distrito, sirvieron de espejuelo: ¡cazaron votos!

Era lo que se trataba de demostrar. Satisfechos sus deseos, los farsantes han vuelto al almacén las banderolas y... ¡hasta las elecciones!

La Mancomunidad tenderá su red telefónica por el Vallés, allá, por el año 2444.

Confiemos en que nuestros tatara-tatara-tatara nietos nos, traerán tal nueva, al otro mundo.

FIGURE D.4 Newspaper Excerpt

*Translation:* They made the effect. The banners of the Mancomunitat, all over the small villages in the constituency, were mirrors attracting voters! That is what they wanted to prove. Once they satisfied their desires, the deceitfuls have returned the banners into the stores and ...until the elections! The Mancomunitat will extend its telephone network in Vallès [county] around 2444. We hope that our grand-grand-grand-children will bring us these news to the other world.

*Source:* El Demócrata [Newspaper in the City of Granollers]. Published on April 16, 1916.

## D.2 DATA SOURCES

## D.2.1 ORIGINAL MAPS

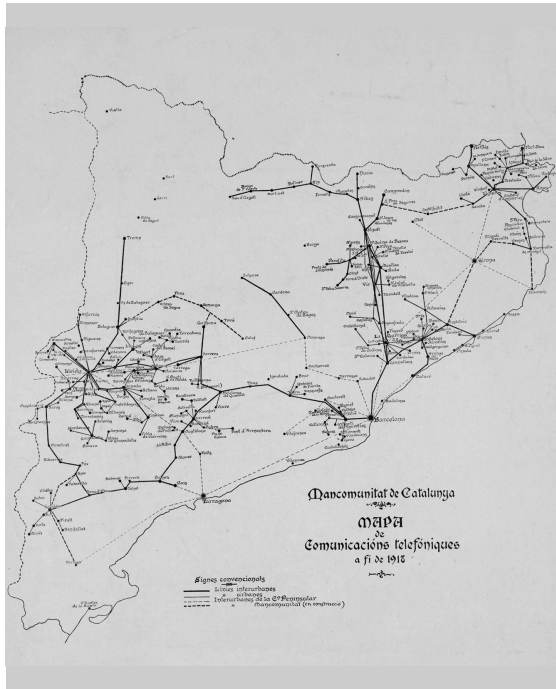
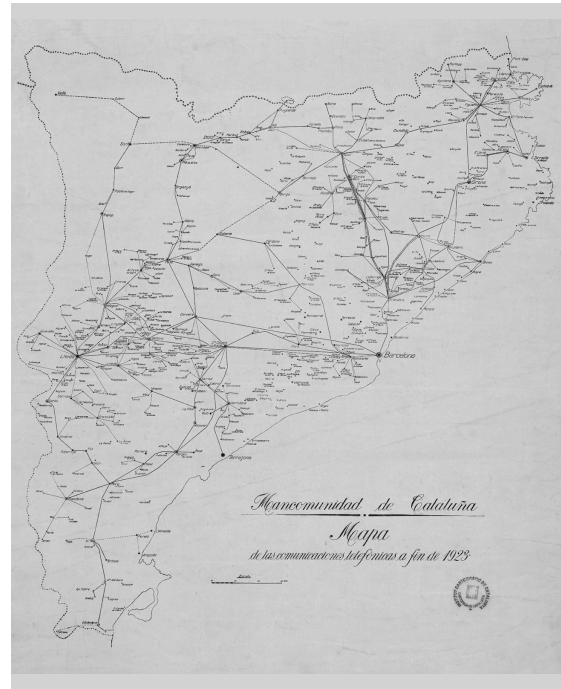
(A) Telephone Network in 1918. Original [here](#).(B) Telephone Network in 1923. Original [here](#).

FIGURE D.5 Original Maps

Source: Cartoteca Institut Cartogràfic i Geològic de Catalunya (2020)

## D.2.2 ARCHIVAL DATA

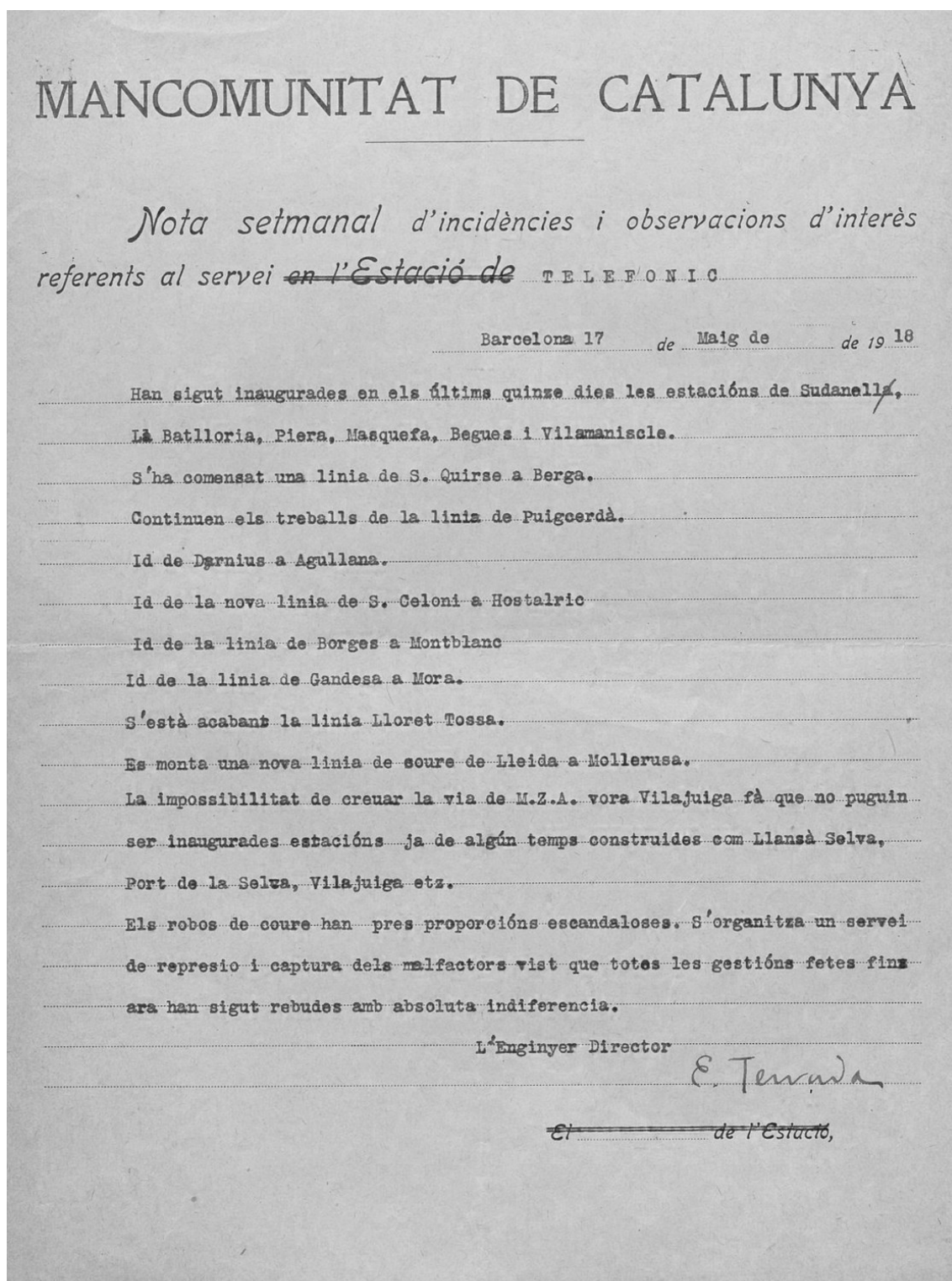


FIGURE D.6 Weekly Report by Esteve Terradas

In this document Terradas acknowledges the inauguration of the telephone service in the localities of Sudanell, La Batllòria, Piera, Masquefa, Begues, and Vilamaniscle in the last 15 days.

Source: Arxiu Nacional de Catalunya. Reference: ANC1-737-T-4425

Estación Telefónica Interurbana. - Avinyó, 11, 13 y 15. - BARCELONA

Compañía Peninsular de Teléfonos

Telefonema urgente \_\_\_\_\_ D. \_\_\_\_\_  
 Respuesta pagada \_\_\_\_\_ R. P. Núm. 525 Circuito \_\_\_\_\_  
 Acuse recibo \_\_\_\_\_ C. R. El Telefonista, \_\_\_\_\_  
 Correo pagado \_\_\_\_\_ P. P. \_\_\_\_\_  
 Correo pagado certificado \_\_\_\_\_ P. R. \_\_\_\_\_

**TELEFONEMA**

La Compañía Concesionaria no acepta responsabilidad alguna respecto al servicio telefónico (art. 441 del Reglamento de Telégrafos).

La primera población que se indica es la procedencia y la segunda el punto de destino.  
 El primer número que figura después de la estación de destino es el de origen; el segundo indica el de las palabras  
 y los siguientes la fecha y hora de depósito y de recepción.

FORADADA BARRIA 456 36 25 20-10 22 T. J. MA DUGA DA

PRESIDENTE M. CATALUÑA

AL INAUGURAR TELEFONO PUBLICOS TODO EL PUEBLO POR INTERSECCION  
 DE ESTE SINDICATO AGRICOLA REMITE E A V.E. TAN IMPORTANTE  
 MEJORA CONFIRANDO EN EL ENGRANDECIMIENTO DE NUESTRA AMADA  
 CATALUÑA BAJO SU ACERTADA DIRECCION

JUAN MASES

FIGURE D.7 Note of thanks via telephone for the inauguration of telephone services

This message was sent by members of the cooperative in the locality of Foradada to the president of the Mancomunitat de Catalunya, Josep Puig i Cadafalch, shortly after the telephone services were inaugurated in this locality.  
*Source:* Arxiu Nacional de Catalunya. Reference: ANC1-737-T-4012



CENTRALS					ESTACIONS		Observacions	Data d'inauguració
Interurbanes	Urbanes	Sistema	Capacitat	Nombre d'abonats	Interurbanes	Urbanes		
Juneda	Torregrossa Bellcayre	Ericsson	30	15	Pobla Segur	Arbeca Floresta Puiggròs		17-X-16 1-VIII-17 6-VIII-18 18-XII-16
Linyola		"	12	6				13-I-17 1-VIII-17 1-VII-17
Tremp		"	6	4				
Vinaixa]		"	12	6				
			50	27		Albí		1-I-18 23-I-17 13-XI-16
			12	6		Cervià Pobla de Cièrvols		13-XI-16 13-X-17 13-X-17
	Alcarraç	"	6	5				
	Aytona	"	12	6				
	Granja d'Escarp	"	12	5				10-XI-17 10-XI-17
Serós		"	20	8		Masalcoreig		13-X-17

FIGURE D.8 Excerpt of Telephone details in Mancomunitat de Catalunya (1919)

1630

GERONA (PART. JUD. DE LA BISBAL)

**Bagur** Villa con Ayunt. de 1.908 hab. de H. y 1.915 de D. Dist. 16 kilómetros de la cabeza del partido y 41 de Gerona. Tiene un camino vecinal a Palafrugell, cuya estación es la más próxima (F. P.), de la cual dista 6 kilómetros, que empalma con la carretera de Palamós a Gerona. Las producciones son vino y aceite. Se recoge coral. Hay semáforo. Celebra fiestas mayores el 29 de junio y el tercer domingo de Septiembre. — T. — ☎. — ✉.

#### Elemento oficial

Alcalde. — Don José Silvestre.

Secretario. — D. Esteban Pla Masías.

Jefe municipal. — Don Francisco Roca.

Fiscal. — D. Eduardo B. Fiol.

Secretario. — D. Conrado Prat.

Pirroco. — D. Martín Xicoy y Sagraera.

Coadjutor. — D. Antonio Bassola Ordez.

Autoridad militar. — D. Juan Santurria, cabo de la Guardia civil.

Abacerías. — Ferrer (Ana). Jofre (José). Mir Regla (Gines).

Acetite (Prensas de). — Caner (José). Pi y Puig (José).

Agente negocios. — Fiol (Eduardo B.).

Alumbrado públ. — Por petróleo.

Barberías. — Carreras (José). Marqués (José). Pares Robau Zenón.

Cafes. — «Del Noi», Francisco Gispert. Vilanova (Rafael).

Camisoles. — Pi Prats (Teresa). Ros (Juan). Serrallés (Narciso).

Carnicerías. — Ferrer (Dolores). Figuerola (Salvador). Marull (Francisco). Moret (Carlos).

Carpinterías. — Amat (Francisco). Bellas (Miguel). Casademont (Francisco). Faltu (Gines). Renart (Emilio).

Cerrajería. — Aulet (Pablo).

Colegios. — PARA NIÑOS HH. Carmelitas de la Caridad.

PARA NIÑOS Piana (Jaime).

PARA PÁRVULOS Prat (Conrado).

Comestibles. — Comas (José). Hospital (Juan). Marqués (Ana). Malvasi (Juan Bta.). Ribas (Vda. de F.).

Coms. religiosas. — HH. Carmelitas de la Caridad. Terciarias Carmelitas Descalzas de Sta. Teresa de Jesús.

Confiterías. — Masó (Juan). Pi Vilallonga (José). Puig (Francisco). Sociedad cooperativa «La Bagurense».

Droguerías. — Masó (Juan). Puig (Francisco).

Ese. municipales. — Páges (Gracia).

PARA NIÑOS FERRER COLL (José), correspondiente al ANUARIO RIERA en esta población.

Estanco. — Mir (Gines).

Farmacia. — Mató Barceló (José).

Herrería. — Rodá (Agustín).

Hospital. — A cargo de las Terciarias Carmelitas Descalzas de Santa Teresa de Jesús.

Jugueterías. — Coms. de Marqués (María).

Médicos. — Mas (Juan). Pi (Francisco).

Mercerías. — Busquets (Teresa). Deulader (Francisco). Mató Mauri (Ana).

Modistas. — Boñil (María). Boñil (María). Forgas (Dolores). Sirés (Benita).

Panaderías. — Esponella (Juan).

Mauri Mauri (Juan). Sociedad Económica.

Recaderos. — Frigola (Mariano).

Sastrerías. — Costa (Pedro). Deulader (Francisco). Marqués (José).

Serv. carruajes. — A Palafrugell, diario, a las 10 m. y 430 T. precio 0/75 peseta ascenso.

Sillas. — Talleres de Ferrer Elias (Pedro).

Sociedades. — SOCORROS MUTUOS Cooperativa «La Bagurense». COXIMA Cooperativa «La Económica».

COCALES. — «La Cigala Bagurense».

RECREATIVAS. — Centro Artístico. «Unión Bagurense».

Taponos de corcho. — (Fabricas de) Caner y Ferrer. Forgas (Hijos Francisco).

Marqués (Agustín). Mató Mauri (José). Puig (Angel).

Tejidos (Comercios). — Basquet (Teresa). Marqués (José). Serrallés (Narciso).

Ultramarinos. — Comas Darna (José). Económica Bagurense. Masó (Juan).

Vinos. — (Los principales) Ferrer (Vicente). Forgas (Salvador).

Zapaterías. — Marull Benito.

Mercerías. — Busquets (Teresa). Deulader (Francisco). Frigola (José). Marqués (Sebastián). Pi Puig (José).

AGREGADOS. — L. de 192 H. y de 192 D. Coadjutor. — Don Pedro Panonny Mató.

Caner (Luis). Colom (Rafael). Comas (Rafael). Hfre (Miguel). Mas (Raimundo). Sagrera (Juan).

Carros (Consts.). Agustí (Salvador). Comas (Martín). Solá (Juan).

Carros de transportes. — Caner (José). Clara (Andrés). Llorens (Rafael). Palrulló (Mannel). Piana (Pedro).

Carruajes alquiler. — Caner (José). Jofre (Enrique). Llorens (Rafael).

Casinos. — (Véase Sociedades).

Cerrajerías. — Gumá (Juan). Roig (Abdón).

Colegios. — PARA NIÑAS HH. Carmelitas. PARA NIÑOS HH. de las Escuelas Cristianas.

Comadrona. — Noguer (Adelaida).

Comestibles. — Sociedad cooperativa «La Ley». Sociedad cooperativa «La Progreso».

Com. religiosas. — HH. Carmelitas. HH. de las Escuelas Cristianas.

Corcho (Cosecheros). — (Los principales) Bon (José). Dalmau (Martín). Lloret (José). Lloret (Severo). Oliver (Pedro). Palli (José). Pallimonjo (Rosario). Radó (José). Reixach (Jaime). Torró (Antonio). Yañes (Miguel). Veray (Jaime). Vilanova de Cabanyes (Vizconde de) Viñas (Pedro).

Cristales, muelles y de colores. — Casademont (Viuda de Narciso). Gumá (Juan).

Ese. municipales. — PARA NIÑAS Camps (Constancia). Pou (Catalina).

PARA NIÑOS Moreno (Luis). Tort (Juan).

Estancos. — Barnes (Narciso). Casademont (Jaime). Dispes (Federico).

Farmacia. — Ponjoan (José).

Marinas (Molinos). — Fábregas (Juan). Homs (José). Saballs (Pedro).

Herrerías. — Condom (Pedro). Gispert (Benito). Ullastres (Lorenzo).

Médicos. — Ponjoan (Gines). Viladecan (Baudilio).

Mercerías. — Camps (Adolfo). Casademont (Narciso). Dalmau (Deogracias). Recolta (Catalina). Villar (Florentina).

Modistas. — Dalmau (Mannela). Ferrán (Francisca). Ferrer (Joquina). Saguer (Rosa).

Notarios. — Vacante.

Panaderías. — Bayo (Juan). Boñil (Silvestre). Costa (Ramón). Calubret (Esteban). Ponsati (Narciso). Tolaguer (Melchor). Vilaseca (Pedro). Xifré (Jaime).

Sastrerías. — Margarit (Emilio). Moner (Luis). Palli (Joquín). Roselló (Pedro). Sitjas (Luis).

Serv. carruajes. — A Castillo de Ardiario. A La Bisbal, los viernes. A Palamós, diario. A San Feliu de Guixols, diario.

Sociedades. — Casino «La Fraternidad». Casino «La Unión». «Casino Obrero».

Taponos de corcho. — (Fabricas de) Bachilleria (José). Balmada (José). Barceló (Miguel). Bas (Jaime). Bota (Eugenio). Cama (José). Clara (Enrique). Clara (Juan). Clara (Luis). Clara (Narciso). Clara S. (José). Clara V. (José). Darnaculleta (G.). Estrany (José). Farnés y C.ª (Zenón). Ferrer (Antonio). Maruny Baudilio. Maruny (Simón). Masferrer (Eugenio). Mir (Baldomero). Palli (Francisco). Palli (Marcos).

Propietarios (Frais). — Barceló (Juan). Bonet (Pedro). Bota (María). Bou B. (Juan). Bou (José). Capell (Lucia). Carles (Andrés). Carles (Enrique). Fort (José). Lloret (Severo). Oliver (Pedro). Palli (Manuel). Pallimonjo (Rosario). Puig (Jaime). Puig (Pedro). Radó (Emilia). Radó (José). Reixach (Jaime). Ribot (José). Rotllán (Eugenio). Roura (Enrique). Roura (María). Sabater (Domingo). Sabater (Elisa). Salvador (Juan). Sardo (Tomás). Valmadra (José). Vellver (José). Vizconde de Vilanova de Cabanyes. Xifré (Jaime).

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

Puig (Jaime). Radó (Francisco). Roura Forgas (T.). Saguer y Hno. (M.). Saquet (Joquín). Serrá (Miguel). Serra (Martín). Vert (Esteban). Vilanova (Andrés). Vilanova (Juan). Villar Hnos. (José). Villar (Nicolas). Villar (Jaime).

Tejidos (Comercios). — Camps (Adolfo). Casademont (Narciso). Carles (Deogracias). Clara (Enrique). Clara (Enrique). Villar (Florentina).

Veterinarios. — Lloret (Severo). Reixach (Jaime).

Vinos (Cosecheros). — (Los principales) Bon (José). Oliver (Pedro). Palli (José). Sabater (Domingo). Salvador (Juan).

Zapaterías. — Dalmau (Marcelino). Parés (Juan). Puig (José). Villar (Baudilio).

Propietarios (Frais). — Barceló (Juan). Bonet (Pedro). Bota (María). Bou B. (Juan). Bou (José). Capell (Lucia). Carles (Andrés). Carles (Enrique). Fort (José). Lloret (Severo). Oliver (Pedro). Palli (Manuel). Pallimonjo (Rosario). Puig (Jaime). Puig (Pedro). Radó (Emilia). Radó (José). Reixach (Jaime). Ribot (José). Rotllán (Eugenio). Roura (Enrique). Roura (María). Sabater (Domingo). Sabater (Elisa). Salvador (Juan). Sardo (Tomás). Valmadra (José). Vellver (José). Vizconde de Vilanova de Cabanyes. Xifré (Jaime).

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

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Tremal. — C. de 66 hab. de H. y 66 de D.

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San Daniel. — C. de 91 hab. de H. y 90 de D.

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San Daniel. — C. de 91 hab. de H. y 90 de D.

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AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

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San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

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San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

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AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

AGREGADOS. — San Antonio. — A. de 691 hab. de H. y 599 de D.

San Daniel. — C. de 91 hab. de H. y 90 de D.

Tremal. — C. de 66 hab. de H. y 66 de D.

**Calonge** Villa con Ayunt. de 3.293 hab. de H. y 3.226 de D. Dist. 13 kilómetros de la cabeza del partido. La estación más próxima es Palamós, a 4 kilómetros (F. P.). Su producción principal es el corcho; se recoge trigo, legumbres, vino y aceite. Celebra mercado los domingos, ferias 1.ª y 2.ª de febrero y 15 de junio; la fiesta mayor el 29, 30 y 31 de julio y 11, 12 y 13 Noviembre. — T. — ☎. — ✉.

#### Elemento oficial

Alcalde. — D. Miguel Valmaña Caner.

Secretario. — D. Juan Palli Dalmau.

Jefe municipal. — Don N. N.

Fiscal. — Don N. N.

Secretario. — D. Jaime Clara Villar.

Pirroco Regente. — D. Miguel Serra.

Coadjutores. — Don Juan Noguer. D. Miguel Mediña.

Abacerías. — Batlle (Elisab.). Bonet (Pedro). Clara (José). Dispes (Federico). Guitó (Tomás). Nadal (José). Pascual (Benito). Ribot (Narciso). Salvador (Juan).

Acetite (Prensas de). — Caner (José). Pi y Puig (José).

Agente negocios. — Fiol (Eduardo B.).

Alumbrado públ. — Por petróleo.

Barberías. — Carreras (José). Marqués (José). Pares Robau Zenón.

Cafes. — «Del Noi», Francisco Gispert. Vilanova (Rafael).

Camisoles. — Pi Prats (Teresa). Ros (Juan). Serrallés (Narciso).

Carnicerías. — Ferrer (Dolores). Figuerola (Salvador). Marull (Francisco). Moret (Carlos).

Carpinterías. — Amat (Francisco). Bellas (Miguel). Casademont (Francisco). Faltu (Gines). Renart (Emilio).

Cerrajería. — Aulet (Pablo).

Valmaña (Luis). Villar (Martín). Xifré (Juan).

Acetite (Prensas de). — Caner (José). Pi y Puig (José).

Agente negocios. — Fiol (Eduardo B.).

Alumbrado públ. — Por petróleo.

Barberías. — Carreras (José). Marqués (José). Pares Robau Zenón.

Cafes. — «Del Noi», Francisco Gispert. Vilanova (Rafael).

Camisoles. — Pi Prats (Teresa). Ros (Juan). Serrallés (Narciso).

Carnicerías. — Ferrer (Dolores). Figuerola (Salvador). Marull (Francisco). Moret (Carlos).

Carpinterías. — Amat (Francisco). Bellas (Miguel). Casademont (Francisco). Faltu (Gines). Renart (Emilio).

Cerrajería. — Aulet (Pablo).

Colegios. — PARA NIÑOS HH. Carmelitas de la Caridad.

PARA NIÑOS Piana (Jaime).

Estanco. — Mir (Gines).

Farmacia. — Mató Barceló (José).

Herrería. — Rodá (Agustín).

Hospital. — A cargo de las Terciarias Carmelitas Descalzas de Santa Teresa de Jesús.

Jugueterías. — Coms. de Marqués (María).

D.3 DESCRIPTIVES

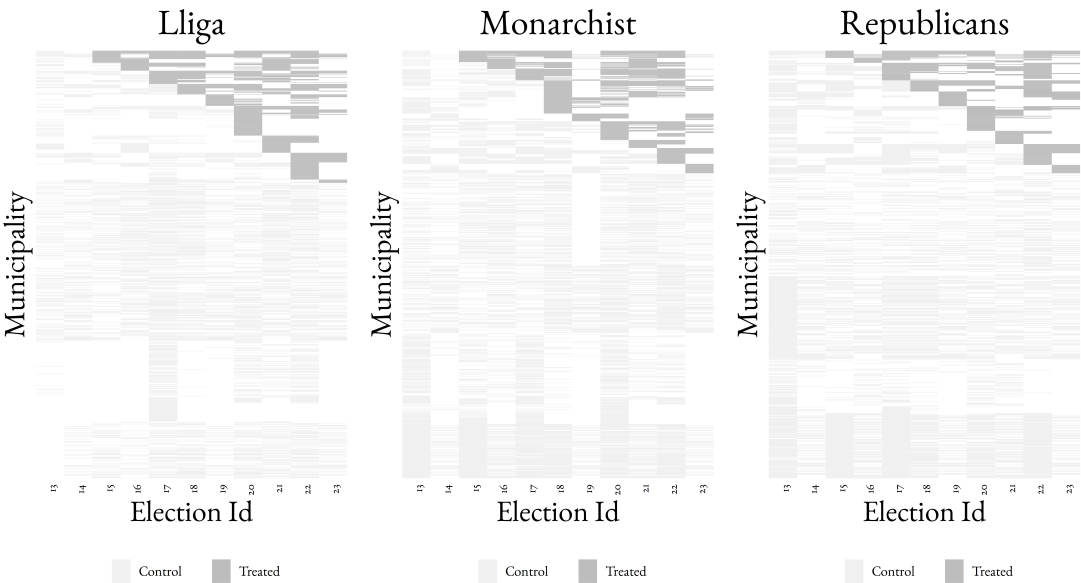


FIGURE D.10 Treatment Distribution by Municipality, Based on Party Candidacies

## D.4 BALANCE TESTS

TABLE D.1 Balance tests (1)

Variable	No Telephone	Telephone	Diff. in Means
(log) Taxes 1900	4.36 (1.83)	6.71 (1.97)	2.35*** (0.12)
(log) Taxes 1914	4.11 (2.06)	6.82 (2.18)	2.71*** (0.13)
(log) Taxes 1923	4.14 (2.43)	7.16 (2.43)	3.02*** (0.15)
Surface (Km2)	30.14 (25.64)	29.80 (30.70)	-0.34 (1.77)
Distance Constituency Capital	17.59 (11.60)	15.96 (10.99)	-1.64** (0.69)
(log) Population 1910	6.14 (0.59)	7.15 (0.89)	1.01*** (0.05)
% Females	47.88 (3.10)	49.21 (2.29)	1.33*** (0.16)
Literacy rate	38.33 (12.49)	44.38 (10.95)	6.05*** (0.72)
% Single	51.47 (5.57)	51.24 (4.25)	-0.23 (0.30)
% Born Native Prov.	95.82 (5.76)	95.27 (5.07)	-0.55 (0.33)
% Ind. Workers	2.90 (12.37)	10.60 (19.59)	7.69*** (1.05)
Land Gini	0.64 (0.08)	0.69 (0.08)	0.04*** (0.01)
Catalanist Mobilization	0.00 (0.05)	0.17 (0.37)	0.16*** (0.02)
Observations	453	624	1,077

\* $p < 0.1$  \*\* $p < 0.05$  \*\*\* $p < 0.01$

TABLE D.2 Balance tests (2)

Variable	No Telephone	Mancomunitat	Diff. in Means
(log) Taxes 1900	4.36 (1.83)	6.10 (1.53)	1.74*** (0.12)
(log) Taxes 1914	4.11 (2.06)	6.04 (1.73)	1.93*** (0.14)
(log) Taxes 1923	4.14 (2.43)	6.31 (2.13)	2.17*** (0.17)
Surface (Km2)	30.14 (25.64)	30.75 (24.24)	0.61 (1.82)
Distance Constituency Capital	17.59 (11.60)	19.13 (10.12)	1.54* (0.80)
(log) Population 1910	6.14 (0.59)	6.87 (0.66)	0.72*** (0.05)
% Females	47.88 (3.10)	48.67 (2.13)	0.79*** (0.20)
Literacy rate	38.33 (12.49)	42.38 (10.84)	4.05*** (0.86)
% Single	51.47 (5.57)	51.08 (4.35)	-0.39 (0.37)
% Born Native Prov.	95.82 (5.76)	95.79 (4.76)	-0.03 (0.39)
% Ind. Workers	2.90 (12.37)	3.72 (9.39)	0.82 (0.82)
Land Gini	0.64 (0.08)	0.67 (0.08)	0.03*** (0.01)
Catalanist Mobilization	0.00 (0.05)	0.08 (0.27)	0.07*** (0.01)
Observations	453	325	778

\* $p < 0.1$  \*\* $p < 0.05$  \*\*\* $p < 0.01$

TABLE D.3 Balance tests (3)

Variable	Other Network	Mancomunitat	Diff. in Means
(log) Taxes 1900	7.37 (2.18)	6.10 (1.53)	-1.28*** (0.15)
(log) Taxes 1914	7.67 (2.29)	6.04 (1.73)	-1.63*** (0.16)
(log) Taxes 1923	8.08 (2.41)	6.31 (2.13)	-1.77*** (0.18)
Surface (Km2)	28.76 (36.47)	30.75 (24.24)	1.99 (2.46)
Distance Constituency Capital	12.50 (10.87)	19.13 (10.12)	6.63*** (0.84)
(log) Population 1910	7.45 (1.00)	6.87 (0.66)	-0.59*** (0.07)
% Females	49.79 (2.31)	48.67 (2.13)	-1.13*** (0.18)
Literacy rate	46.55 (10.66)	42.38 (10.84)	-4.17*** (0.86)
% Single	51.40 (4.14)	51.08 (4.35)	-0.32 (0.34)
% Born Native Prov.	94.72 (5.33)	95.79 (4.76)	1.07*** (0.41)
% Ind. Workers	18.07 (24.48)	3.72 (9.39)	-14.35*** (1.46)
Land Gini	0.70 (0.08)	0.67 (0.08)	-0.03*** (0.01)
Catalanist Mobilization	0.26 (0.44)	0.08 (0.27)	-0.18*** (0.03)
Observations	299	325	624

\* $p < 0.1$  \*\* $p < 0.05$  \*\*\* $p < 0.01$

## D.5 ROBUSTNESS

TABLE D.4 2x2 Canonical DiD Before and After 1916

	Lliga Regionalista	Monarchist	Republicans
Post 1916 × Public Telephone	3.62*** (1.15)	−3.60*** (1.05)	0.13 (0.84)
Post 1916	−2.68 (1.64)	−2.94** (1.30)	2.06** (1.03)
Controls	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes
Type of Elections FE	Yes	Yes	Yes
Observations	2, 750	3, 816	3, 178
R <sup>2</sup>	0.75	0.72	0.65

Municipality level clustered standard errors.

Controls include: % Females, literacy, (log) Population, (log) Taxes.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

TABLE D.5 2x2 Canonical DiD Before and After Telephone Installation

	Lliga Regionalista	Monarchist	Republicans
Post Telephone × Public Telephone	3.80** (1.59)	−2.90** (1.44)	1.92 (1.30)
Post Telephone	−7.46*** (2.55)	−3.29 (2.25)	2.61 (1.70)
Controls	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes
Type of Elections FE	Yes	Yes	Yes
Observations	2, 188	2, 909	2, 491
R <sup>2</sup>	0.76	0.76	0.66

Municipality level clustered standard errors.

Controls include: % Females, literacy, (log) Population, (log) Taxes.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

TABLE D.6 Robustness Analyses: Matching &amp; IPW

	Lliga	Monarchist	Republican
<b>Matching</b>			
Public Telephone	0.04 (3.55)	-6.64** (3.13)	-0.74 (4.40)
N	518	1,227	717
R <sup>2</sup>	0.75	0.59	0.48
<b>Inverse Probability Weights</b>			
Public Telephone	5.08* (2.80)	-5.07*** (1.82)	0.66 (1.54)
N	3,511	8,936	5,530
R <sup>2</sup>	0.70	0.55	0.52

OLS Estimation. | **DV:** (mean) % Support to Party Candidate. | **Controls:** Support to Party in  $t-1$ , % Females, % Literate, Population (log), local taxes (log), Election Type. Included in all models. | **Fixed Effects:** Municipality and Year. Included in all models. | **(Std. Err.):** Clustered at the municipality level.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



## D.6 MECHANISMS

TABLE D.7 Heterogeneous Effects. Replacement and Mobilization Hypotheses

	Dependent Variable: Support to ...							
	L	L	M	L	M	R	R	R
Public Telephone	-5.3*** (1.70)	10.3 (11.84)	32.2** (15.00)	1.7 (1.54)	-3.3** (1.48)	-16.4* (9.06)	0.1 (2.06)	1.2 (2.00)
Public Telephone × Monarch. Support <sub>t-1</sub>	0.3*** (0.06)							
Public Telephone × Land Gini		-9.8 (16.56)	-51.3** (21.53)					
Public Telephone × Identity Mobilization				5.7** (2.38)	-0.5 (2.80)			
Public Telephone × (log) Taxes						2.7** (1.24)		
Public Telephone × % Indust. Work.							0.3*** (0.08)	
Public Telephone × Strikes > 1905								5.1* (3.10)
Observations	3,002	2,727	8,021	3,948	10,309	2,674	2,674	2,674
R <sup>2</sup>	0.69	0.69	0.57	0.67	0.57	0.57	0.57	0.57

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

OLS Estimation. | **DV:** (mean) % Support to Candidate(s). L: Lliga, M: Monarchist, R: Republican | **Controls:** Support to Party in  $t-1$ , % Females, % Literate, Population (log), local taxes (log), Private telephone dummy, Election Type. | **Fixed Effects:** Municipality and Year. | **(Std. Err.):** Clustered at the Municipality level. | **Note:** Republicans models only for data between 1916–1923.

TABLE D.8 Heterogeneous Effects. Diffusion Hypothesis

	Dependent Variable: Support to ...					
	Lliga	Rep.	Lliga	Rep.	Rep.	Rep.
Public Telephone	6.41*** (1.78)	0.96 (2.73)	-0.67 (5.14)	-10.45** (4.81)	-3.62 (3.06)	1.22 (2.00)
Public Telephone × Public Phone Station	-5.43** (2.22)	0.99 (3.30)				
Public Telephone × Telephone Intensity			1.19 (2.81)	7.96*** (2.79)		
Public Telephone × (log) Phone Users 1923					3.80*** (1.24)	
Public Telephone × Strikes > 1915 (Dummy)						5.14* (3.10)
Observations	3,948	2,674	975	672	667	2,674
R <sup>2</sup>	0.67	0.57	0.72	0.62	0.62	0.57

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

OLS Estimation. | **DV**: (mean) % Support to Candidate(s). | **Controls**: Support to Party in  $t-1$ , % Females, % Literate, Population (log), local taxes (log), Private telephone dummy, Election Type. | **Fixed Effects**: Municipality and Year. | **(Std. Err.)**: Clustered at the Municipality level. | **Note**: Republicans models only for data between 1916–1923. Models 3–5 only for municipalities that will be part of the public telephone network by 1923.

TABLE D.9 Heterogeneous Effects: Replacement Hypothesis Robustness

	Dependent Variable: Support to ...	
	Lliga	Monarch
Public Telephone	69.68** (23.72)	-1.33 (13.27)
Public Telephone × Monarch. Support <sub>t-1</sub>	-3.74** (1.36)	1.25** (0.44)
Public Telephone × Land Gini	-102.21** (33.63)	3.51 (19.75)
Monarch. Support <sub>t-1</sub> × Land Gini	-0.36 (0.45)	0.59** (0.19)
Public Telephone × Monarch. Support <sub>t-1</sub> × Land Gini	5.36** (1.83)	-1.87** (0.66)
Observations	1,122	4,284
R <sup>2</sup>	0.77	0.64

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

OLS Estimation. | **DV:** (mean) % Support to Candidate(s). | **Controls:** Support to Party in  $t-1$ , % Females, % Literate, Population (log), local taxes (log), Election Type, and Support to Republicans in  $t-1$ . | **Fixed Effects:** Municipality and Year. | **(Std. Err.):** Clustered at the Municipality level.

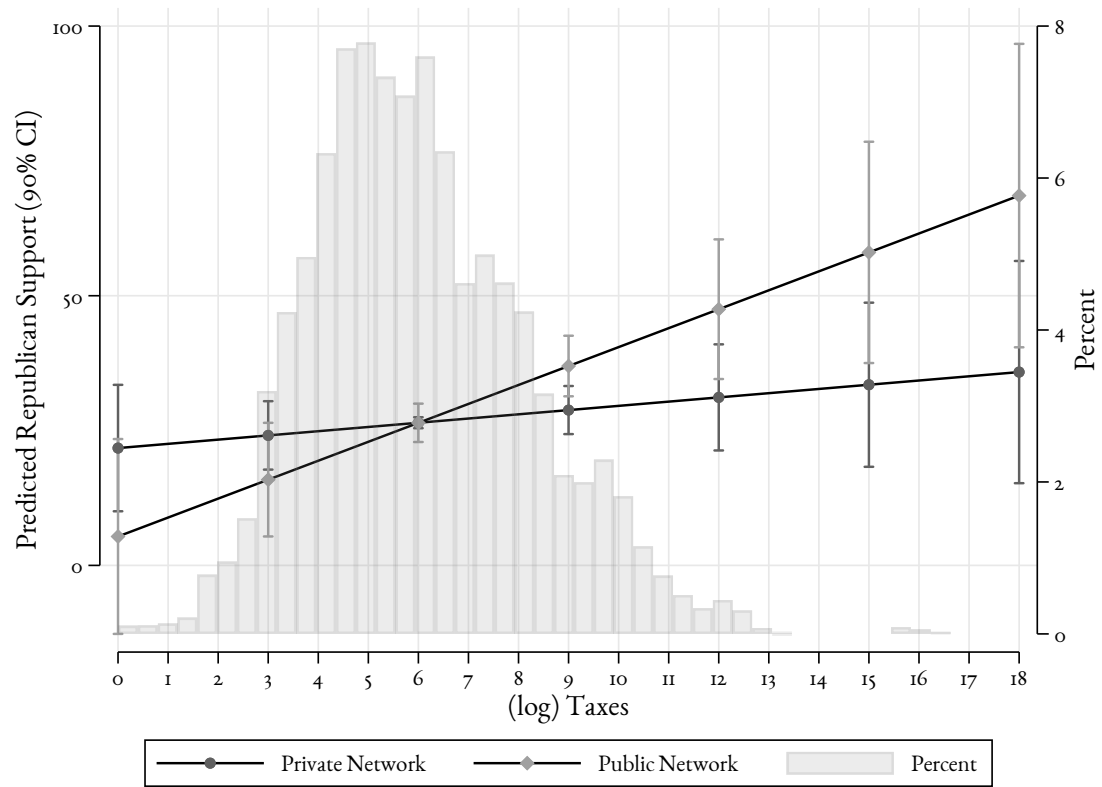
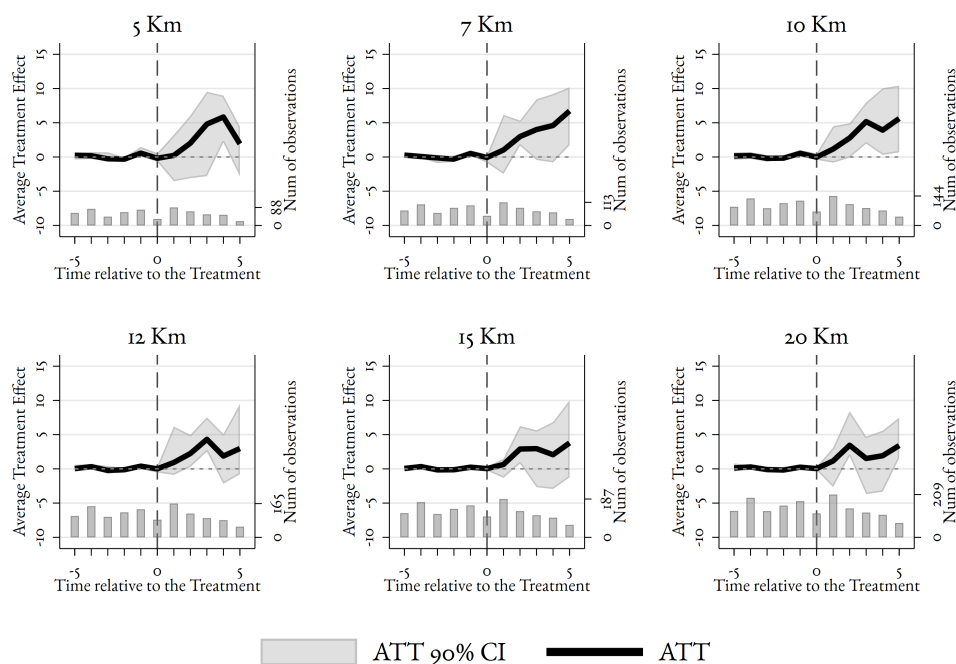


FIGURE D.11 Heterogeneous Effects Working Class: (log) Industrial taxes

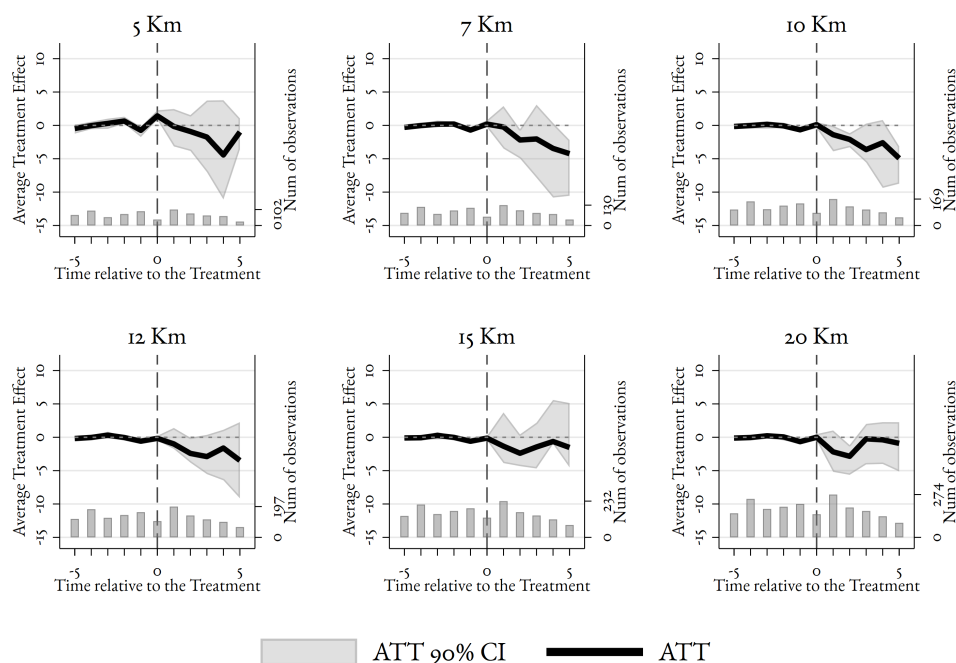
## D.7 EXOGENOUS NETWORK AND TIMING

## ATT: Exogenous Buffer Treatment of Public Telephone on Lliga Support



(A) Lliga

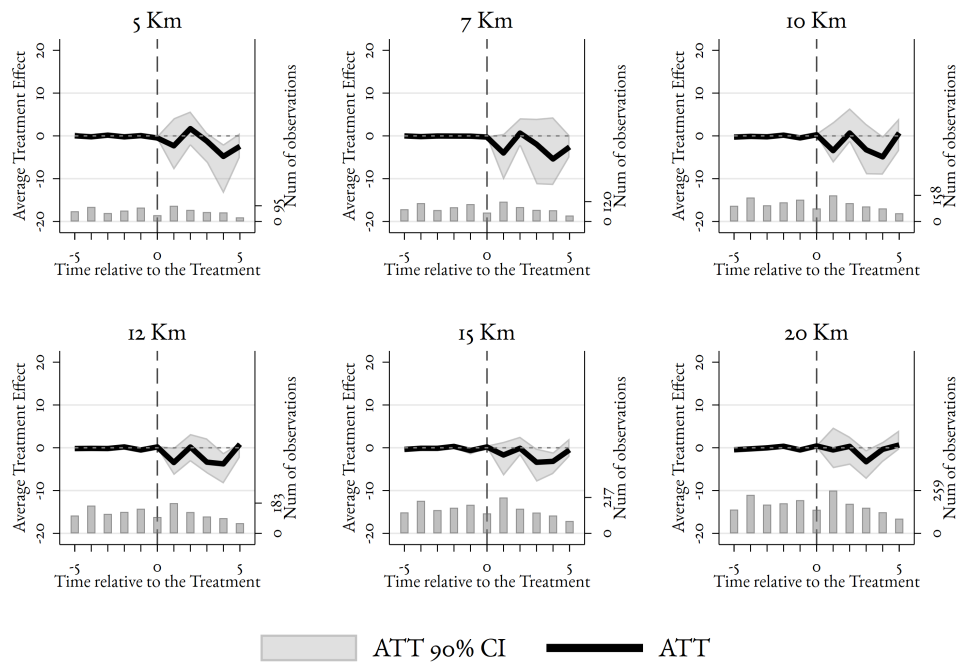
## ATT: Exogenous Buffer Treatment of Public Telephone on Monarchist Support



(B) Monarchist

FIGURE D.12 Exogenous Treatment on Party Support. DiD based on Liu et al. (2020)

## ATT: Exogenous Buffer Treatment of Public Telephone on Republicans Support



(c) Republicans

Figure D.12 (continued) Exogenous Treatment on Party Support. DiD based on Liu et al. (2020)



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