Left Behind: The Local Effects of Deindustrialization in France*

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Abstract

For much of the twentieth century, manufacturing sustained not only jobs, but also the collective life of the communities built around it. We study what happened when this economic and social infrastructure receded, combining harmonized census data with administrative records on income, elections, local amenities, and associations for more than 10,000 French municipalities between 1968 and 2016. We exploit differences in the timing and intensity of manufacturing decline across municipalities within the same department. Manufacturing decline led to persistent economic losses and demographic decline, including higher unemployment, lower incomes, slower population growth, aging, and out-migration. It also reshaped local political life: turnout declined, support shifted away from the left and, more recently, toward the far right. At the same time, local social infrastructure weakened. Association creation slowed, social isolation increased, and declining municipalities today host fewer amenities and meeting places. This social infrastructure mattered for political participation: where postwar church attendance was higher, turnout remained substantially more resilient despite similar economic losses.

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1 Introduction

The manufacturing sector is considered one of the backbones of modern economic development and of the liberal social order that emerged from it (Polanyi, 1944; Kaldor, 1966; Rodrik, 2013). From the Ruhr Valley to Detroit, from Birmingham to Lyon, industrial production generated not only rapid economic growth and rising living standards but also a broad middle and working class that underpinned democratic stability. Manufacturing provided stable, well-paid jobs for workers with limited education, enabling social mobility and embedding economic security within communities. As Kaldor (1966) described, manufacturing was the "engine of growth"; yet, it was also an engine of inclusion, anchoring communities in shared prosperity and collective life (Acemoglu, 2025). The factory town was not simply a site of production. It was a social institution, where work, identity, and local solidarity converged (Bluestone and Harrison, 1982; Cowie and Heathcott, 2003).

Since the 1970s, this world has changed profoundly. In the United States, the share of manufacturing in total employment fell from about 25% in 1970 to less than 8% today; in Germany, it declined from roughly 35% to 15%; and, in France, from about 28% in 1968 to 16% in 2016. These shifts, driven largely by automation and global competition, have triggered intense debate over the consequences of deindustrialization. A large body of research documents the adverse effects of industrial decline on employment, wages, and local economic activity (Autor et al., 2013; Charles et al., 2018; Acemoglu and Restrepo, 2020), on family formation (Autor et al., 2019), and on political outcomes (Colantone and Stanig, 2018; Autor et al., 2020; Bekhtiar, 2025). Yet we still lack a comprehensive account of what the retreat of manufacturing did to places: not only to their economies, but to the social fabric that industrial work sustained.

This paper provides such an account for France. We assemble a new dataset that harmonizes the French population censuses (INSEE) with administrative data on income, housing, and elections from Cagé and Piketty (2023), and with newly collected information on local amenities, railway access, welfare transfers, and the universe of associations created since 1945. The data cover more than 10,000 municipalities over five decades, from 1968 to 2016. This granularity allows us to follow the consequences of manufacturing decline at the scale at which community life actually happens: the town.

France is a particularly well-suited context to study these questions. First, it entered

the postwar period with one of the largest manufacturing sectors in Western Europe: in 1968, more than one in four workers were employed in manufacturing. France then experienced one of the steepest manufacturing declines, leaving it today among the most deindustrialized economies in the G7. Second, the decline reflects several distinct forces, including technological change, trade liberalization, and shifts in Europe's economic geography, which unfolded at different times and hit different regions with varying intensity. This staggered pattern generated rich spatial and temporal variation in local manufacturing decline. Third, the social role of industrial employment has historically been especially salient in France: large unionized workplaces, dense networks of works councils, and the centrality of industrial firms to local public life meant that manufacturing was tightly intertwined with community identity.

Figure 1 previews our main results. Each panel relates municipalities' long-run decline in manufacturing employment to a different dimension of local life, after partialling out department fixed effects: unemployment (Panel A), electoral participation (Panel B), and the creation of new associations (Panel C). Places that lost more manufacturing became poorer, voted less, and generated fewer of the associations around which local social life is built. The rest of the paper quantifies these patterns and investigates how they are connected. As industrial employment receded, so did the organizations and meeting places that structured community interaction, and with them the habits of participation they sustained.

Our analysis proceeds in three steps. We first document the economic, demographic, and political consequences of manufacturing decline, estimating stacked first-difference regressions over the 1968–2016 period that account for department-specific trends and census-year shocks.[1]

We find that a 10 percentage point decline in the manufacturing employment share, roughly the loss experienced by the median municipality between 1968 and 2016, is associated with a 0.58 percentage point increase in the unemployment rate (almost 40% relative to the 1968 mean) and a 1.6% reduction in income per capita. These losses cumulate over time. Estimating long-difference regressions over the same period, we document that a 10 percentage point decline in the manufacturing employment share is associated with roughly 1 percentage point higher unemployment and 3.8% lower incomes. The French welfare state, however, partly cushioned these market losses. In the cross-section, municipalities that lost more manufacturing employment today derive a

[1] Throughout, we focus on mainland France, excluding Corsica and overseas territories. Mainland France is divided into 94 departments, intermediate administrative units between municipalities and regions.

significantly larger share of their disposable income from social benefits. Manufacturing decline also slowed population growth, accelerated aging, and was accompanied by both higher out-migration and lower in-migration.

Politically, support for the left fell more where the manufacturing decline was larger. These shifts are visible in today's electoral map: in the cross-section, municipalities that lost more manufacturing over the past five decades voted less in favor of the European Constitutional Treaty in 2005 and more for the far right in 2017. Notably, the political response did not merely reflect a shift in preferences. It was also a withdrawal from participation: turnout declined more in municipalities where the employment share in manufacturing fell more. A 10 percentage point decline in the manufacturing employment share between 1968 and 2016 is associated with a 1.3 percentage point reduction in turnout in presidential elections, representing about 2% of its 1968 level.

The second step turns to the roots of political disengagement, and documents that manufacturing decline eroded social capital. To measure community life, we assemble a new dataset covering the universe of French associations. Under the law of 1901, every association must declare its creation in an official journal; we parse the full archive of these declarations, geolocate the roughly 3.3 million associations created between 1945 and 2025 to the municipality level, and classify each one according to its stated purpose. Association creation is a classic barometer of French community life (Archambault, 1997; Worms, 2002), and these data allow us to track it locally over more than five decades. We find that association creation per capita slowed significantly more in municipalities losing more manufacturing employment: a 10 percentage point decline in the manufacturing employment share is associated with 0.36 fewer associations created each year per 10,000 residents, about 5% of the baseline mean. Moreover, the decline is concentrated precisely in the categories that organize face-to-face sociability: sports and leisure clubs, festival committees, and social clubs. Former industrial towns also host significantly fewer amenities per capita today: fewer shops, cafés, health services, sports facilities, and schools. The erosion extended to residents' immediate ties and to the physical infrastructure of connection. Municipalities experiencing larger manufacturing declines also became more socially and spatially isolated: the share of people living alone rose, marriage rates fell, and these places were also less likely to be connected to the high-speed rail network.

These patterns suggest that deindustrialization dismantled not only jobs but also the places and organizations where people met. The loss of these shared spaces, in

turn, may have eroded political engagement. If this loss of social capital channeled economic decline into political withdrawal, then communities that could draw on alternative forms of socialization should display the economic effects of the shock but not its political consequences. To test this idea, the third step exploits variation in the availability of a key alternative social infrastructure: the Catholic Church, whose parishes provided meeting places, shared rituals, and mutual obligations that did not depend on manufacturing employment. Using the *Boulard Atlas* of church attendance, measured between 1946 and 1970, before the deindustrialization shock, we show that the economic effects of manufacturing decline are similar in more and less religious municipalities. By contrast, and consistent with our hypothesis, the decline in turnout is large in municipalities with low baseline church attendance, and essentially absent where attendance was high.

Taken together, these results point to a broader process. Manufacturing decline did more than reduce local incomes: it weakened the organizations and meeting places through which residents interacted, alongside the political participation those settings helped sustain. The contrast by church attendance suggests that this connection was not inevitable. Where an alternative social infrastructure remained strong, the economic consequences of manufacturing decline were just as severe, but political participation proved substantially more resilient.

The key identifying assumption behind our estimates is that, absent differential manufacturing decline, municipalities would have evolved along parallel trends within the same department. This assumption would be violated if municipalities that experienced a larger manufacturing decline differed in ways that independently shaped their trajectories, or if local conditions were already deteriorating for other reasons. We address these concerns in three ways, focusing on the two endpoints of our analysis, the unemployment rate and presidential turnout. First, we re-estimate the baseline specification interacting census-period effects with a full set of 1968 characteristics: population and density, the unemployment rate, education composition, age structure, and immigrant shares. Second, we replace department fixed effects with municipality fixed effects, which absorb each municipality's own trend over the past five decades. Identification then comes only from periods in which a municipality's manufacturing decline was sharper or milder than its own long-run trajectory. Third, we construct a shift-share instrument that combines municipalities' 1975 industry composition with

national industry-level employment changes.[2] In all cases, results are in line with those from the baseline specification.

Our findings contribute to two strands of research. A large literature studies how import competition and automation have reshaped local labor markets (Autor et al., 2013; Pierce and Schott, 2016; Autor et al., 2016; Dix-Carneiro and Kovak, 2017; Charles et al., 2019; Acemoglu and Restrepo, 2020; Gathmann et al., 2020). A second literature examines how economic hardship affects political polarization and support for the far right (Algan et al., 2017; Colantone and Stanig, 2018; Fetzer, 2019; Autor et al., 2020; Baccini and Weymouth, 2021; Broz et al., 2021; Anelli et al., 2021; Dehdari, 2022; Bekhtiar, 2025); see Guriev and Papaioannou (2022) and Rodrik (2021) for reviews. Closest to our setting, Malgouyres (2017b) shows that Chinese import competition reduced local employment in France both within and beyond manufacturing, and Malgouyres (2017a) finds that exposure to low-wage import competition raised National Front vote shares in presidential elections between 1995 and 2012.

We complement these literatures in two ways. First, while existing studies typically isolate the effect of a single shock, such as Chinese import competition or robot adoption, over one or two decades, we study deindustrialization as a whole over half a century. Following more than 10,000 municipalities from 1968 to 2016, we trace the full arc of this transformation across economic, demographic, political, and social outcomes, at the scale at which community life is organized. Second, we extend the analysis beyond economic adjustment and electoral preferences to the social fabric of local communities. We show that manufacturing decline was accompanied by weaker social ties and lower political participation. This margin has received much less attention than changes in vote shares. Political scientists have long debated whether economic adversity depresses turnout or instead mobilizes voters (Rosenstone, 1982; Burden and Wichowsky, 2014), while work in economics has emphasized the role of the opportunity cost of voting (Charles and Stephens, 2013). Our evidence points to withdrawal rather than mobilization: over the long run, municipalities more exposed to manufacturing decline experienced lower political participation, which we argue reflects a broader weakening of local social ties.

The erosion of the social fabric also speaks to the literature on social capital (Putnam et al., 1993; Putnam, 2000; Guiso et al., 2004, 2011; Algan and Cahuc, 2010;

[2]The French industry classification is revised repeatedly over our sample period, so the instrument can be built on a consistent nomenclature only for the 1975–1990 window; because four-digit industry employment is sparse at the municipal level, we implement it at the commuting-zone level.

Satyanath et al., 2017; Durante et al., 2025). A long sociological tradition emphasizes how the disappearance of work can weaken the institutions that sustain community life (Wilson, 1996). Closest to our setting, Bolet (2021) and Subtil (2026) show that the closure of community pubs in Britain and PMU cafés in France increased support for the radical right. We extend this work by tracing a broader sequence over five decades: from industrial decline, to the weakening of the meeting places and organizations that sustained local interaction, to lower political participation.

The French setting also helps distinguish material insurance from social infrastructure. A generous welfare state cushioned part of the loss in market income, but did not replace the workplaces, associations, and meeting places around which local social life had been organized. We cannot observe how these communities would have evolved without state support, and the erosion may have been deeper in its absence. Still, the evidence suggests that fiscal compensation alone may not preserve community life when economic decline weakens the institutions that sustain repeated interaction. By contrast, the economic effects of manufacturing decline were similar in municipalities with high and low church attendance, but turnout fell little in more religious places. Churches may have provided meeting places, shared practices, and mutual obligations that did not depend on manufacturing employment. Where this infrastructure was stronger, political participation proved more resilient. Together, these patterns suggest that social infrastructure may be better able than material compensation to sustain political engagement, consistent with work on religious communities as providers of insurance and club goods (Scheve and Stasavage, 2006; Dehejia et al., 2007; Chen, 2010; Ager and Ciccone, 2018). They also suggest that the social costs of economic dislocation may be smaller where other institutions can sustain the interaction and cooperation once provided by industrial workplaces and, in some places, by the parish.

2 Historical Context and Data

This section describes the historical context (Section 2.1) and presents the data (Section 2.2).

2.1 The Decline of Manufacturing in France

France has undergone one of the deepest deindustrialization processes among advanced economies. In the mid-1970s, industrial employment accounted for nearly one-quarter

of total employment; by 2018, it had fallen to about 10%, representing a loss of more than 2.5 million industrial jobs. Together with the United Kingdom, France is now among the most deindustrialized countries in the G7 (Dufourcq, 2022).

Several structural and policy factors have contributed to this decline. The first wave of deindustrialization was triggered by the oil shocks of the 1970s, which multiplied energy costs tenfold between 1973 and 1980 and coincided with the arrival of the baby-boom generation on the labor market, leading to the onset of mass unemployment. This employment shock was further exacerbated by profound structural shifts. Rapid productivity growth driven by technical progress, together with a shift in consumer preferences toward services as incomes rose, reduced the share of industrial employment (Fontagné and Lorenzi, 2005; Kalantzis and Thubin, 2017). In France, successive increases in social contributions during the 1980s and labor regulations, including the reduction in working hours, further raised labor costs.

Globalization accelerated the process. The entry of China into the World Trade Organization (WTO) in 2001 and the integration of low-cost Central and Eastern European economies intensified competition and created powerful relocation incentives. In France, these offshoring pressures were amplified by a production structure dominated by large corporations, in contrast to the Italian and German models, which rely more heavily on denser networks of small and medium-sized enterprises that tend to be less prone to offshoring (DGE, 2024). According to Malgouyres (2017b), Chinese import competition destroyed roughly 90,000 manufacturing jobs and 180,000 jobs in the rest of the economy between 2001 and 2007, accounting for about 13% of the decline in French manufacturing employment over that period. The 2008 financial crisis precipitated a new wave of closures and relocations. From 1995 to 2015, France lost nearly half of its factories and one-third of its industrial employment.

Because manufacturing plants and industrial clusters were unevenly distributed across the country, and successive shocks affected different industries at different times, municipalities varied sharply in when and how severely they experienced industrial decline. Figure 2 plots the share of residents employed in manufacturing for each municipality across our eight census waves, from 1968 to 2016. The decline was particularly severe in the traditional industrial basins of the North, historically centered on coal mining, metallurgy, mechanical engineering, and textiles, and in the Northeast, home to France's steel corridor from Lorraine to Alsace. Large industrial employers such as Usinor, Arcelor, Moulinex, Creusot-Loire, and the mines of the Nord–Pas-de-Calais

collapsed or restructured, triggering substantial and lasting employment losses. Yet deindustrialization was not confined to these regions. Much of western and central France saw major reductions in manufacturing activity, often concentrated in smaller towns specialized in food processing, furniture, or light manufacturing. The map reveals substantial within-region heterogeneity: municipalities separated by only a few kilometers often experienced very different trajectories depending on their industrial composition in the late 1960s and early 1970s.

2.2 Data

We use a wide range of indicators to measure the economic, demographic, political, and social impact of deindustrialization at the municipal level. Appendix D provides details on the construction of the main variables.

Census data. We first rely on individual-level data from the French census conducted by the National Institute of Statistics and Economic Studies (INSEE) since 1968. More specifically, we use the complementary census datasets made available through Saphir (INSEE), which provide information on the share of employed workers in manufacturing, our main explanatory variable. Until 2006, the census was conducted every seven to nine years. Since then, it has been conducted annually, with each year covering approximately one-fifth of the territory, so that the entire country is surveyed over a five-year cycle. As illustrated in Figure 2, we consider eight census waves: all pre-2006 censuses (1968, 1975, 1982, 1990, and 1999), as well as the 2006, 2011, and 2016 censuses. For each complementary census, a random sample of 20–25% of individuals is surveyed in each municipality. Because census data are less representative in small municipalities, we exclude municipalities with fewer than 500 inhabitants from our analysis.[3] In addition to employment and industry data, the census provides information on individuals' age, education, geographic mobility, household composition, marital status, and housing characteristics. To measure fertility, we further rely on yearly birth data from the Monthly Municipal Civil Registry (INSEE).

Income, housing, and elections. To assess the economic impact of deindustrialization beyond employment, we use data from Cagé and Piketty (2023), which provide annual measures of income and GDP per capita at the municipal level, as well as aver-

[3]The municipalities in our estimation sample account for roughly four fifths of the mainland population, in both 1968 and 2016. As shown in Appendix Table B1, our results are robust to including all municipalities or to excluding those with fewer than 2,000 inhabitants, following CNIS's guidelines.

age housing prices.[4] Political variables are also drawn from Cagé and Piketty (2023), based on municipal-level results from the presidential elections of 1969, 1974, 1981, 1988, 2002, 2007, 2012, and 2017, and the parliamentary elections of 1967, 1973, 1981, 1993, 2002, 2007, 2012, and 2017. Each census wave is matched to the nearest ballot, so that census and ballot years may differ by up to three years. Both presidential and parliamentary elections follow a two-round plurality voting system. We consider turnout, the vote shares of the left bloc in the first round, and the number of registered voters relative to the voting-age population.[5] We complement these data with municipal-level results from the 2005 referendum on the European Constitutional Treaty.

Associations. We measure associational life using the universe of announcements published in the *Journal officiel des associations et fondations d'entreprise* (JOAFE), which every association must publish upon creation. We parse the full archive from 1945 onward, geolocate each creation to a municipality, and classify each association into one of five mutually exclusive categories based on its title and statutory purpose: member sociability (sports and leisure clubs, festival committees, social clubs), aid to an external public, advocacy, economic and material interests of members, and a residual category (veterans, religious, and commemorative associations). The classification is performed by a locally hosted large language model; Appendix D.3 provides details and validation. For each census wave, we compute the yearly number of creations per 10,000 inhabitants in a five-year window around the census year. Because a majority of municipalities below 2,000 inhabitants record no creation at all in the early waves, our preferred sample for this outcome restricts to municipalities above 2,000 inhabitants.[6]

Local amenities and infrastructure. Local amenities come from the INSEE *Base permanente des équipements* (BPE), supplemented with the SIRENE business register. We group facilities into bundles capturing the local infrastructure of everyday life (see Appendix D.2 for more details): social venues (cafés, bars, tobacconists, restaurants), local commerce and proximity services, health, state administration, culture, and sports equipment, all expressed per 10,000 inhabitants and measured in 2019.[7] We

[4] Income per capita is available from 1982 onward, while the other variables we use from Cagé and Piketty (2023) are available throughout our period of analysis. Because municipal GDP is measured with more error than income at this level of disaggregation, we use it only as a complement to income per capita, which is measured more reliably.

[5] We define the vote shares of the "left" and "right" following the classification of Cagé and Piketty (2023), which assigns all votes to one of the two blocs, allocating votes for centrist candidates equally between them. We measure far-right support in the 2017 presidential and parliamentary elections.

[6] Among municipalities below 2,000 inhabitants, 52% record zero association creations in the five-year window around 1968; the share is still 26% in 2016. Among municipalities above 2,000 inhabitants, the share is 7% in 1968 and about 6% in all later waves. Appendix Table A1 shows results for the full sample.

[7] Contemporary outcomes are measured in 2019. Because the census has been conducted annually since 2006, with

additionally use the INJEP geocoded census of sport-federation licenses and clubs, the Ministry of Education's directory of school establishments, and harmonized municipal data on railway access, which allow us to measure, for each census wave, the distance to the nearest station, the distance to the nearest high-speed (TGV) station, and the kilometers of active railway lines in the municipality.

Welfare, transfers, and economic vulnerability. We measure the contemporary economic condition of municipalities using INSEE's FILOSOFI data and the Observatoire des territoires: the share of social benefits and of pensions in disposable household income, the poverty rate, the number of minimum-income (RSA) recipients per 1,000 residents aged 15–64, median income, and the share of employees on fixed-term or temporary contracts. These outcomes are measured between 2016 and 2021, depending on availability.

Church attendance. We measure postwar religious practice using the *messalisants* rate from the Boulard Atlas, defined as the share of adults attending Sunday Mass. The underlying measure is based on headcounts rather than self-reported religious affiliation: diocesan surveys conducted under Canon Fernand Boulard between 1946 and 1970 counted individuals present at Mass on selected Sundays and expressed attendance relative to the adult population. Isambert and Terrenoire (1980) compiled and standardized these surveys, producing comparable attendance rates at the level of the 1968 canton.[8] We assign each rural municipality the attendance rate of its canton; for cities spanning multiple cantons, we use the unweighted average across matched cantons. This measure captures religious practice rather than belief or affiliation, and therefore reflects repeated, face-to-face participation in parish life. It also predates the period of deindustrialization that we study.[9]

Sample and descriptive statistics. Municipal boundaries change over the period through mergers, splits, and code reassignments; we project every source onto the 2022 geography (Appendix D.1). Our estimation sample is a balanced panel of 10,258 municipalities with more than 500 inhabitants that we observe in each of the eight census

each wave pooling surveys collected over five years, the 2016 wave draws on surveys carried out through 2018. Measuring these outcomes from 2019 ensures that they are realized after the entire window used to measure manufacturing employment.

[8] Cantons are administrative subdivisions of French departments that typically group several neighboring rural municipalities, while larger towns may comprise one or more cantons. Historically, they served both as electoral districts for departmental councils and as reporting units for administrative statistics. We use the 1968 canton geography.

[9] The Atlas measures Catholic practice only. Catholicism was by far the dominant religion in mainland France during this period, although low Catholic attendance need not imply low religious practice in areas with sizable Protestant communities, such as Alsace or the Cévennes.

waves.[10] Table 1 presents descriptive statistics. In 1968, the average municipality in our sample had 3,805 inhabitants, an unemployment rate of 1.5%, and 28.5% of its employed residents worked in manufacturing.[11] By 2016, the manufacturing share had fallen to 15.7%, while unemployment had risen to 11.9%. The average municipality experienced a decline in its manufacturing employment share of 12.9 percentage points over the full period (the median decline is 10.6 points; Table 1, Panel D), with wide dispersion: the interquartile range of the long-run decline spans from 0.7 to 23.6 percentage points.

3 Empirical Strategy

Our analysis relies on two complementary specifications: a stacked first-difference design, which exploits census-to-census changes, and a long-difference design, which captures cumulative effects over the full period and which we also use to study outcomes only observed in recent years. We describe each in Sections 3.1–3.2; we then discuss the main threats to identification and how we address them in Section 3.3.

3.1 Stacked First Differences

Our baseline specification relates changes in local outcomes to the contemporaneous change in manufacturing employment:

$$\Delta y_{mt} = \alpha_d + \gamma_t + \beta \, \Delta \%\text{Mfg}_{mt} + \mu_{mt} \tag{1}$$

where m indexes municipalities, d departments, and t census periods. Each observation corresponds to the change between two consecutive census waves, yielding seven first differences between 1968 and 2016.[12] The dependent variable, Δy_{mt}, measures the change in a given outcome between waves. The main explanatory variable, $\Delta \%\text{Mfg}_{mt}$,

[10] Given that our explanatory variable is the manufacturing employment share, we also exclude 335 municipalities with no employed resident in at least one census year.

[11] Appendix Tables A2 to A5 report descriptive statistics for the full set of variables, in levels for 1968 and for the end of the analysis period, as well as in first and long differences.

[12] We use 2016 as the last census wave for two reasons. First, the deindustrialization process we study had largely run its course by the end of our period: the largest waves of decline occurred in the 1970s and the early 2000s (see Section 2.1), and industrial employment has stabilized since the mid-2010s (DGE, 2024). Second, moving forward would require the 2021 census, the next wave at the five-year interval. The 2021 annual census survey was postponed because of the pandemic, and INSEE produced the 2021 legal populations and statistical results by adapting its calculation methods, relying on administrative sources rather than on the usual collection. We therefore end our analysis with the 2016 wave, which is based on the standard procedure.

is the corresponding change in the manufacturing employment share, defined as the number of residents employed in manufacturing over total employment.[13] To ease interpretation, we code this regressor as the manufacturing *decline*: it is positive when the manufacturing share falls, so that a positive coefficient means that a sharper industrial decline raises the outcome. The model includes department (α_d) and census-period (γ_t) fixed effects. Standard errors are clustered at the department level (94 clusters), and regressions are weighted by the municipality's population at the start of each period, so that estimates reflect the experience of the average resident rather than that of the average (often very small) municipality.[14]

Because the specification is estimated in first differences, all time-invariant municipality characteristics, and any level differences across places, are differenced out: both the outcomes and the regressor are within-municipality changes. The identifying comparison for β is then across municipalities: a municipality's change is compared with the changes experienced by municipalities in the same department that faced sharper or milder manufacturing declines within the same census period, net of national shocks. The department fixed effects absorb region-wide changes, including regional policies and broad shifts in economic geography. We deliberately keep the baseline specification parsimonious. Our goal is to characterize the full extent of the transformation experienced by places that lost their industrial base, and each additional control absorbs not only potential confounders but also part of the differential exposure to manufacturing decline that the analysis aims to measure. Appendix B presents more demanding specifications, including municipality fixed effects, which in a first-difference model absorb municipality-specific linear trends.

3.2 Long Differences and Contemporary Outcomes

To measure cumulative effects, we estimate long-difference regressions of the form:

$$\Delta_{LD}\, y_m = \alpha_d + \beta\, \Delta_{LD} \%\text{Mfg}_m + \mu_m \tag{2}$$

where Δ_{LD} denotes the change between 1968 and 2016 and α_d are department fixed effects. This specification serves two purposes. First, it captures the cumulative, long-run effect of the manufacturing collapse rather than census-to-census adjustments, and

[13] Appendix Table B3 shows robustness to scaling manufacturing employment by the working-age population instead of the labor force.

[14] Results are robust to estimating unweighted regressions (Appendix Table B1).

it is robust to heterogeneity in the timing of treatment: a municipality that lost its industry in 1975 and one that lost it in 2006 are treated alike. Second, collapsing the panel into a single cross-section mitigates the concerns raised in recent work on two-way fixed effects estimators with heterogeneous treatment effects (Goodman-Bacon, 2021; de Chaisemartin and D'Haultfœuille, 2020; Borusyak et al., 2024).

We also use the long-difference design to study outcomes that are only observed in recent years, such as local amenities, welfare transfers, poverty, far-right support, or the 2005 referendum. These outcomes enter in levels, measured at their respective vintages, and are regressed on the 1968–2016 manufacturing decline with department fixed effects. They measure where a municipality stands today after the industrial decline, rather than how much it moved, and should thus be interpreted as suggestive evidence.

3.3 Threats to Identification

The estimates from equations (1) and (2) describe how places hit harder by manufacturing decline evolved, relative to comparable places in the same department. Interpreting them as causal effects of deindustrialization requires confronting two concerns. First, municipalities that subsequently lost more manufacturing may have been on different trajectories to begin with, so that our estimates would partly reflect pre-existing trends. Second, local shocks contemporaneous with the manufacturing decline, rather than the decline itself, may drive both the regressor and the outcomes.

We address these concerns in three ways, focusing on the two endpoints of the causal chain we study: the unemployment rate, our summary measure of the economic shock, and presidential turnout, our summary measure of political disengagement. We present these in detail in Appendix B, and only summarize them here. First, we interact census-period effects with a rich set of predetermined 1968 municipal characteristics (population and density, unemployment, education, age structure, and immigrant shares), allowing municipalities with different initial conditions to follow different trajectories in every period. Second, we augment the stacked first difference model in equation (1) with municipality fixed effects, which absorb municipality-specific linear trends; identification then relies only on deviations from each municipality's own long-run trajectory.[15] Third, we construct a Bartik instrument that isolates the component

[15] This exercise cannot be implemented for the long-difference model in equation (2), where municipality fixed effects would absorb all the variation.

of local manufacturing decline driven by national industry-level forces rather than by local conditions.

Taken together, the stability of the estimates across flexible specifications, alternative samples and measurement choices, and the IV design supports a causal interpretation of the patterns documented throughout the paper. Manufacturing decline was one of the dominant structural transformations experienced by these municipalities over the period. Its sheer scale makes it unlikely that the broad set of economic, demographic, social, and political changes we document can be attributed primarily to other, unobserved local shocks.

4 The Economic, Demographic, and Political Consequences of Manufacturing Decline

This section presents the economic (Section 4.1), demographic (Section 4.2), and political (Section 4.3) effects of the manufacturing decline across French municipalities.

4.1 Economic Effects

Table 2, column 1, reports estimates of equation (1) using the unemployment rate as the outcome. Municipalities experiencing larger manufacturing job losses saw sharper increases in unemployment: a 10 percentage point decline in the manufacturing employment share is associated with a 0.58 percentage point increase in the local unemployment rate, about 7% of the average start-of-period rate and almost 40% of its 1968 level. Job losses in manufacturing were thus not offset by job creation in other sectors. To interpret this magnitude, consider that over the 1968–2016 period, the median municipality in our sample lost 10.6 percentage points of manufacturing employment share, and the mean loss was 12.9 points (Table 1, Panels C and D). Thus, estimates scaled by a 10 point decline approximate the experience of the typical municipality over the deindustrialization period.

The rest of Table 2 documents the effects of deindustrialization on other dimensions of economic conditions. Column 2 shows that a 10 percentage point decline in the manufacturing employment share is associated with a 1.6% reduction in average income per capita. Column 3 documents a parallel decline in GDP per capita, measured relative to the national average. Column 4 shows that harder-hit municipalities also saw

a stronger increase in housing vacancy, even though we find no statistically significant relationship between house prices and manufacturing decline (column 5).

Estimating the long-difference model in equation (2), we find that a 10 percentage point decline in the manufacturing share is associated with a 1 percentage point higher unemployment rate, close to 70% of its 1968 level, and 3.8% lower income per capita (Appendix Table A6, columns 1–2). For the average municipality, this implies an increase in unemployment of 1.3 percentage points and an income loss of almost 5%. The imprint of these losses remains visible in municipalities' economic conditions today. Appendix Table A7 estimates cross-sectional regressions that relate outcomes measured in levels between 2016 and 2021 to the long-run manufacturing decline. Municipalities that lost more manufacturing employment exhibit higher poverty rates (column 1),[16] lower median incomes (column 2), and more precarious employment (column 3) today.

Columns 4 and 5 of Appendix Table A7 turn to reliance on the social safety net. Municipalities that experienced a larger manufacturing decline lean more heavily on public support today: a 10 percentage point decline in the manufacturing share is associated with 5.5 additional minimum-income (RSA) recipients per 1,000 residents aged 15–64, about 19% of the mean (column 4), and with a 0.7 percentage point higher share of social benefits in disposable household income, about 12% of the mean (column 5). These patterns suggest that, because measured income includes taxable transfers, such as unemployment benefits and pensions, the estimated income declines in Table 2 understate the fall in market incomes: part of the loss was likely offset by the social safety net rather than recovered through economic adjustment.

4.2 Demographic Effects

Table 3 presents estimates of equation (1) for population growth, fertility, aging, and migration. Municipalities experiencing larger manufacturing declines grew more slowly: a 10 percentage point decline in the manufacturing share is associated with 1.7% lower population growth per intercensal period (column 1). Fertility does not appear to account for this pattern. If anything, the coefficient on the manufacturing decline is positive, although only marginally significant (column 2). By contrast, aging was substantial. The ratio of elderly to working-age residents rose by 1.1 points per 10

[16] FILOSOFI publishes the poverty rate only for municipalities with at least 1,000 fiscal households and 2,000 residents, subject to additional conditions, and bottom-codes published rates below 5%. In the data used here, suppressed values are recorded as zeros. Because regressions are weighted by population, the affected small municipalities carry little weight, but the estimate in column 1 should be read with this caveat in mind.

percentage point decline, about 3% of the baseline mean (column 3).

Columns 4 and 5 point instead to migration as the main source of demographic adjustment. Deindustrializing municipalities experienced both higher out-migration and lower in-migration. A 10 percentage point decline in manufacturing employment is associated with a 0.7 point increase in the out-migration rate and a 1.5 point decline in the in-migration rate, about 3% and 4% of their respective baseline means. Appendix Table A8 further decomposes out-migration by education. It shows that out-migration rose among residents with no diploma and, especially, among those with higher education, while declining among holders of vocational diplomas. The first pattern is consistent with greater exposure of low-educated workers to manufacturing job losses; the second suggests that declining municipalities also became less attractive to highly educated residents.

4.3 Political Effects

Table 4 turns to the political effects of manufacturing decline, reporting stacked first-difference estimates from equation (1). Columns 1 and 2 show that support for the left declined significantly more in municipalities where manufacturing decline was more pronounced: a 10 percentage point decline in the manufacturing share is associated with a 0.9 and 0.6 percentage point reduction in the left's first-round vote share in presidential and parliamentary elections, respectively, about 2% and 1.3% of the respective baseline means. This pattern is consistent with the weakening of the alignment between industrial labor and the political forces historically rooted in it (Benedetto et al., 2020; Gethin et al., 2022; Leonhardt, 2023).

Appendix Table A9 connects these changes to today's political landscape. Municipalities that experienced larger long-run manufacturing declines display significantly higher far-right vote shares in the 2017 presidential and parliamentary elections (columns 1 and 2). A 10 percentage point decline in manufacturing employment is associated with a 0.8 percentage point increase in the far-right vote share in the parliamentary election, about 5% of the mean. Municipalities experiencing larger manufacturing declines also voted significantly less in favor of the European Constitutional Treaty in the 2005 referendum (column 3): a 10 percentage point decline is associated with a 2.2 percentage point lower YES share, about 5% of the mean.

The results discussed so far concern the direction of political preferences, which has been the subject of most of the literature. Columns 3 and 4 of Table 4 turn in-

stead to political participation. Turnout declined significantly more in municipalities experiencing larger manufacturing losses: a 10 percentage point decline in the manufacturing share is associated with a 0.6 percentage point reduction in presidential turnout and a 0.5 percentage point reduction in parliamentary turnout, about 0.7% of baseline turnout in both cases. The same pattern appears in the 2005 referendum, a high-salience vote less mediated by party loyalties. A 10 percentage point long-run decline in the manufacturing share is associated with a 1.1 percentage point lower referendum turnout, about 1.5% of the mean (Appendix Table A9, column 4). We interpret these patterns as evidence of political disengagement. Across presidential, parliamentary, and referendum elections, part of the electorate in declining municipalities appears not simply to have shifted its support toward different parties, but to have withdrawn from electoral participation altogether. This interpretation is consistent with individual-level evidence: Kurer (2020) shows that workers facing occupational decline either move toward the radical right or abstain, while Braconnier and Dormagen (2007) document the electoral demobilization of working-class neighborhoods in France.

Because turnout is measured relative to registered voters, a decline could in principle reflect changes in registration rather than lower participation among those on the rolls. Column 5 of Table 4 provides little support for this explanation. Manufacturing decline is associated with a statistically insignificant reduction in registered voters relative to the voting-age population. The turnout effects in columns 3 and 4 therefore appear to reflect registered voters staying home rather than an expansion of the electoral rolls. If anything, the slight decline in registration implies that these estimates in columns 3 and 4 may understate the broader withdrawal from electoral participation.

The decline in participation was not confined to individual electoral cycles. Over the full 1968–2016 period, the long-difference estimates imply that the average municipality's manufacturing decline is associated with a 1.7 percentage point reduction in presidential turnout, about 2% of its 1968 level (Appendix Table A6). Taken together, the political response to deindustrialization involved not only a shift in preferences, away from the left and toward the far right, but also a sustained withdrawal from electoral participation. This distinction matters. Economic grievance can account for changes in partisan support, whereas persistent abstention points to a broader weakening of political engagement. The next section examines whether this political withdrawal coincided with a wider erosion of the social ties and institutions that sustained

community life in French municipalities.

5 Manufacturing Decline and Social Capital

This section asks how manufacturing decline reshaped local social capital. Section 5.1 shows that harder-hit municipalities created fewer associations and today host fewer of the amenities around which local social life is organized; Section 5.2 documents a parallel rise in individual isolation. Section 5.3 then asks whether other forms of social infrastructure could sustain community life as manufacturing retreated, using postwar church attendance as a proxy for social interaction independent of industrial employment.

5.1 The Decline of Associational Life

Industrial employment and associational life often developed together. Factories anchored not only jobs, but also the organizations built around them: firm-sponsored sports clubs, works councils that financed leisure and cultural activities, union halls, and mutual-aid societies (Cowie and Heathcott, 2003; Strangleman, 2017; Linkon, 2018). Sociologists have long argued that when stable industrial work disappears, these institutions weaken as well (Wilson, 1996). The role of associations extends beyond sociability. Since de Tocqueville (1835), they have been viewed as settings in which citizens develop habits of cooperation and collective action that sustain democratic participation (Putnam et al., 1993; Putnam, 2000; Skocpol, 2003).

In France, every newly created association must be formally declared and published, providing a continuous record of local associational activity since 1945. Table 5 relates the yearly number of new associations per 10,000 inhabitants, measured in a five-year window around each census wave, to the contemporaneous decline in manufacturing employment. Our preferred sample restricts attention to municipalities above 2,000 inhabitants, where association creation is measured more reliably. Below this threshold, a majority of municipalities record no new associations in the early census waves, leaving creation rates dominated by zeros (see also Section 2.2). Appendix Table A1 reports results for the full sample.

Association creation declined more in municipalities experiencing larger manufacturing losses. A 10 percentage point decline in the manufacturing share is associated with 0.36 fewer associations created annually per 10,000 inhabitants, about 5% of the

baseline mean (column 1). The decline is concentrated in associations centered on sociability. Creations of sports and leisure clubs, festival committees, and social clubs fell by about 6% of their baseline mean (column 2). Aid and advocacy associations also declined (columns 3 and 4), while associations organized around members' economic interests were unaffected (column 5). This composition is informative: manufacturing decline appears to have weakened especially those organizations built around repeated, face-to-face interaction rather than those serving primarily material interests.[17]

These estimates capture the creation of new associations rather than the stock already in place. Persistent differences in creation therefore accumulate over time, as fewer new organizations replace those that dissolve or become inactive. The pattern across categories also makes a purely resource-based explanation less compelling. If manufacturing decline simply reduced the time or resources available for collective organization, one might expect association creation to fall broadly across purposes. Instead, organizations defending members' economic interests were largely unaffected, even as those centered on sociability contracted. The decline was thus strongest precisely among the associations most likely to sustain regular social interaction, the dimension of local social capital most closely related to the participation patterns documented in Section 4.3.

The contraction of associational life is mirrored in the physical infrastructure of local communities. Appendix Table A10 relates the 2019 stock of local amenities to the long-run decline in manufacturing employment. Municipalities experiencing larger manufacturing declines between 1968 and 2016 today host fewer social venues per capita, including cafés, bars, and restaurants (column 1); fewer local shops and proximity services (column 2); fewer health facilities (column 3); fewer state-administration facilities (column 4); fewer sports facilities (column 5) and sport-federation licenses (column 6); and fewer schools per school-age child (column 7). A 10 percentage point decline in the manufacturing share is associated with 2.1 fewer social venues, 4.8 fewer commerce establishments, and 1.7 fewer health facilities per 10,000 residents, between 3% and 6% of the respective means, and with about 80 fewer sport-federation licenses per 10,000 residents, 3% of the mean. Because these outcomes are observed only at the end of the period and the analysis is cross-sectional, we interpret the estimates as descriptive rather than causal. Still, together with the decline in association creation,

[17] Dense associational life does not necessarily foster democratic resilience: Berman (1997) argues that associations in Weimar Germany became vehicles for Nazi mobilization, and Satyanath et al. (2017) provide supporting evidence. In our setting, however, the far right advanced where associational life contracted rather than where it flourished.

they point to a common pattern: places that lost more manufacturing employment also lost many of the organizations and venues that sustain everyday social interaction.

5.2 Social Isolation and Rail Access

The previous subsection showed that manufacturing decline weakened the organizations and amenities that structure local community life. We next ask whether this erosion is also visible in residents' immediate social ties. Table 6 shows that municipalities experiencing larger manufacturing declines saw a significantly larger increase in the share of people living alone (column 1) and a larger decline in the share of married individuals (column 2). A 10 percentage point decline in the manufacturing share is associated with a 0.25 percentage point increase in single-person households, about 3% of the baseline mean, and a 0.33 percentage point decline in the share married, about 0.7% of the mean. Over the full 1968–2016 period, the corresponding increase in the share living alone amounts to 6.5% of its 1968 level (Appendix Table A6). Manufacturing decline was thus accompanied not only by a weakening of collective organizations, but also by greater individual isolation and weaker family formation.

A related question is whether declining municipalities also became less connected to opportunities and people beyond the local community. Columns 3 to 5 of Table 6 examine access to the railway network. We find no differential change in the distance to the nearest conventional station (column 3), nor in the kilometers of active railway lines (column 4). The high-speed (TGV) network followed a different pattern. This network was built entirely within our study period: the first line, connecting Paris and Lyon, opened in 1981, and the network expanded through the 1990s and 2000s, precisely the decades of sharpest manufacturing decline. Municipalities experiencing larger manufacturing declines became relatively more distant from this expanding network (column 5): a 10 percentage point decline in the manufacturing share is associated with an 8.5 kilometer smaller reduction in distance to the nearest high-speed station, about 13% of the average start-of-period distance. This result shows that the expansion of a major new transport infrastructure did not offset, and if anything further contributed to, the growing isolation of former industrial communities.

5.3 Church Attendance and Social Resilience

Our results so far show that manufacturing decline coincided with both a weakening of local social infrastructure and a withdrawal from political participation. We next ask whether communities with alternative sources of social interaction were more resilient to this political disengagement. If meeting places, shared practices, and repeated social interaction help sustain participation, then communities in which such institutions existed independently of manufacturing should experience the economic consequences of industrial decline without the same decline in political engagement. In postwar France, the Catholic Church provides a natural setting in which to examine this possibility.

As discussed in Section 2.2, we use the Boulard Atlas to measure church attendance between 1946 and 1970, before the period of deindustrialization that we study. Religious municipalities are systematically smaller, poorer, and less industrialized, making comparisons across the full national distribution potentially misleading. We therefore divide municipalities into two population groups, below and above 10,000 inhabitants, and construct church-attendance quartiles separately within each group. This procedure compares municipalities of similar size and industrial exposure but different levels of religious practice (see Appendix C for descriptive statistics by quartiles). We focus on municipalities below 10,000 inhabitants, which account for the large majority of the sample.

The timing of the Boulard measure is important. Economic distress can itself increase participation in religious organizations, which may provide informal insurance and affect subsequent political behavior (Chen, 2010; Binzel and Carvalho, 2017; Bentzen, 2019; Costa et al., 2023; Rettl, 2025). Our exercise instead uses religious practice measured before industrial decline to ask whether a pre-existing source of social interaction shaped how communities responded to the shock. This distinction is close in spirit to Dehejia et al. (2007), who show that religious participation insures consumption and well-being against income shocks. Here, we ask whether pre-existing religious communities also made political participation more resilient to economic decline.

We replicate the baseline model in equation (1), separately for municipalities in each quartile of the church attendance distribution. Figure 3 provides a graphical representation of the results. In the least religious quartile, manufacturing decline is associated with both higher unemployment and lower turnout (Panels A and B). In the most religious quartile, the relationship with unemployment is almost unchanged,

whereas the relationship with turnout is close to flat (Panels C and D).

Table 7 quantifies this contrast; columns 1 to 4 report the estimates whose slopes are displayed in Figure 3. The unemployment coefficients are similar in the least and most religious quartiles, at 0.031 and 0.024, respectively (columns 1 and 2). The turnout coefficients differ sharply: manufacturing decline is associated with a -0.033 decline in turnout in the least religious quartile, but with a coefficient of only -0.002, statistically indistinguishable from zero, in the most religious quartile (columns 3 and 4). Columns 5 and 6 estimate an interaction specification on the full sample of municipalities below 10,000 inhabitants: we augment equation (1) with interactions between the manufacturing decline and the attendance quartiles, so that the difference between the most and least religious quartiles is tested formally. The same pattern emerges. The unemployment effect in the least religious quartile is 0.034, and its interaction with the most religious quartile is small and statistically insignificant. By contrast, the turnout effect is -0.047 in the least religious quartile and is fully offset in the most religious one, where the interaction coefficient is 0.062. Interactions with the second and third quartiles are small and statistically insignificant. This contrast is consistent with the interpretation that alternative social infrastructure can buffer the political disengagement that follows economic decline. Municipalities with high church attendance experienced manufacturing losses and rising unemployment much like less religious municipalities, but their electoral participation was substantially more resilient. Our interpretation is that parish life provided meeting places, shared rituals, and repeated social interaction that did not depend on industrial employment, consistent with evidence that church attendance can itself sustain turnout (Gerber et al., 2016). Although more religious municipalities may differ along dimensions not captured by our comparisons, the evidence points to substitutability across forms of social infrastructure.

6 Conclusion

For much of the twentieth century, manufacturing shaped communities well beyond the jobs it created. Industrial employment supported local incomes and population growth, but it also sustained organizations, meeting places, and forms of collective life that were closely tied to the factory (Bluestone and Harrison, 1982; Acemoglu, 2025). This paper studies what happened when that economic and social infrastructure receded.

Using more than five decades of data for over 10,000 French municipalities, we show that places experiencing larger manufacturing declines followed persistently different economic, demographic, political, and social trajectories.

The economic adjustment was substantial and long-lasting. Municipalities that lost more manufacturing employment experienced higher unemployment, lower incomes, slower population growth, and faster aging. Migration reinforced these differences, as declining places lost more residents and attracted fewer new ones. The French welfare state absorbed part of the shock: municipalities more exposed to deindustrialization rely more heavily on social transfers today. Yet compensation did not amount to economic recovery, and the effects extended well beyond material outcomes. Politically, deindustrializing municipalities moved away from the left and, more recently, toward the far right. They also became less politically engaged. Turnout fell across presidential, parliamentary, and referendum elections, indicating that the response to industrial decline involved not only a reallocation of votes but also a sustained withdrawal from electoral participation.

The same places experienced a broader weakening of local social life. Manufacturing decline was accompanied by fewer new associations, with the contraction concentrated precisely in those organized around face-to-face sociability. Former industrial municipalities also host fewer of the shops, cafés, sports facilities, and other amenities that provide settings for everyday interaction, and their residents more often live alone and marry less. These patterns suggest that political disengagement and the erosion of local social infrastructure were closely intertwined features of the adjustment to deindustrialization. The heterogeneity by postwar church attendance provides further evidence on this connection. Municipalities with high and low church attendance experienced similar economic consequences from manufacturing decline, but the decline in turnout was substantially weaker where church attendance had been higher. Our interpretation of these results is that parish life supplied an alternative source of meeting places, shared practices, and repeated social interaction that was less dependent on industrial employment.

Our findings raise several questions for future research. The first concerns the political economy of disengagement. A prominent argument holds that left-behind places respond to economic decline through electoral backlash (Rodríguez-Pose, 2018). We document a different response: part of the electorate in declining municipalities stopped voting altogether. If political attention follows mobilized constituencies, com-

munities that fall silent may become easier to overlook, potentially reinforcing their disengagement. Whether economic decline produces protest or withdrawal, and which response carries greater costs for the communities involved, remains an open question. A second concerns reversibility. Jobs may return to declining areas, through industrial policy or renewed private investment; whether the associations, meeting places, and habits of participation that disappeared return with them is much less clear. If social capital exhibits hysteresis, the social consequences of deindustrialization may outlast its economic causes, and place-based policies evaluated only through employment may miss an important part of recovery. A final question concerns substitutes. As religious practice recedes across advanced economies (Norris and Inglehart, 2011), what institutions can play the role that parish life played in the communities we study? Whether sports clubs, municipal spaces, other secular organizations, or digital communities can sustain or replace the repeated social interaction that our results point to will help determine how future economic dislocations, whether driven by trade, automation, or artificial intelligence, reshape community life.

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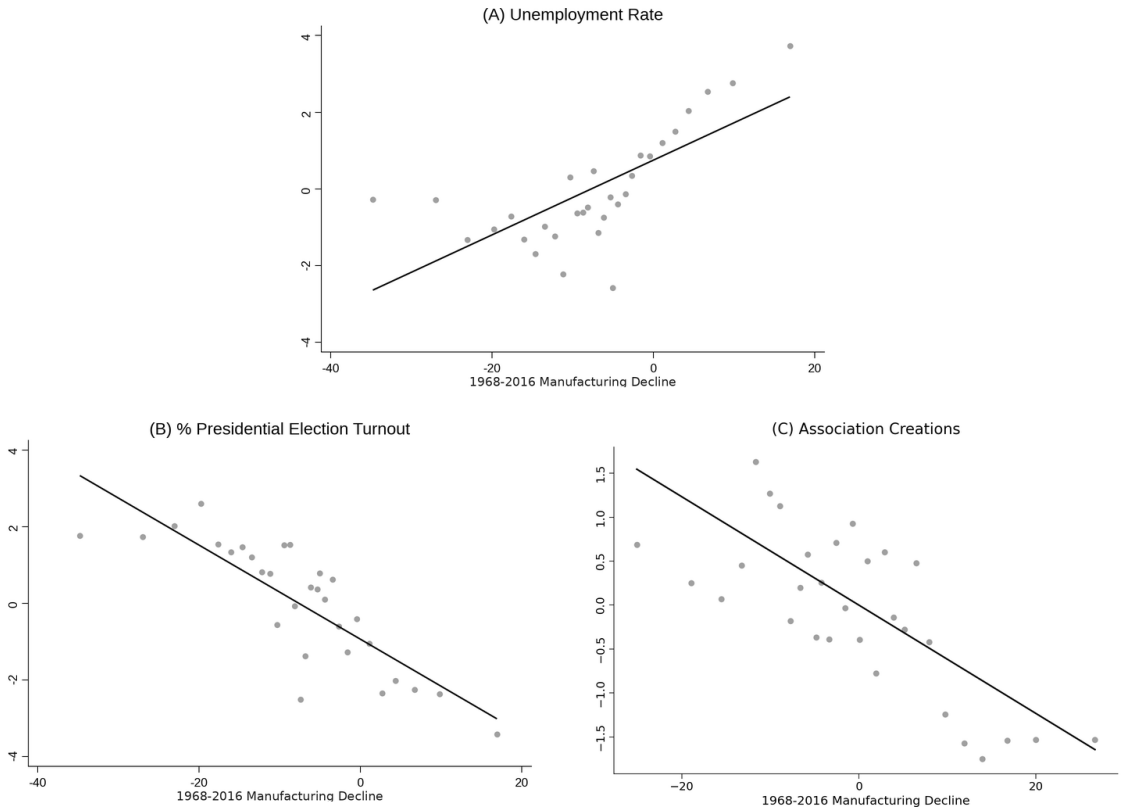
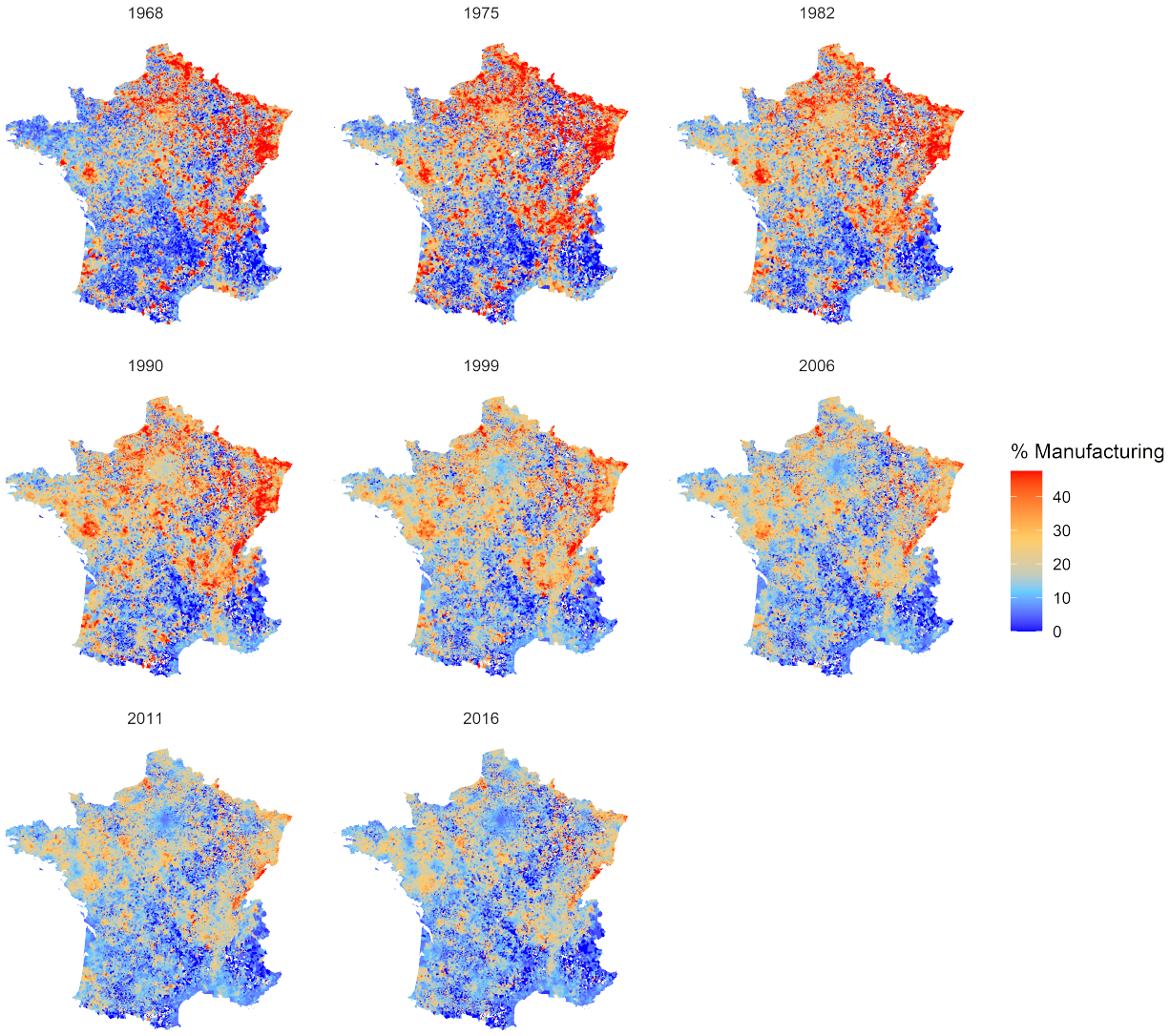
Figures and Tables

Figure 1. Manufacturing Decline, Unemployment, Turnout, and Association Creations



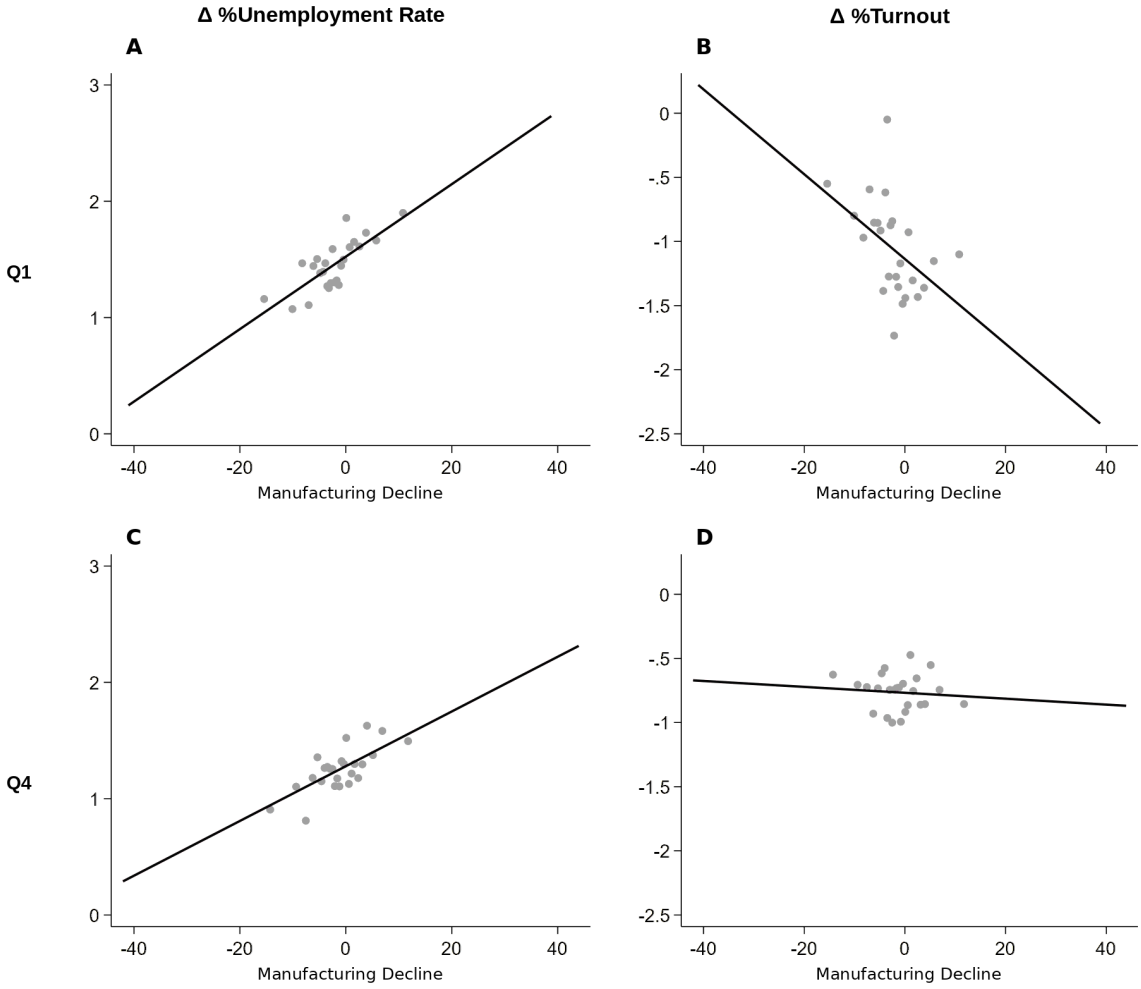
Notes: The figure shows binned scatterplots relating the long-run (1968–2016) decline in the manufacturing employment share to three outcomes at the municipal level: the 1968–2016 change in the unemployment rate (Panel A), the 1968–2016 change in turnout in presidential elections (Panel B), and the average yearly number of associations created per 10,000 inhabitants over 2019–2025 (Panel C). All variables are residualized on department fixed effects. The sample is a balanced panel of municipalities above 500 inhabitants; Panel C restricts to municipalities above 2,000 inhabitants, where association creation is measured more reliably (see Section 2.2). The slope coefficients are 0.104 (Panel A), -0.132 (Panel B), and -0.061 (Panel C), with standard errors of 0.012, 0.014, and 0.013, respectively, clustered at the department level.

Figure 2. Manufacturing Share Over Time



Notes: The figure displays, for each French municipality, the share of residents working in the manufacturing sector for each census year between 1968 and 2016, as recorded by the National Institute of Statistics and Economic Studies (INSEE). We focus on mainland France, excluding overseas territories and Corsica.

Figure 3. Manufacturing Decline and Religious Attendance



Notes: Binned scatterplots of the change in the outcome against the manufacturing decline, for the least religious (Q1, Panels A and B) and the most religious (Q4, Panels C and D) municipalities, among those below 10,000 inhabitants. Panels A and C plot the unemployment rate; Panels B and D plot presidential turnout. The fitted slopes correspond to the estimates in columns 1 to 4 of Table 7. Religiosity is the *messalisants* rate of the Boulard Atlas (1946–1970), standardized by Isambert and Terrenoire (1980) and reported at the 1968 canton level; rural municipalities inherit their canton rate, while multi-canton cities take an unweighted average over matched cantons. Quartiles are computed within each side of a two-group split at 10,000 inhabitants, so that the comparison holds municipality size, and with it industrial exposure, roughly constant (see Section 5.3). The unemployment slope is similar in Q1 and Q4, whereas the turnout slope is steep in Q1 and close to flat in Q4.

Table 1. Descriptive Statistics

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Panel A: 1968										
Population	3,804.87	29,568.13	500.00	560.00	764.00	1,136.00	2,212.00	11,524.00	2,573,732.00	10,258
Manufacturing share (%)	28.52	17.50	0.00	5.85	14.29	25.23	39.81	62.24	89.10	10,258
Unemployment rate (%)	1.48	1.55	0.00	0.00	0.00	1.23	2.18	4.29	32.76	10,258
Living alone (%)	5.56	2.35	0.00	2.15	3.90	5.31	6.91	9.83	18.22	10,258
Turnout (presidential, %)	79.29	5.69	6.52	69.77	76.03	79.58	82.95	87.92	100.00	10,223
Average income	11,008.55	2,850.21	3,463.97	7,073.60	9,117.02	10,649.71	12,446.30	16,067.65	36,099.30	10,258
Panel B: 2016										
Population	4,925.96	27,005.32	500.00	644.62	1,045.00	1,749.41	3,629.03	15,637.70	2,190,109.00	10,258
Manufacturing share (%)	15.67	7.26	0.00	5.88	10.38	14.67	19.71	28.99	58.06	10,258
Unemployment rate (%)	11.88	5.12	0.00	4.99	8.26	11.09	14.74	21.28	41.94	10,258
Living alone (%)	12.99	4.37	3.50	7.41	9.83	12.14	15.43	21.41	36.69	10,258
Turnout (presidential, %)	81.84	4.15	58.30	74.11	79.51	82.38	84.72	87.64	93.33	10,258
Average income	18,001.62	4,627.33	8,074.43	13,001.57	15,149.63	16,959.72	19,662.43	26,456.40	83,842.05	10,258
Panel C: First-Difference										
Δ Population	160.16	1,573.06	-276,787.00	-250.00	-29.12	52.00	192.00	909.00	68,831.25	71,806
Δ Manufacturing share (%, decline)	1.84	6.82	-54.99	-9.31	-1.81	1.88	5.62	12.73	65.32	71,806
Δ Unemployment rate (%)	1.48	4.13	-28.86	-5.05	-0.90	1.37	3.79	8.37	37.15	71,806
Δ Living alone (%)	1.06	1.84	-11.51	-1.99	0.09	1.10	2.09	3.92	19.75	71,806
Δ Turnout (presidential, %)	-0.59	5.99	-76.72	-10.66	-3.96	-0.96	3.29	9.15	79.98	71,130
Δ Average income	1,398.61	1,870.89	-54,354.52	-812.23	398.32	1,226.94	2,273.53	3,998.57	41,124.68	51,290
Panel D: Long-Difference										
Δ_{LD} Population	1,121.10	5,133.67	-383,623.50	-716.64	21.17	427.65	1,296.18	5,410.75	119,520.90	10,258
Δ_{LD} Manufacturing share (%, decline)	12.86	16.13	-33.97	-9.76	0.72	10.59	23.55	42.71	71.80	10,258
Δ_{LD} Unemployment rate (%)	10.39	5.09	-11.79	3.33	6.87	9.69	13.26	19.70	40.59	10,258
Δ_{LD} Living alone (%)	7.43	4.29	-7.45	1.21	4.51	7.03	9.85	15.23	27.68	10,258
Δ_{LD} Turnout (presidential, %)	2.56	6.30	-22.77	-7.28	-1.48	2.37	6.32	12.98	79.21	10,223
Δ_{LD} Average income	6,993.07	3,384.64	-16,937.59	2,730.26	5,013.12	6,648.73	8,404.14	12,495.00	47,742.75	10,258

Notes: Panel A and Panel B provide summary statistics for the years 1968 and 2016, respectively. Panel C reports the stacked first differences (Δ) across the seven intercensal changes between 1968 and 2016. Panel D reports the long difference (Δ_{LD}), calculated as the change between the 2016 and 1968 values. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The change in the manufacturing share is reported with the sign of the manufacturing decline: a larger positive value means a sharper decline. Average income is available only from 1982 onward and is reported in constant 2022 euros; intercensal and long-difference changes for income start from that year. Turnout refers to the participation rate in the first round of the presidential election closest to the census year.

Table 2. The Economic Consequences of Manufacturing Decline

Outcome	Δ%Unemploy Rate (1)	Δlog(Aver. Income)×100 (2)	ΔGDP PC (3)	Δ%Vacant Housing (4)	Δlog(Housing Price)×100 (5)
Δ%Manufacturing	0.058***	−0.158***	−0.164***	0.044***	0.019
	(0.008)	(0.026)	(0.033)	(0.008)	(0.065)
Observations	71,806	51,290	71,806	71,806	71,806
Mean Dep. Var.	8.173	9.550	85.12	7.302	10.84
SD Dep. Var.	5.438	0.294	26.04	3.769	1.065
Department FEs	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the unemployment rate (column 1), the log of average income per capita, multiplied by 100 (column 2), GDP per capita expressed as a percentage of the national average (column 3), the share of vacant housing in the total housing stock (column 4), and the log of the average housing price, multiplied by 100 (column 5). All dependent variables are computed as changes between two consecutive census waves. Income data are available starting in 1982. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls, so that a positive coefficient means that a sharper decline raises the outcome. All regressions include department fixed effects and census-year fixed effects, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as averages of the start-of-period values. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 3. The Demographic Consequences of Manufacturing Decline

Outcome	Δlog(Population)×100 (1)	ΔBirth Rate (2)	ΔDependency Ratio (3)	In Mig Rate (4)	Out Mig Rate (5)
Δ%Manufacturing	−0.167***	0.670*	0.107***	−0.151***	0.069***
	(0.033)	(0.346)	(0.011)	(0.039)	(0.023)
Observations	71,806	71,806	71,806	51,290	51,290
Mean Dep. Var.	7.534	290	37.17	34.79	25.35
SD Dep. Var.	1.002	85.46	18.98	21.04	8.404
Department FEs	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the log of population, multiplied by 100 (column 1), the birth rate, defined as total births divided by the number of women of childbearing age and averaged over a five-year window around the census year (column 2), the dependency ratio, measured as the ratio of elderly to working-age adults (column 3), and the in-migration and out-migration rates, defined as the number of people entering (respectively, leaving) the municipality during each intercensal period, divided by the start-of-period population (columns 4 and 5). All dependent variables are computed as changes between two consecutive census waves, except the migration rates, which enter in levels and are available for the 1975–2006 waves only. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department fixed effects and census-year fixed effects, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as averages of the start-of-period values. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 4. The Political Consequences of Manufacturing Decline

	Δ%Left		Δ%Turnout		Δ%Registered Voters
	Presidential	Parliamentary	Presidential	Parliamentary	
	(1)	(2)	(3)	(4)	(5)
Δ%Manufacturing	−0.090***	−0.061***	−0.061***	−0.046***	−0.051
	(0.020)	(0.020)	(0.012)	(0.006)	(0.031)
Observations	67,648	62,979	67,676	62,986	67,683
Mean Dep. Var.	42.70	45.74	82.56	68.53	96.69
SD Dep. Var.	11.85	14.30	5.555	11.39	27.60
Department FEs	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the first-round vote share of the left bloc in presidential and parliamentary elections (columns 1 and 2), turnout in the first round of presidential and parliamentary elections (columns 3 and 4), and the number of registered voters over the voting-age population (column 5), all computed as changes between two consecutive census waves, with each census wave matched to the nearest ballot. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as averages of the start-of-period values. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 5. The Social Consequences of Manufacturing Decline: Association Creations

	ΔAll	ΔMember Sociab.	ΔAid External	ΔAdvocacy	ΔEcon. Interests	ΔResidual
	(1)	(2)	(3)	(4)	(5)	(6)
Δ%Manufacturing	−0.036***	−0.020***	−0.003**	−0.006***	−0.004	−0.004***
	(0.009)	(0.004)	(0.002)	(0.002)	(0.004)	(0.001)
Observations	18,389	18,389	18,389	18,389	18,389	18,389
Mean Dep. Var.	7.053	3.590	0.945	0.776	1.384	0.358
SD Dep. Var.	4.507	2.430	0.882	0.816	1.196	0.459
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample is restricted to municipalities with more than 2,000 inhabitants (see Section 2.2; Appendix Table A1 reports results for the full sample). The dependent variable is the change in the yearly number of newly created associations per 10,000 inhabitants, in a five-year window around each census wave, in total (column 1) and by category (columns 2 to 6): member sociability (sports and leisure clubs, festival committees, social clubs), aid to an external public, advocacy, economic and material interests of members, and a residual category (veterans, religious, and commemorative associations). Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as averages of the start-of-period values. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 6. The Social Consequences of Manufacturing Decline: Social Isolation and Railway Access

	ΔLiving Alone	ΔMarriage	ΔStation Distance (km)	ΔActive Line (km)	ΔTGV Distance (km)
	(1)	(2)	(3)	(4)	(5)
Δ%Manufacturing	0.025***	−0.033***	0.0003	−0.001	0.845**
	(0.009)	(0.008)	(0.0015)	(0.004)	(0.391)
Observations	71,806	71,806	71,764	71,764	51,265
Mean Dep. Var.	8.930	45.50	8.630	1.419	63.55
SD Dep. Var.	4.323	5.590	7.286	2.599	81.23
Department FEs	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the share of people living alone (column 1), the share of married individuals (column 2), the distance to the nearest railway station (column 3), the kilometers of active railway lines in the municipality (column 4), and the distance to the nearest high-speed (TGV) station (column 5), all computed as changes between two consecutive census waves. TGV distances are available from 1982 onward. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as averages of the start-of-period values. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table 7. Heterogeneity by Postwar Church Attendance

	Sample splitting				Interaction specification	
	Δ%Unemp.		Δ%Turnout Pres.		Δ%Unemp.	Δ%Turnout Pres.
	Q1	Q4	Q1	Q4		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ%Manuf.	0.031***	0.024***	−0.033***	−0.002		
	(0.007)	(0.008)	(0.008)	(0.008)		
Δ%Manuf. (Q1 baseline)					0.034***	−0.047***
					(0.007)	(0.011)
× Q4					−0.007	0.062***
					(0.011)	(0.017)
Observations	14,546	13,118	14,443	13,052	53,032	51,261
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table examines the heterogeneity of the effects of manufacturing decline by postwar church attendance, among municipalities below 10,000 inhabitants. Church attendance is the *messalisants* rate of the Boulard Atlas (1946–1970), and quartiles are computed within population groups (see Section 5.3). Columns 1 to 4 report OLS estimates of Equation (1), estimated separately in the least religious (Q1) and most religious (Q4) quartiles; these coefficients correspond exactly to the slopes displayed in Figure 3. Columns 5 and 6 report OLS estimates of Equation (1), augmented with interactions between the manufacturing decline and the attendance quartiles. The row Δ%Manuf. (Q1 baseline) reports the effect of the manufacturing decline in the least religious quartile; the row × Q4 reports the additional effect in the most religious quartile, so that the total effect there is the sum of the two. Interactions with the second and third quartiles are included but not reported. The dependent variable is the unemployment rate (columns 1, 2, and 5) and presidential turnout (columns 3, 4, and 6), computed as changes between two consecutive census waves. All regressions include department and census-year fixed effects. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Online Appendix: Additional material

A Additional Figures and Tables

Table A1. Association Creations: Full Sample (Pop. $\geq$ 500)

Outcome (Δ)	All	Member Sociab.	Aid External	Advocacy	Econ. Interests	Residual
	(1)	(2)	(3)	(4)	(5)	(6)
Δ%Manufacturing	-0.007	-0.005**	-0.001	-0.002	0.001	-0.001
	(0.005)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
Observations	71,806	71,806	71,806	71,806	71,806	71,806
Mean Dep. Var.	7.148	3.899	0.840	0.647	1.347	0.415
SD Dep. Var.	5.903	3.611	1.259	1.109	1.791	0.886
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1) for association creations, in the full sample of municipalities with more than 500 inhabitants. See the notes to Table 5 for variable definitions. As discussed in Section 2.2, a majority of municipalities below 2,000 inhabitants record no association creation at all in the early census waves, which motivates the restricted sample used in the main text. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Descriptive Statistics – 1968

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
%Manufacturing	28.52	17.50	0.00	5.85	14.29	25.23	39.81	62.24	89.10	10,258
%Unemploy Rate	1.48	1.55	0.00	0.00	0.00	1.23	2.18	4.29	32.76	10,258
Aver. Income	11,008.55	2,850.21	3,463.97	7,073.60	9,117.02	10,649.71	12,446.30	16,067.65	36,099.30	10,258
GDP PC	85.79	25.05	22.50	52.52	69.04	82.51	98.41	129.38	384.27	10,258
Housing Price	10.04	4.45	2.31	4.62	6.98	9.24	12.23	17.85	73.87	10,258
Population	3,804.87	29,568.13	500.00	560.00	764.00	1,136.00	2,212.00	11,524.00	2,573,732.00	10,258
Density	323.83	1,161.12	4.35	22.24	42.27	75.68	173.13	1,217.58	26,087.19	10,258
Birth Rate	251.50	69.72	0.00	150.00	206.31	245.10	290.63	366.07	1,122.95	10,258
Dependency Ratio	32.24	14.09	2.72	13.99	22.58	30.00	39.51	57.99	255.26	10,258
Out Mig Rate	26.79	9.73	2.62	13.62	20.43	25.99	32.29	42.04	433.55	10,258
In Mig Rate	35.74	30.79	0.00	10.78	20.21	29.58	42.22	78.74	973.00	10,258
%Marriage	46.49	4.33	18.80	39.31	43.71	46.61	49.32	53.33	62.03	10,258
%Living Alone	5.56	2.35	0.00	2.15	3.90	5.31	6.91	9.83	18.22	10,258
%Vacant Housing	6.95	4.10	0.00	2.10	4.30	6.15	8.74	14.36	57.73	10,258
%No Diploma	86.61	6.59	49.15	74.36	82.94	87.73	91.38	95.30	100.00	10,258
%Voc. Diploma	8.03	4.24	0.00	2.19	4.87	7.42	10.64	15.75	37.69	10,258
%High-School Dipl.	3.78	2.16	0.00	0.83	2.22	3.49	4.98	7.75	15.84	10,258
%High Educ.	1.58	1.74	0.00	0.00	0.47	1.16	2.22	4.55	24.24	10,258
%Pop. 0–14	26.13	5.17	3.64	17.72	22.63	26.03	29.54	34.56	47.20	10,258
%Pop. 15–29	19.66	3.61	6.36	13.79	17.34	19.73	21.98	25.29	51.97	10,258
%Pop. 30–44	19.16	3.00	7.69	14.29	17.20	19.15	21.04	24.17	32.22	10,258
%Pop. 45–59	15.48	3.22	3.65	10.42	13.36	15.34	17.48	20.99	31.25	10,258
%Pop. 60–74	14.51	4.43	1.24	7.85	11.48	14.11	17.23	22.30	35.95	10,258
%Pop. 75+	5.06	2.49	0.00	1.77	3.32	4.71	6.39	9.48	44.57	10,258

continued on next page

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
%Immigrants	4.88	5.49	0.00	0.00	0.70	2.96	7.31	16.36	40.04	10,258
%Eur. Immigrants	4.29	4.84	0.00	0.00	0.63	2.64	6.32	14.54	34.76	10,258
%Non-Eur. Immigrants	0.59	1.32	0.00	0.00	0.00	0.00	0.60	3.05	24.46	10,258
%Turnout (Presidential)	79.29	5.69	6.52	69.77	76.03	79.58	82.95	87.92	100.00	10,223
%Left (Presidential)	30.31	12.82	0.85	8.91	21.66	30.03	38.60	52.00	84.26	10,223
%Turnout (Parliamentary)	81.80	6.01	21.62	71.37	78.54	82.35	85.81	90.55	100.00	10,218
%Left (Parliamentary)	44.08	19.28	0.23	9.33	31.13	44.45	58.30	74.53	95.89	10,218
%Registered Voters	97.48	19.30	8.74	79.53	90.91	97.91	103.99	113.83	1,660.45	10,223
Station Distance (km)	8.35	7.01	0.06	0.93	3.18	6.35	11.72	22.05	54.22	10,252
Active Line (km)	1.50	2.65	0.00	0.00	0.00	0.00	2.59	6.52	40.79	10,252
TGV Distance (km)	175.57	127.48	0.38	14.56	62.20	159.98	255.03	408.72	550.95	10,253
Assoc. (All)	3.29	3.03	0.00	0.00	1.10	2.84	4.71	8.89	34.88	10,258
Assoc. (Member Sociab.)	1.78	2.01	0.00	0.00	0.00	1.44	2.76	5.68	31.01	10,258
Assoc. (Aid External)	0.32	0.80	0.00	0.00	0.00	0.00	0.00	2.07	11.17	10,258
Assoc. (Advocacy)	0.14	0.49	0.00	0.00	0.00	0.00	0.00	0.94	8.29	10,258
Assoc. (Econ. Interests)	0.85	1.38	0.00	0.00	0.00	0.00	1.38	3.55	15.75	10,258
Assoc. (Residual)	0.21	0.62	0.00	0.00	0.00	0.00	0.00	1.59	7.30	10,258

Notes: The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). Socio-demographic variables are derived from the 1968 Census using the SAPHIR dataset, except for internal migration, which uses the 1975 Census. Economic and political variables are drawn from Cagé and Piketty (2023). Political variables are computed using the first-round results of the 1969 presidential election and the 1967 parliamentary election. Economic variable values refer to 1968, with the exception of average income, which is measured in 1982 and reported in constant 2022 euros.

Table A3: Descriptive Statistics – End of Period

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
%Manufacturing	15.67	7.26	0.00	5.88	10.38	14.67	19.71	28.99	58.06	10,258
%Unemploy Rate	11.88	5.12	0.00	4.99	8.26	11.09	14.74	21.28	41.94	10,258
Aver. Income	18,001.62	4,627.33	8,074.43	13,001.57	15,149.63	16,959.72	19,662.43	26,456.40	83,842.05	10,258
GDP PC	84.25	29.86	31.79	56.08	66.92	77.62	93.73	130.68	857.03	10,258
Housing Price	158.49	74.06	38.59	72.66	108.61	144.72	189.76	288.65	1,203.53	10,258
Population	4,925.96	27,005.32	500.00	644.62	1,045.00	1,749.41	3,629.03	15,637.70	2,190,109.00	10,258
Density	425.29	1,295.80	3.19	22.58	57.51	120.09	286.04	1,609.94	26,338.81	10,258
Birth Rate	186.77	43.52	0.00	120.41	158.93	184.25	211.71	260.65	488.26	10,258
Dependency Ratio	50.35	23.69	5.23	23.53	34.29	44.84	60.12	96.36	292.05	10,258
Out Mig Rate	20.39	5.40	3.54	12.18	16.81	20.07	23.63	29.42	97.28	10,258
In Mig Rate	31.06	8.51	6.82	18.99	25.32	30.16	35.66	46.25	97.54	10,258
%Marriage	39.58	5.42	14.59	30.65	36.02	39.56	43.16	48.44	60.14	10,258
%Living Alone	12.99	4.37	3.50	7.41	9.83	12.14	15.43	21.41	36.69	10,258
%Vacant Housing	8.63	4.03	0.04	3.56	5.72	7.84	10.76	16.32	33.60	10,258
%No Diploma	30.16	8.24	7.72	17.72	24.11	29.50	35.62	44.69	62.77	10,258
%Voc. Diploma	28.69	5.65	5.17	19.22	25.17	28.77	32.35	37.76	50.00	10,258
%High-School Dipl.	17.32	3.27	3.77	11.97	15.27	17.32	19.33	22.64	40.30	10,258
%High Educ.	23.84	9.13	1.09	11.65	17.24	22.51	28.89	40.49	70.55	10,258
%Pop. 0–14	18.08	3.74	2.80	11.76	15.65	18.18	20.57	24.11	31.53	10,258
%Pop. 15–29	14.53	3.51	3.38	9.09	12.27	14.40	16.58	20.15	42.82	10,258
%Pop. 30–44	18.20	3.54	4.55	12.19	15.96	18.26	20.53	23.95	37.09	10,258
%Pop. 45–59	21.06	3.31	4.88	16.05	18.85	20.82	23.07	26.83	35.73	10,258
%Pop. 60–74	17.76	4.54	4.99	11.24	14.61	17.26	20.35	25.91	42.66	10,258
%Pop. 75+	10.37	4.56	0.25	4.61	7.11	9.49	12.68	19.25	33.97	10,258

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Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
%Immigrants	4.99	4.73	0.00	0.96	1.99	3.56	6.30	14.05	45.22	10,258
%Eur. Immigrants	2.83	2.66	0.00	0.48	1.16	2.15	3.63	7.18	36.14	10,258
%Non-Eur. Immigrants	2.16	3.18	0.00	0.23	0.62	1.11	2.28	7.87	38.92	10,258
%Turnout (Presidential)	81.84	4.15	58.30	74.11	79.51	82.38	84.72	87.64	93.33	10,258
%Left (Presidential)	37.56	7.32	13.98	26.36	32.38	36.99	42.41	50.06	68.67	10,257
%Turnout (Parliamentary)	51.29	5.90	21.24	41.31	47.59	51.45	55.19	60.67	76.88	10,258
%Left (Parliamentary)	44.15	10.54	9.38	27.79	36.42	43.66	51.64	61.67	81.94	10,258
%Registered Voters	95.67	9.59	36.90	78.41	90.49	96.57	101.91	109.54	136.31	10,258
% Far-Right Vote (Presidential)	25.22	8.15	0.00	12.50	19.17	24.78	30.93	39.18	52.49	10,258
% Far-Right Vote (Parliamentary)	17.40	7.64	1.03	6.87	11.58	16.37	22.22	31.26	51.78	10,258
2005 Referendum %Turnout	72.71	4.67	45.69	64.47	69.82	73.20	75.96	79.57	100.00	10,258
2005 Referendum %Vote YES	41.58	9.68	12.44	26.61	34.95	41.00	47.85	58.20	82.53	10,256
Station Distance (km)	9.03	7.67	0.07	0.95	3.35	6.80	12.55	24.69	54.22	10,253
Active Line (km)	1.38	2.57	0.00	0.00	0.00	0.00	2.28	6.36	40.79	10,253
TGV Distance (km)	32.45	29.61	0.19	4.58	12.17	22.64	41.69	101.55	166.23	10,253
Assoc. (All)	9.34	5.75	0.00	0.00	5.83	8.70	12.08	19.46	73.07	10,258
Assoc. (Member Sociab.)	4.91	3.55	0.00	0.00	2.62	4.43	6.59	11.33	35.37	10,258
Assoc. (Aid External)	1.51	1.54	0.00	0.00	0.00	1.33	2.31	4.26	12.24	10,258
Assoc. (Advocacy)	0.97	1.30	0.00	0.00	0.00	0.57	1.59	3.33	13.42	10,258
Assoc. (Econ. Interests)	1.49	1.70	0.00	0.00	0.00	1.19	2.24	4.58	21.31	10,258
Assoc. (Residual)	0.47	0.90	0.00	0.00	0.00	0.00	0.61	2.32	11.70	10,258
Social	33.65	38.12	0.00	0.00	15.47	25.46	40.70	81.54	829.64	10,256
Commerce	168.43	67.80	0.00	77.99	121.63	158.27	204.17	291.25	757.99	10,256
Health	36.38	30.72	0.00	0.00	16.13	31.13	49.55	93.22	302.94	10,256
Admin.	6.35	5.78	0.00	0.00	2.05	4.99	9.28	17.20	43.36	10,256
Culture	0.29	1.21	0.00	0.00	0.00	0.00	0.00	1.86	31.68	10,256
Sport Eq.	27.23	17.01	0.00	7.01	14.90	23.73	35.71	59.53	173.91	10,256

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Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Sport Lic.	2,514.42	838.06	0.00	1,382.94	1,947.88	2,408.09	2,960.83	3,990.77	10,129.83	10,258
Sport Fed.	215.43	106.36	0.00	44.23	134.40	214.02	291.02	391.66	627.94	10,258
Schools	69.28	47.37	0.00	25.11	40.82	56.94	83.33	153.61	670.72	10,258
Benefits Sh.	5.66	2.88	0.50	2.20	3.70	5.00	6.90	11.30	24.80	4,534
Pensions Sh.	30.47	7.80	10.50	19.40	25.10	29.60	34.80	44.50	70.70	4,534
%Poverty	4.86	7.49	0.00	0.00	0.00	0.00	9.00	21.00	46.00	10,248
Min. Income	28.52	22.61	0.00	0.00	13.60	22.70	37.30	73.40	238.00	10,248
%Econ. Dep.	109.58	20.81	0.00	84.00	96.00	106.00	119.00	149.00	307.00	10,253
Mortality	3.87	3.84	0.00	0.00	0.00	4.23	5.01	12.72	12.72	10,248
%Precarious	11.40	4.04	0.00	6.47	8.73	10.81	13.30	17.76	65.30	10,258
%Part-Time	16.93	3.80	0.00	11.28	14.37	16.69	19.08	23.53	41.67	10,258
Med. Income	23,299.29	3,337.58	0.00	19,300.00	21,280.00	22,800.00	24,800.00	28,860.00	54,120.00	10,258

Notes: The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). Socio-demographic variables are derived from the 2016 Census using the SAPHIR dataset, except for internal migration, which uses 2006 data. Economic and political variables are drawn from Cagé and Piketty (2023); political variables are computed using the first-round results of the 2017 presidential and parliamentary elections and the 2005 referendum. Association creations come from the JOAFE; local amenities from the BPE (2019); welfare and precariousness variables from FILOSOFI and the Observatoire des territoires (2016–2021).

Table A4: Descriptive Statistics – First Differences

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Δ%Manufacturing (decline)	1.84	6.82	-54.99	-9.31	-1.81	1.88	5.62	12.73	65.32	71,806
Δ%Unemploy Rate	1.48	4.13	-28.86	-5.05	-0.90	1.37	3.79	8.37	37.15	71,806
ΔAver. Income	1,398.61	1,870.89	-54,354.52	-812.23	398.32	1,226.94	2,273.53	3,998.57	41,124.68	51,290
ΔGDP PC	-0.22	9.90	-257.47	-12.72	-4.28	-0.48	3.65	12.43	275.49	71,806
ΔHousing Price	21.21	31.51	-43.09	-0.10	3.29	8.18	24.70	89.54	728.64	71,806
ΔPopulation	160.16	1,573.06	-276,787.00	-250.00	-29.12	52.00	192.00	909.00	68,831.25	71,806
ΔDensity	14.50	105.24	-3,083.67	-22.46	-1.53	2.92	13.22	81.29	5,033.00	71,806
ΔBirth Rate	-9.25	102.11	-663.95	-176.50	-72.49	-5.79	51.86	154.43	665.83	71,806
ΔDependency Ratio	2.59	10.80	-226.33	-14.11	-2.91	2.43	7.89	19.69	127.82	71,806
Δ%Marriage	-0.99	4.16	-26.08	-7.45	-3.56	-1.20	1.45	6.10	28.15	71,806
Δ%Living Alone	1.06	1.84	-11.51	-1.99	0.09	1.10	2.09	3.92	19.75	71,806
Δ%Vacant Housing	0.24	3.23	-51.41	-4.83	-1.34	0.35	1.93	4.98	44.88	71,806
Δ%No Diploma	-8.06	5.71	-51.32	-17.93	-11.58	-7.66	-4.25	0.50	30.46	71,806
Δ%Voc. Diploma	2.95	4.75	-26.04	-4.53	-0.15	2.82	5.96	10.87	33.78	71,806
Δ%High-School Dipl.	1.93	3.08	-30.45	-2.87	0.12	1.81	3.68	7.10	31.50	71,806
Δ%High Educ.	3.18	3.51	-21.02	-1.74	0.93	2.78	5.14	9.42	40.48	71,806
Δ%Pop. 0–14	-1.15	3.71	-23.16	-7.36	-3.25	-1.04	0.99	4.75	22.06	71,806
Δ%Pop. 15–29	-0.73	3.80	-27.98	-6.79	-3.04	-0.82	1.45	5.61	33.86	71,806
Δ%Pop. 30–44	-0.14	3.82	-20.62	-6.03	-2.55	-0.38	2.13	6.51	20.16	71,806
Δ%Pop. 45–59	0.80	4.09	-23.69	-5.89	-1.68	0.75	3.29	7.60	21.18	71,806
Δ%Pop. 60–74	0.46	3.79	-22.07	-6.04	-1.65	0.65	2.71	6.42	21.26	71,806
Δ%Pop. 75+	0.76	2.41	-35.13	-3.14	-0.57	0.73	2.07	4.74	21.87	71,806
Δ%Immigrants	0.01	2.08	-35.90	-3.28	-0.64	0.08	0.80	2.91	46.20	71,806
Δ%Eur. Immigrants	-0.21	1.72	-24.37	-3.01	-0.68	-0.03	0.43	2.02	19.32	71,806

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Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Δ%Non-Eur. Immigrants	0.22	1.18	-26.84	-1.14	-0.07	0.07	0.50	1.91	28.83	71,806
Δ%Turnout (Presidential)	-0.59	5.99	-76.72	-10.66	-3.96	-0.96	3.29	9.15	79.98	71,130
Δ%Left (Presidential)	2.19	9.45	-40.07	-11.02	-5.27	0.90	9.06	18.71	55.65	71,123
Δ%Turnout (Parliamentary)	-4.44	5.45	-41.78	-13.58	-7.94	-4.20	-0.87	4.02	60.61	70,500
Δ%Left (Parliamentary)	0.01	11.76	-84.92	-21.16	-6.67	1.06	7.12	18.62	83.92	70,498
Δ%Registered Voters	-0.29	38.35	-3,561.70	-13.61	-4.74	-0.24	4.20	13.47	3,550.89	70,568
ΔStation Distance (km)	0.10	1.15	-10.48	0.00	0.00	0.00	0.00	0.00	35.48	71,770
ΔActive Line (km)	-0.02	0.38	-13.98	0.00	0.00	0.00	0.00	0.00	9.39	71,770
ΔTGV Distance (km)	-28.62	78.21	-507.47	-208.05	0.00	0.00	0.00	0.00	0.00	51,265
ΔAssoc. (All)	0.86	5.57	-80.69	-7.60	-1.82	0.35	3.50	9.78	81.67	71,806
ΔAssoc. (Member Sociab.)	0.45	3.92	-41.14	-5.66	-1.37	0.01	2.33	6.75	60.87	71,806
ΔAssoc. (Aid External)	0.17	1.56	-23.44	-2.38	-0.04	0.00	0.66	2.76	23.44	71,806
ΔAssoc. (Advocacy)	0.12	1.36	-26.04	-2.08	0.00	0.00	0.36	2.42	26.04	71,806
ΔAssoc. (Econ. Interests)	0.09	2.17	-23.44	-3.25	-0.62	0.00	0.95	3.42	23.44	71,806
ΔAssoc. (Residual)	0.04	1.20	-12.76	-1.95	0.00	0.00	0.00	2.07	14.24	71,806

Notes: The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). All variables are computed as changes between two consecutive census waves. We consider all census waves between 1968 and 2016, except for income (available from 1982). The change in the manufacturing share is reported with the sign of the manufacturing decline: a larger positive value means a sharper decline. All other variables keep their natural sign.

Table A5: Descriptive Statistics – Long Differences

Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Δ_{LD}%Manufacturing (decline)	12.86	16.13	-33.97	-9.76	0.72	10.59	23.55	42.71	71.80	10,258
Δ_{LD}%Unemploy Rate	10.39	5.09	-11.79	3.33	6.87	9.69	13.26	19.70	40.59	10,258
Δ_{LD}Aver. Income (since 1982)	6,993.07	3,384.64	-16,937.59	2,730.26	5,013.12	6,648.73	8,404.14	12,495.00	47,742.75	10,258
Δ_{LD}GDP PC	-1.54	22.14	-135.69	-32.39	-14.69	-2.56	10.35	30.44	472.77	10,258
Δ_{LD}Housing Price	148.45	70.81	33.86	66.21	100.74	135.20	179.06	272.98	1,129.66	10,258
Δ_{LD}Population	1,121.10	5,133.67	-383,623.50	-716.64	21.17	427.65	1,296.18	5,410.74	119,520.90	10,258
Δ_{LD}Density	101.47	335.10	-3,640.59	-52.94	0.97	26.11	94.85	512.32	5,724.52	10,258
Δ_{LD}Birth Rate	-64.74	79.23	-915.46	-194.65	-110.73	-62.52	-14.85	56.98	279.92	10,258
Δ_{LD}Dependency Ratio	18.11	23.21	-203.74	-13.66	4.09	15.54	29.34	58.85	222.33	10,258
Δ_{LD}%Marriage	-6.91	6.78	-33.97	-17.69	-11.68	-7.15	-2.34	4.53	23.74	10,258
Δ_{LD}%Living Alone	7.43	4.29	-7.45	1.21	4.51	7.03	9.85	15.23	27.68	10,258
Δ_{LD}%Vacant Housing	1.68	5.22	-50.55	-6.47	-0.95	1.79	4.55	9.78	25.10	10,258
Δ_{LD}%No Diploma	-56.45	9.30	-84.18	-70.82	-63.20	-57.00	-50.04	-40.44	-17.18	10,258
Δ_{LD}%Voc. Diploma	20.66	7.52	-8.12	7.04	16.24	21.12	25.64	32.16	44.64	10,258
Δ_{LD}%High-School Dipl.	13.54	3.93	-2.28	7.35	10.92	13.42	16.13	20.07	36.83	10,258
Δ_{LD}%High Educ.	22.25	8.53	0.81	10.33	16.09	21.19	27.31	38.05	65.66	10,258
Δ_{LD}%Pop. 0–14	-8.05	5.60	-33.24	-17.16	-11.69	-8.06	-4.43	1.20	16.37	10,258
Δ_{LD}%Pop. 15–29	-5.14	4.09	-31.46	-11.73	-7.61	-5.08	-2.65	1.45	26.08	10,258
Δ_{LD}%Pop. 30–44	-0.95	4.40	-18.00	-7.95	-3.93	-1.07	1.86	6.55	19.43	10,258
Δ_{LD}%Pop. 45–59	5.57	4.59	-13.28	-1.93	2.70	5.47	8.49	13.31	28.47	10,258
Δ_{LD}%Pop. 60–74	3.25	5.48	-19.24	-5.83	-0.20	3.31	6.74	12.17	26.39	10,258
Δ_{LD}%Pop. 75+	5.31	4.41	-33.63	-1.14	2.44	4.92	7.78	13.19	26.02	10,258
Δ_{LD}%Immigrants	0.10	5.04	-31.27	-8.95	-1.75	0.73	2.16	7.17	31.72	10,258
Δ_{LD}%Eur. Immigrants	-1.46	4.22	-28.01	-9.72	-2.99	-0.39	0.79	3.15	27.62	10,258

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Variable	Mean	SD	Min	P5	P25	Median	P75	P95	Max	N
Δ_{LD}%Non-Eur. Immigrants	1.57	2.84	-22.39	-0.52	0.42	0.86	1.74	6.36	33.30	10,258
Δ_{LD}%Turnout (Presidential)	2.56	6.30	-22.77	-7.28	-1.48	2.37	6.32	12.98	79.21	10,223
Δ_{LD}%Left (Presidential)	7.26	12.64	-50.95	-14.28	-0.96	7.52	15.76	28.14	47.63	10,222
Δ_{LD}%Turnout (Parliamentary)	-30.50	8.06	-60.69	-43.98	-35.71	-30.35	-25.34	-17.32	33.31	10,218
Δ_{LD}%Left (Parliamentary)	0.08	18.80	-62.04	-30.31	-12.83	-0.37	13.08	31.20	68.39	10,218
Δ_{LD}%Registered Voters	-1.80	19.66	-1,562.60	-20.27	-8.84	-1.70	5.63	17.23	105.18	10,223
Δ_{LD}Station Distance (km)	0.69	3.17	-10.48	0.00	0.00	0.00	0.00	5.05	47.01	10,252
Δ_{LD}Active Line (km)	-0.13	1.00	-16.27	0.00	0.00	0.00	0.00	0.00	9.39	10,252
Δ_{LD}TGV Distance (km) (since 1982)	-143.12	131.91	-507.47	-386.65	-219.46	-123.54	-14.92	0.00	0.00	10,253
Δ_{LD}Assoc. (All)	6.05	5.87	-28.74	-1.65	2.28	5.52	9.02	16.15	70.45	10,258
Δ_{LD}Assoc. (Member Sociab.)	3.13	3.80	-24.87	-2.13	0.49	2.76	4.96	9.90	35.37	10,258
Δ_{LD}Assoc. (Aid External)	1.19	1.71	-11.11	-0.97	0.00	1.04	2.07	4.06	12.24	10,258
Δ_{LD}Assoc. (Advocacy)	0.83	1.36	-8.29	0.00	0.00	0.32	1.46	3.25	13.42	10,258
Δ_{LD}Assoc. (Econ. Interests)	0.65	2.07	-12.94	-2.63	0.00	0.24	1.62	3.85	21.31	10,258
Δ_{LD}Assoc. (Residual)	0.26	1.08	-7.30	-1.21	0.00	0.00	0.43	2.21	11.70	10,258

Notes: The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). All variables are computed as the long-run difference between 1968 and 2016, except for income (from 1982). The change in the manufacturing share is reported with the sign of the manufacturing decline: a larger positive value means a sharper decline. All other variables keep their natural sign.

Table A6. The Cumulative Effects of Manufacturing Decline: Long Differences, 1968–2016

Outcome	Δ_{LD}%Unemploy Rate	Δ_{LD}log(Aver. Income)x100	Δ_{LD}%Turnout	Δ_{LD}%Living Alone
	(1)	(2)	(3)	(4)
Δ_{LD}%Manufacturing	0.104***	-0.375***	-0.132***	0.036*
	(0.012)	(0.065)	(0.014)	(0.021)
Observations	10,257	10,257	10,222	10,257
Mean Dep. Var.	1.481	9.275	79.28	5.559
SD Dep. Var.	1.554	0.251	5.691	2.348
Department FEs	Yes	Yes	Yes	Yes

Notes: The table reports OLS estimates from the long-difference specification (Equation (2)). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the unemployment rate (column 1), the log of average income per capita, multiplied by 100 (column 2), presidential turnout (column 3), and the share of people living alone (column 4). All dependent variables are computed as the long-run difference between 1968 and 2016, except income, which is available from 1982 onward, so that column 2 relates the 1982–2016 change in income to the 1982–2016 manufacturing decline. Δ_{LD}%Manufacturing denotes the long-run decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department fixed effects, exclude Paris, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as of 1968. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A7. Economic Conditions Today: Persistence and the Welfare State

Outcome	Economic conditions			Welfare-state support	
	%Poverty	Med. Income	%Precarious	Min. Income	Benefits Sh.
	(1)	(2)	(3)	(4)	(5)
Δ_{LD}%Manufacturing	0.208***	−62.876***	0.028***	0.548***	0.070***
	(0.026)	(12.715)	(0.009)	(0.083)	(0.014)
Observations	10,247	10,257	10,257	10,247	4,533
Mean Dep. Var.	4.863	23,302	11.40	28.52	5.656
SD Dep. Var.	7.494	3,330	4.038	22.61	2.884
Department FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from the long-difference specification (Equation (2)), with contemporary outcomes in levels. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the poverty rate in 2019 (column 1), median income per consumption unit in 2021 euros (column 2), the share of employees on fixed-term or temporary-agency contracts in 2021 (column 3), the number of minimum-income (RSA) recipients per 1,000 residents aged 15–64 in 2019 (column 4), and the share of social benefits (excluding pensions) in disposable household income in 2019 (column 5). FILOSOFI publishes income-structure variables, including the benefits share, only for municipalities with at least 1,000 fiscal households and 2,000 residents, which explains the smaller sample in column 5; the poverty rate is subject to the same coverage rules and additional conditions, and published rates below 5% (above 95%) are reported as 5% (95%). Minimum-income recipient counts are rounded to the nearest five, so that counts below three appear as zero. Δ_{LD}%Manufacturing denotes the 1968–2016 decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department fixed effects and are weighted by the start-of-period population. Paris is excluded because it is a municipality with department status. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A8. Out-Migration Effects by Education Level

Outcome	Out-Migration				
	All	No Diploma	Vocational	Baccalaureate	High Education
	(1)	(2)	(3)	(4)	(5)
Δ%Manufacturing	0.069***	0.048***	-0.287***	0.093*	0.473***
	(0.023)	(0.014)	(0.057)	(0.050)	(0.100)
Observations	51,290	51,290	51,290	51,290	51,290
Mean Dep. Var.	25.35	15.23	46.19	53.89	75.76
SD Dep. Var.	8.404	6.786	45.86	47.29	80.38
Department FEs	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from Equation (1). The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period 1968–2006 (see Section 2.2 for more details). The dependent variable is the out-migration rate, defined as the number of people leaving the municipality during each intercensal period, divided by the start-of-period population. Columns 1 to 5 report results for different education groups: all individuals (column 1), individuals with no diploma (column 2), individuals holding a certificate of vocational aptitude (column 3), individuals with a Baccalaureate (column 4), and individuals with higher education (column 5). Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A9. Contemporary Political Outcomes: Far-Right Vote and the 2005 Referendum

	%Far-Right Vote (2017)		2005 Referendum	
	Presidential	Parliamentary	%Vote YES	%Turnout
	(1)	(2)	(3)	(4)
Δ_{LD}%Manufacturing	0.051*	0.082**	−0.219***	−0.113***
	(0.029)	(0.032)	(0.037)	(0.015)
Observations	10,257	10,257	10,255	10,257
Mean Dep. Var.	25.22	17.41	41.58	72.71
SD Dep. Var.	8.143	7.636	9.678	4.670
Department FEs	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from the long-difference specification (Equation (2)), with contemporary outcomes in levels. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the far-right vote share in the first round of the 2017 presidential and parliamentary elections (columns 1 and 2), and the YES vote share and turnout in the 2005 referendum on the European Constitutional Treaty (columns 3 and 4). The referendum asked: *"Do you approve the bill authorizing the ratification of the treaty establishing a Constitution for Europe?"* Δ_{LD}%Manufacturing denotes the 1968–2016 decline in the manufacturing share of total employment (1968–2006 for the referendum outcomes): it is positive when the manufacturing share falls. All regressions include department fixed effects, exclude Paris, and are weighted by the start-of-period population. The mean and standard deviation of the dependent variables are computed as of the outcome year. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table A10. Community Infrastructure Today: Local Amenities

Outcome	Social (1)	Commerce (2)	Health (3)	Admin. (4)	Sport Eq. (5)	Sport Lic. (6)	Schools (7)
Δ_{LD}%Manufacturing	−0.208***	−0.476***	−0.167***	−0.063***	−0.188***	−8.028***	−0.266***
	(0.066)	(0.084)	(0.033)	(0.009)	(0.033)	(1.105)	(0.052)
Observations	10,256	10,256	10,256	10,256	10,256	10,257	10,257
Mean Dep. Var.	33.65	168.4	36.38	6.350	27.23	2,515	69.29
SD Dep. Var.	38.12	67.81	30.73	5.781	17.01	837.7	47.37
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table presents OLS estimates from the long-difference specification (Equation (2)), with contemporary outcomes in levels, measured in 2019. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). The dependent variable is the number, per 10,000 inhabitants, of social venues (cafés, bars, tobacconists, and restaurants; column 1), local shops and proximity services (column 2), health facilities and professionals (column 3), state administration facilities (column 4), sports facilities (column 5), and sport-federation licenses (column 6); column 7 reports the number of schools per 10,000 school-age children. Δ_{LD}%Manufacturing denotes the 1968–2016 decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department fixed effects, exclude Paris, and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

B Robustness Checks

We assess the robustness of our results to alternative samples and measurement choices, and to the alternative empirical strategies laid out in Section 3.3. Throughout, we focus on the two endpoints of our causal chain: the unemployment rate and presidential turnout.

Alternative Samples and Weights. Appendix Table B1 reports estimates that remove the population weights, include municipalities with fewer than 500 inhabitants, and restrict the sample to municipalities above 2,000 inhabitants. The estimates remain significant at the 1% level in all columns. They tend to be larger when the smallest municipalities are excluded, consistent with sharper industrial decline in larger places.

Differential Trends and Confounders. Appendix Table B2 interacts census-period effects, cumulatively, with 1968 population and density, unemployment, education, age structure, and immigrant shares. The unemployment coefficient is essentially unchanged across specifications, moving from 0.058 in the baseline to 0.048 with the full set of interactions. The turnout coefficient declines from -0.061 to -0.028 but remains statistically significant throughout, and it returns to -0.048 when we instead augment the baseline with municipality fixed effects, which absorb municipality-specific linear trends. Part of the attenuation reflects the fact that flexible trends absorb genuine long-run exposure to industrial decline along with potential confounders; even so, the qualitative patterns are robust to allowing for them. Appendix Table B3 shows robustness to scaling manufacturing employment by the working-age population instead of the labor force.

Shift-Share IV. We construct a Bartik instrument that predicts each area's manufacturing decline by combining its baseline industry composition with national employment changes in each manufacturing industry, computed leaving out the area itself. Areas that entered the period specialized in industries that subsequently declined nationwide are predicted to lose more manufacturing employment, for reasons unrelated to local conditions. Identification requires that baseline specialization in nationally declining industries be uncorrelated with other determinants of local outcomes (Goldsmith-Pinkham et al., 2020), or that the national industry-level shocks be as good as randomly assigned (Borusyak et al., 2022).

Two features of the French data shape the implementation. The industry classification is revised four times over our sample period, and a shift-share design requires

exposure shares and national shifts measured on a single stable nomenclature; we therefore construct the instrument for the 1975–1990 window, which lies entirely within the NAP classification era, using 1975 exposure shares over four-digit (NAP600) manufacturing industries and two stacked periods, 1975–1982 and 1982–1990. Because four-digit industry employment is too sparse at the municipal level, the analysis is run at the commuting-zone level.

Appendix Table B4 presents the instrumental variable results. Columns 1 and 2 reproduce the baseline municipal-level estimates. Columns 3 and 4 report OLS estimates at the commuting-zone level for the 1975–1990 window over which the instrument is defined; the coefficients are larger than at the municipal level, reflecting both the aggregation of spillovers across neighboring municipalities and the earlier, more intense phase of the decline. Columns 5 and 6 report the SSIV estimates. The first stage is strong (Kleibergen-Paap F of 15.8; Appendix Table B5 and Appendix Figure B1).[18] The IV estimates confirm both results: manufacturing decline driven by national industry-level forces raises local unemployment and depresses turnout. The IV coefficients are somewhat larger than the corresponding OLS ones, consistent with attenuation from sampling error in census-based manufacturing shares and with the instrument isolating the nationally driven component of the shock.

[18] In addition to standard errors clustered at the department level, Appendix Table B4 reports exposure-robust standard errors following Borusyak et al. (2022), which account for the correlation of residuals across areas with similar industry composition.

Table B1. Robustness to Alternative Samples and Weights

Specification	Baseline		Unweighted		All Munic.		Pop. $\geq$ 2,000	
	Unemp. (1)	Turnout (2)	Unemp. (3)	Turnout (4)	Unemp. (5)	Turnout (6)	Unemp. (7)	Turnout (8)
Δ%Manufacturing	0.058***	-0.061***	0.024***	-0.022***	0.027***	-0.034***	0.098***	-0.097***
	(0.008)	(0.012)	(0.004)	(0.003)	(0.005)	(0.006)	(0.015)	(0.021)
Observations	71,806	67,676	71,806	67,676	225,232	212,800	18,389	16,884
Mean Dep. Var.	8.173	82.56	8.173	82.56	7.501	83.22	9.874	80.78
SD Dep. Var.	5.438	5.555	5.438	5.555	7.055	6.254	6.004	5.629
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports OLS estimates from Equation (1) for the unemployment rate and presidential turnout. Columns 1 and 2 report the baseline estimates (municipalities with more than 500 inhabitants, weighted by start-of-period population). Columns 3 and 4 remove population weights. Columns 5 and 6 extend the sample to all municipalities regardless of population size. Columns 7 and 8 restrict the sample to municipalities with more than 2,000 inhabitants. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table B2. Robustness to Including Additional Control Variables and Fixed Effects

Specification	Baseline		+ Pop./Dens.		+ Unemp.		+ Educ.		+ Age/Immig.		Munic. FEs	
	Unemp. (1)	Turnout (2)	Unemp. (3)	Turnout (4)	Unemp. (5)	Turnout (6)	Unemp. (7)	Turnout (8)	Unemp. (9)	Turnout (10)	Unemp. (11)	Turnout (12)
Δ%Manufacturing	0.058***	-0.061***	0.060***	-0.039***	0.058***	-0.037***	0.057***	-0.031***	0.048***	-0.028***	0.052***	-0.048***
	(0.008)	(0.012)	(0.008)	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.009)	(0.013)
Observations	71,806	67,676	71,806	67,676	71,806	67,676	71,806	67,676	71,806	67,676	71,806	67,676
Mean Dep. Var.	8.173	82.56	8.173	82.56	8.173	82.56	8.173	82.56	8.173	82.56	8.173	82.56
SD Dep. Var.	5.438	5.555	5.438	5.555	5.438	5.555	5.438	5.555	5.438	5.555	5.438	5.555

Notes: The table reports OLS estimates from Equation (1) for the unemployment rate and presidential turnout. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). Columns 1 and 2 report the baseline estimates. Subsequent columns cumulatively add period interactions with 1968 municipal characteristics: population and population density (columns 3 and 4), the unemployment rate (columns 5 and 6), education composition (columns 7 and 8), and age structure and immigrant shares (columns 9 and 10). Columns 11 and 12 replace department fixed effects with municipality fixed effects, which in a first-difference specification absorb municipality-specific linear trends. Δ%Manufacturing denotes the intercensal decline in the manufacturing share of total employment: it is positive when the manufacturing share falls. All regressions include census-year fixed effects and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table B3. Robustness to Using Alternative Manufacturing Shares

Outcome	Δ%Unemploy Rate	Δ%Turnout Pre
	(1)	(2)
Δ%Alt.Manufacturing	0.157***	-0.062***
	(0.011)	(0.013)
Observations	71,806	67,676
Mean Dep. Var.	8.173	82.56
SD Dep. Var.	5.438	5.555
Department FEs	Yes	Yes
Census Year FEs	Yes	Yes

Notes: The table reports OLS estimates from Equation (1) for the unemployment rate and presidential turnout. Δ%Alt.Manufacturing denotes the intercensal decline in the manufacturing share computed over the working-age population (individuals aged 18–55) instead of the labor force. The sample includes a balanced panel of municipalities with more than 500 inhabitants over the period (see Section 2.2 for more details). All regressions include department and census-year fixed effects, and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table B4. Shift-Share IV: Unemployment and Turnout

	OLS, municipalities 1968–2016		OLS, commuting zones 1975–1990		SSIV, commuting zones 1975–1990	
Outcome	Δ%Unemploy Rate	Δ%Turnout Pres.	Δ%Unemploy Rate	Δ%Turnout Pres.	Δ%Unemploy Rate	Δ%Turnout Pres.
	(1)	(2)	(3)	(4)	(5)	(6)
Δ%Manufacturing	0.058***	−0.061***	0.339***	−0.103*	0.432***	−0.418***
	(0.008)	(0.012)	(0.033)	(0.052)	(0.140)	(0.141)
					[0.140]***	[0.144]***
Observations	71,806	67,676	560	560	560	560
KP F-stat					15.77	15.77
Department FEs	Yes	Yes	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes	Yes	Yes

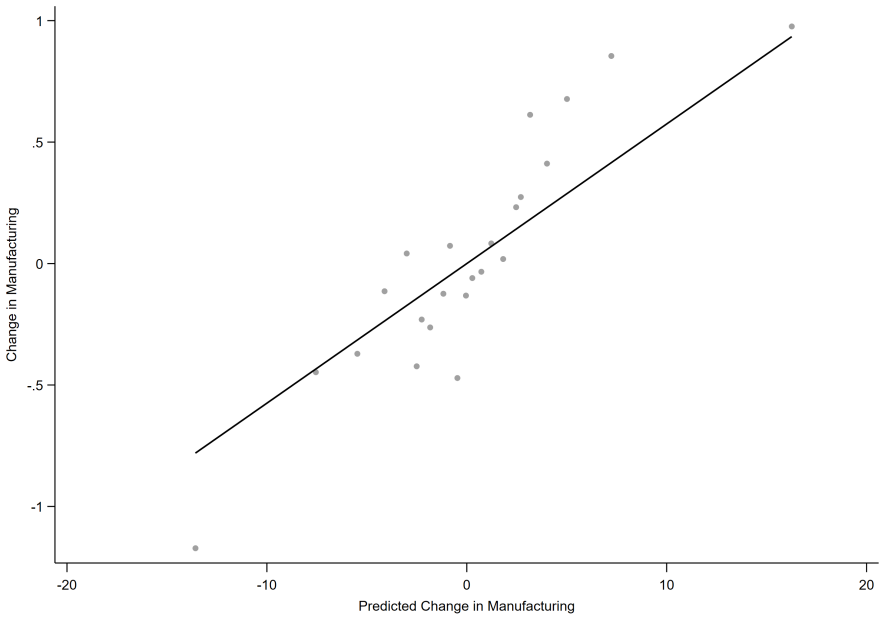
Notes: The table compares OLS and shift-share IV estimates of the effect of manufacturing decline on the unemployment rate and presidential turnout. Columns 1 and 2 reproduce the baseline municipal-level estimates from Equation (1) (Tables 2 and 4). Columns 3 and 4 report OLS estimates at the commuting-zone level (2020 geography) over the 1975–1990 window on which the instrument is defined. Columns 5 and 6 report SSIV estimates, where the manufacturing decline is instrumented with the Growth Bartik instrument, built from 1975 exposure shares over the four-digit NAP600 manufacturing industries and national leave-one-out industry employment growth (see Appendix B). Δ%Manufacturing denotes the decline in the manufacturing share: it is positive when the manufacturing share falls. All regressions include department and census-year fixed effects and are weighted by the start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. In columns 5 and 6, brackets report exposure-robust standard errors following Borusyak et al. (2022), computed by re-expressing the estimating sample at the level of the shocks: each observation becomes an industry-by-period-by-department cell, aggregated across commuting zones with the 1975 exposure shares as weights. The first stage is reported in Appendix Table B5 and Appendix Figure B1. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Table B5. First Stage: ΔManufacturing Share on the Bartik Instrument

Outcome: ΔManufacturing Share	(1)	(2)	(3)	(4)
Bartik Instrument	0.057***	0.054***	0.041***	0.038***
	(0.014)	(0.014)	(0.012)	(0.013)
Observations	560	560	560	560
R-squared	0.651	0.683	0.750	0.766
Department FEs	Yes	Yes	Yes	Yes
Census Year FEs	Yes	Yes	Yes	Yes
1968 Pop. & Density × Year		Yes	Yes	Yes
1968 Unemploy. & Educ. × Year			Yes	Yes
1968 Age Bins & Immig. × Year				Yes

Notes: The table reports first-stage estimates of the change in the manufacturing share on the Growth Bartik instrument (see Appendix B), at the commuting-zone level over the 1975–1990 window. Column 1 includes department and census-year fixed effects; subsequent columns add period interactions with 1968 population and density (column 2), 1968 unemployment and education (column 3), and 1968 age bins and immigrant shares (column 4). Regressions are weighted by start-of-period population. Standard errors, clustered at the department level, are reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

Figure B1. First Stage: Realized against Predicted Change in Manufacturing



Notes: Binned scatterplot of the realized change in the manufacturing share against the change predicted by the Growth Bartik instrument (exposure shares 1975), at the commuting-zone level, 1975–1990, after partialling out department and census-year fixed effects. The corresponding regression is in Appendix Table B5.

C Church Attendance: Additional Material

Table C1. Religious Attendance by Quartile – Pop. $< 10{,}000$

Quartile	N	Mean	SD	Min	p25	p50	p75	Max
Q1	2,078	10.82	3.06	1	9	11	13	15
Q2	1,801	20.32	2.84	16	18	20	23	25
Q3	1,823	33.59	5.37	26	29	33	38	44
Q4	1,874	63.61	13.14	45	52	62	73	100
Total	7,576	31.61	21.38	1	15	25	44	100

Table C2. Religious Attendance by Quartile – Pop. $\geq 10{,}000$

Quartile	N	Mean	SD	Min	p25	p50	p75	Max
Q1	44	8.77	2.91	1	6	10	11	12
Q2	41	15.32	1.68	13	14	15	17	18
Q3	41	25.54	4.39	19	22	24	29	35
Q4	40	47.50	10.11	37	40	45	51	73
Total	166	23.86	15.71	1	12	18	35	73

Table C3. 1968 Baseline Characteristics by Quartile – Pop. $< 10{,}000$

Q	Stat	Pop. 1968	Density 1968	Unempl. 1968	Avg Inc. 1982	%Manuf. 1968	%High. educ. 1968	%No dipl. 1968
Q1	Mean	1,560.91	116.41	1.54	11,186.67	27.35	1.53	88.05
	SD	1,457.23	184.65	1.69	2,980.63	16.55	1.58	5.64
Q2	Mean	1,586.50	136.93	1.58	10,715.36	28.19	1.41	87.91
	SD	1,484.82	282.17	1.67	2,597.52	17.95	1.32	5.15
Q3	Mean	1,634.71	135.70	1.35	10,327.86	27.33	1.33	87.86
	SD	1,532.51	238.69	1.51	2,200.20	18.06	1.30	5.60
Q4	Mean	1,520.69	99.53	1.00	9,686.72	23.09	0.98	88.65
	SD	1,290.48	192.94	1.22	2,272.78	16.60	1.13	5.72
Total	Mean	1,574.80	121.76	1.37	10,496.95	26.49	1.32	88.12
	SD	1,443.78	226.73	1.55	2,606.14	17.38	1.36	5.55

Table C4. 1968 Baseline Characteristics by Quartile – Pop. $\geq 10{,}000$

Q	Stat	Pop. 1968	Density 1968	Unempl. 1968	Avg Inc. 1982	%Manuf. 1968	%High. educ. 1968	%No dipl. 1968
Q1	Mean	17,668.64	1,566.68	2.98	12,310.31	35.79	3.51	78.69
	SD	7,495.68	1,417.92	1.69	3,533.64	12.30	3.24	7.09
Q2	Mean	14,799.51	1,277.27	2.54	11,949.57	36.73	3.13	80.04
	SD	4,732.98	1,313.25	1.37	2,625.11	15.36	2.63	6.04
Q3	Mean	14,360.39	1,022.79	2.23	11,101.76	35.84	2.96	80.42
	SD	4,148.71	768.03	1.13	1,734.99	17.50	1.91	5.41
Q4	Mean	14,841.10	852.23	1.74	11,833.55	34.55	3.27	78.07
	SD	5,141.58	724.16	0.71	1,879.99	15.16	1.34	5.79
Total	Mean	15,461.57	1,188.71	2.39	11,807.84	35.74	3.22	79.30
	SD	5,682.99	1,132.84	1.35	2,585.76	15.03	2.40	6.15

Notes (Appendix Tables C1–C4): Religiosity is the *messalisants* rate of the Boulard Atlas (1946–1970), standardized by Isambert and Terrenoire (1980) and reported at the 1968 canton level. Quartiles are computed within two population groups, below and above 10,000 inhabitants (see Section 5.3).

D Data Construction and Outcome Definitions

This appendix documents the construction of outcomes that require non-trivial processing beyond the administrative sources described in Section 2.2. Appendix D.1 describes the harmonization of municipal boundaries. Appendix D.2 describes the aggregation of local amenities from the Permanent Database of Facilities. Appendix D.3 describes the classification of association creations.

D.1 Harmonization of municipal boundaries

Municipal boundaries change over our period of analysis through mergers, splits, and code reassignments. We therefore project every source onto a single reference geography: the INSEE definition of communes as of January 1, 2022, which is also the geography used by Cagé and Piketty (2023). The reference skeleton contains 34,965 active communes.

For each source whose commune identifier is not already expressed in the 2022 geography, we apply the official INSEE code-change table (*Code officiel géographique*), retaining all movements with an effective date on or before January 1, 2022, and then aggregate the duplicate records created by mergers. Aggregation follows the nature of the variable: counts and monetary amounts are summed; rates and shares are recomputed on the aggregated denominator, or population-weighted when the denominator is unavailable; presence indicators take the maximum; and distances take the minimum, so that a merged commune inherits the distance to its nearest facility. Roughly a dozen communes created after 2022 are redirected to their 2022 predecessor before aggregation.

Between 1968 and 2022, metropolitan France lost roughly 3,300 communes through this process (from about 38,200 to 34,900 active communes). The INSEE movement table records 11,498 boundary events over the same period: 564 fusions, 735 splits or territorial creations, 875 suppressions, and 9,324 pure code reassignments (Table D1). These events touch 6,141 distinct historical commune codes. Reorganizations were concentrated in the 1970s, when many small communes were merged administratively, and in the 2010s, when the *fusion* of communes and associated code changes accelerated. Our aggregation rules preserve internal consistency at the 2022 level, but they mechanically assign merged communes the sum of predecessor stocks and the nearest facility among predecessors; the modification indicator below allows us to absorb resid-

ual composition bias in the main specifications and to exclude affected communes in robustness checks.

Table D1. INSEE commune boundary movements, 1968–2022

Movement type	Events	Communes before	Communes after
Fusion	564	564	564
Split or creation	735	430	468
Suppression	875	875	—
Code reassignment	9,324	4,772	4,338
Total	11,498	6,141 distinct historical codes	

Notes: Counts from the INSEE *Code officiel géographique* (`v_mvt_commune`), retaining movements with `DATE_EFF` on or before January 1, 2022. "Communes before" and "Communes after" count distinct `COM_AV` and `COM_AP` codes, respectively. Code reassignments (MOD 30–35, 50, 70–72) leave the underlying territory unchanged.

Rather than drop communes affected by boundary changes, we retain them and flag them with an indicator equal to one if the commune's territory was modified between 1968 and 2022. The flag is built from the 4,760 historical commune codes identified in the Cagé and Piketty (2023) alignment file and projected forward to the 2022 geography; it equals one for 1,886 communes, or 5.4% of the reference skeleton.

D.2 Local amenities: aggregation of the Permanent Database of Facilities

Source and coverage. Facility counts come from the 2019 INSEE *Base permanente des équipements* (BPE), which records the stock of public and private facilities in each commune by detailed facility type. For some amenities absent from the BPE, we supplement it with the stock of active establishments from the SIRENE business register.

Categories. We group facility types into six bundles chosen to capture the local infrastructure of everyday life, which we summarize in Table D2.

Table D2. BPE outcome bundles

Category	Components
State administration	Post offices (bureau, relay, agency), gendarmeries, police stations, and public employment offices (Pôle emploi).
Local commerce & services	Banks, butchers, fishmongers, bakeries, food stores (convenience stores to hypermarkets), bookshops and newsagents, car and farm-equipment repair, building trades, hairdressers, estate agencies, beauty salons, and florists. Restaurants are *excluded* (moved to social venues).
Social venues	Cafés and bars and tobacconists; restaurants.
Health	Hospitals, medical-social facilities, multidisciplinary health centres, general practitioners, dentists, nurses, emergency departments, and maternity wards. Pharmacies are excluded.
Culture	Cinemas only (theatre omitted so the series extends cleanly to 2024).
Sport	Six BPE facility types: bowling greens, tennis courts, large playing fields, multi-sport halls and grounds, non-specialised halls, and outdoor play areas.

D.3 Classification of associations

Source. Every association governed by the 1901 law must publish its creation in the *Journal officiel des associations et fondations d'entreprise* (JOAFE). We parse the full JOAFE archive from 1945 onward, which yields one record per creation announcement with the association's title, its stated purpose (*objet*), the address of its registered office, the declaration place, the département, and, for recent records, its identifier in the National Register of Associations (RNA).

Assignment to communes. Announcements do not carry a commune code. We assign one using two independent geocoding engines built from official references only: the INSEE geographic code and movement tables, the postal-address database, the national address database, and the RNA registry. The first engine proceeds by extracting a commune name from the address string, then from the title and purpose, then by a street-level address lookup unique within the département, then from the structured registered-office fields, then from the RNA address; the second starts from the postal code and matches current and historical commune names. A commune is assigned when the two engines agree; when they disagree, the higher-confidence match is retained, and residual disagreements are resolved by a large language model that sees the raw address and the two candidate communes. 98.7% of announcements receive a commune, and the two engines agree on 77.5% of records. Commune codes are then projected onto the 2022 geography as described in Appendix D.1. The resulting sample contains 3,290,183 geolocated creations in 33,325 communes over 1945–2025.

Categories. We classify each creation into one of five mutually exclusive *orientation* categories. The taxonomy is ours: it asks what the association is primarily *for* (who benefits, what logic organizes the activity), not which official JOAFE activity domain was filed. Official theme codes are available in usable form only from 2007 and encode filing conventions that are hard to recover from text alone; we therefore do not use them as the category target. Instead, a locally hosted 14-billion-parameter language model (Qwen3-14B, served offline so that no announcement leaves the cluster) reads the title and the stated purpose (*objet*) and assigns exactly one category. The five categories and their national shares over 1945–2025 are:

1. **Member sociability** (C1): a shared activity for the benefit of members themselves (sports and leisure clubs, festival committees, social clubs, amateur culture). 46.3% of creations.
2. **Aid to an external public** (C2): services provided to beneficiaries outside the membership, often vulnerable (charitable work, social intervention, personal services). 14.6%.
3. **Advocacy** (C3): promoting or defending a cause vis-à-vis society at large. 12.6%.
4. **Economic and material interests** (C4): instrumental management of the members' economic interests (unions, federations, property management, local business promotion). 21.1%.
5. **Residual** (C5): veterans' associations, religious bodies, civil protection, commemoration, and heritage without an associated sociability. 5.4%.