

Supplement to “Inequality and earnings dynamics in France: National policies and local consequences”

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This Appendix comprises elements that complement our article. Section A describes the main social movements that took place in France over the past two decades. Section B provides additional evidence on the convergence observed between cities on one side, and between urban and rural areas on the other. Section C complements the results presented in Section 4 of the main paper bringing in descriptive evidence on workers’ geographic mobility. Finally, Section D provides elements on the changes in public employment by territory.

APPENDIX A: SOCIAL MOVEMENTS ACROSS FRENCH TERRITORIES

France has had high unemployment rates for the last 40 years. This unemployment rate displays considerable variation across space and time: Paris was and still is a relatively low-unemployment city, Brittany was a high and is now a low-unemployment region, when some eastern or northern departments went the opposite. However, most labor market policies were national in nature, providing ad hoc responses to specific and even local shocks. For instance, to address local educational problems (mostly in junior-high and high schools), the central Ministry of Education created the *Zones d’Education Prioritaires* (ZEP, see Bénabou, Kramarz, and Prost (2009)). To combat the lack of jobs creation in difficult suburban areas, the *Zones Urbaines Sensibles* (ZUS) and the *Zones Franches Urbaines* (ZFU) were created to help foster firms’ locations there (see Givord, Quantin, and Trevien (2018)).

Not surprisingly, this one-size-fits-all attitude led from “Paris,” with no leeway for the local authorities or local initiatives, has been regularly resented. And, following a well-established tradition (that even preceded the French revolution), social movements have sprung up over the centuries and have continued over our sample period. We describe three of them and try to show their “local territory” component. Endowed with

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this view, we compute in Section 4 and Online Appendix D, statistics on inequality and public employment, using a nomenclature of these territories that captures the distance to the center . . . Paris.

In 2005, what was deemed “most important riot in the history of French contemporary society” (see [Mucchielli \(2009\)](#)) took place. Over a period of 3 weeks, the rioters destroyed more than 10,000 cars and rubbish containers by burning them. These destructions took place mainly in Paris suburbs, but also in some large cities. Rioters also burned or ransacked public buildings, in particular schools, sports facilities, IRS buildings, police stations, etc. Buses, police and firemen vehicles were stoned. These riots started in the aftermath of the death of two young men of Northern African descent, in Clichy-sous-Bois, who were trying to escape a police operation, which was not directed against them.¹ Riots started there and extended mostly to the whole *département* of Seine-Saint-Denis, especially in municipalities labeled ZUS. After some days of riots, and a geographic extension to the west of the Parisian region, in the Yvelines’s poor neighborhoods, and to other French ZUS, a state of emergency was declared, resulting in a curfew.

This movement was clearly a direct reaction to what was perceived as widespread police violence directly targeted to the young in a context of mass youth (low-skill) unemployment and massive discrimination both at school and on the job market, within some of these poorest neighborhoods. [Mucchielli \(2009\)](#) uses the word of “Ghettoization” to characterize the process that led to these riots.

The political response resulted mostly in targeted measures for the poor neighborhoods: subsidized jobs for people living in ZUS, positive discrimination for high-school students coming from ZUS into higher education, and urban renewal instigated by the newly created *Agence Nationale de Rénovation Urbaine* (ANRU) with both demolitions and new constructions in impoverished zones. This urban renewal effort, albeit limited in scope, was considered a success.

In 2013, the “Red caps” movement (*les Bonnets Rouges*) started in Brittany. This social protest was clearly and explicitly intended to fight against the newly decided (October 2013) carbon tax explicitly targeted at transport trucks. The name was a clear reference to the Phrygian cap, also called “Liberty Cap,” used by both French and American Revolutionaries, but also to the great peasant revolt of 1675 (see [Le Coadic \(2015\)](#) for an insightful article on this episode).

This carbon tax was supposedly automated, using gantries equipped to detect vehicles carrying heavy loads. The protests resulted in demonstrations as well as the destruction of some of these gantries.

Until the second half of the twentieth century, Brittany was an extremely isolated region, with strong local traditions. To foster its development, the government decided at the end of the 1960s to construct (free) highways to connect it to the rest of France. This clearly helped agriculture to shift from traditional farming to its intensive equivalent, one that relies heavily on trucks transportation to sell its production all over France and Europe. This carbon tax was clearly considered a threat to the local economy. It was far

¹ Clichy-sous-Bois is one of the most economically disadvantaged and isolated suburbs of Paris. It is located in the northeast of the Parisian region in the *département* of Seine-Saint-Denis.

from the only one: competition from low-wage countries, a decrease in EU subsidies, pollution directly resulting from intensive farming. Indeed, unemployment zoomed up in 2012.

Hence, in the face of this sudden new tax, huge demonstrations took place in west Brittany, in particular in Quimper and Carhaix, at the end of 2013. Unions, political parties, from the left to the extreme-right, including some favoring Brittany's independence, were united in opposition to the policy.

The tax was temporarily suspended in 2014, and then definitely canceled. The cost—billions in fact—was not only coming from the protests and the associated destruction, but mostly from the need to compensate the company EcoMouv', which implemented the automated component of the system for its losses, as well as from the loss of income collected through taxation (one billion a year).

More recently, the Yellow Vests movement has directed international attention to France and much puzzlement. Again, we intend to describe the events associated to this social movement and highlight the local components that define it.

The Yellow Vests movement started at the end of October 2018. This wave of protests was organized locally, at the multiple roundabouts that characterize the French (road) landscape. Having such a yellow vest has become mandatory for every car and every driver since 2008, allowing some visibility even at night in case of a car breakdown. The actions were triggered by the tightening of speed limits (from 90 to 80 km per hour, effective July 1, 2018) on local roads outside highways and main roads, in a context of rising fuel prices, induced by an increase of already high taxes.

Indeed, the success of the movement appears related to converging claims in the face of increased fuel prices (motorists), an increase in taxes on pensions (retirees), and “high taxes” with apparently decreasing public services (working and middle class). As often happens in France, this type of complaint was supported by the extreme-right, the extreme-left, as well as abstainers. Boyer, Delemotte, Gauthier, Rollet, and Schmutz (2020) provides a thorough analysis of the characteristics of the localities where the Yellow Vests were successful in mobilizing supporters (both physically on roundabouts and online, on Facebook) using data on *départements* and employment zones, together with a simple yet convincing econometric analysis. Their results clearly show that those living in isolated, remote zones who have to drive long distances to go to work were actively supporting the cause (i.e., being on roundabouts or present on Facebook Yellow Vests' groups). The econometric analysis singles out the share of roads affected by the changes in the speed limit regulation as a very strongly contributing factor (when local inequality does not seem to have a robust role).

On top of gathering at roundabouts, the Yellow Vests blocked fuel repositories, organized massive demonstrations in Paris as well as in other major French cities.

The political response was swift. A plan was announced by President Macron (10 billions euros, December 2018). However, protests continued after New Year's Eve. After roughly 1 year, decisions were taken by the Government: (i) the additional tax on fuel was canceled, (ii) a massive increase in the in-work benefit (the *Prime d'activité*) for low-wage workers, (iii) a decrease of the income tax in 2020, mostly for low-income households, (iv) a tax exemption for overtime hours, (v) the additional tax on pensions was canceled, (vi) the employers were allowed to pay a bonus (up to 1000 euros) to their

employees exempt of payroll and income taxes. The total cost of these decisions was estimated to be 17 billions euros. Essential to our perspective, all centrally-taken decisions were canceled. President Macron started to rebuild some relationships with mayors and local authorities, a policy largely supported by a majority of French citizens. The right balance in French governance between “Paris” and the “territories” seems still a work in progress.

APPENDIX B: CONVERGENCE IN EARNINGS BETWEEN CITIES

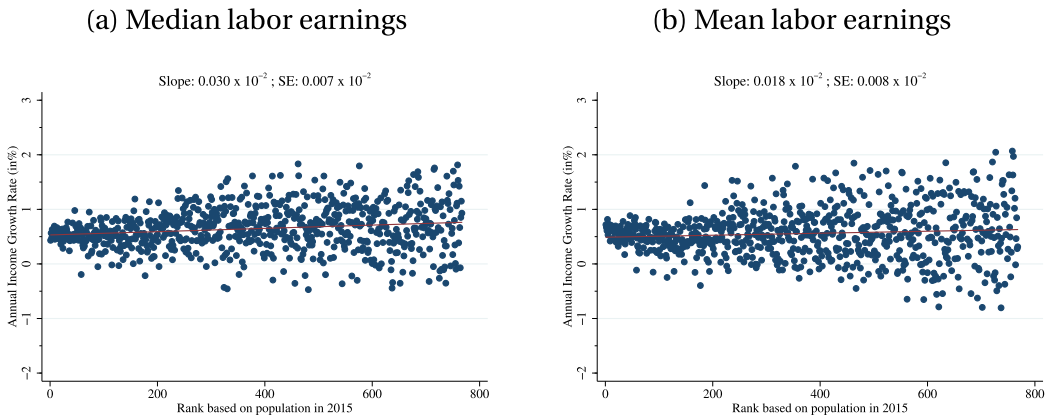


FIGURE B.1. Convergence of log earnings between urban areas (1995–2015). *Note:* Using the real raw labor earnings of both men and women, Figure B.1 plots the correlation between the growth rate of: (a) median labor earnings, (b) mean labor earnings, between 1995 and 2015, and city rank. City rank is based on 2015 census population. Observations are the 759 urban areas. Data set: Panel DADS.

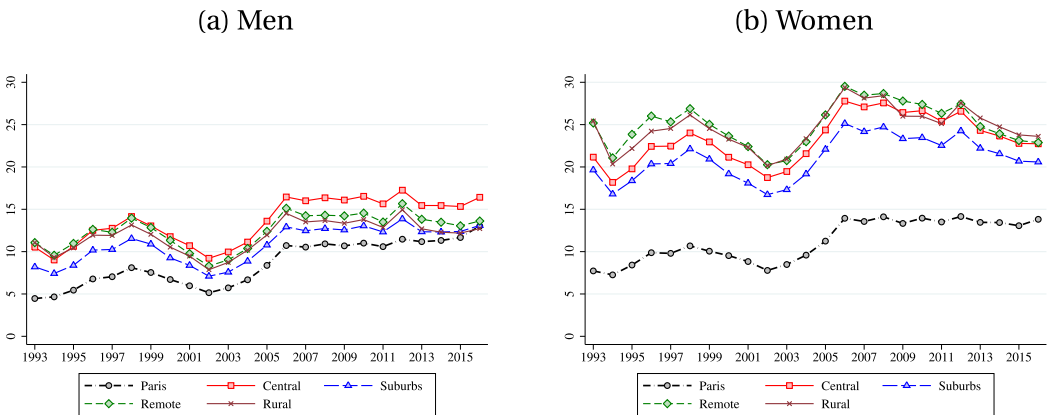


FIGURE B.2. Share of minimum wage workers by gender and by territory. *Note:* Figure B.2 plots against time the share of (a) men and (b) women with a hourly wage between 0.95 and 1.2 the minimum wage by territory. Data set: Panel DADS.

APPENDIX C: GEOGRAPHIC MOBILITY

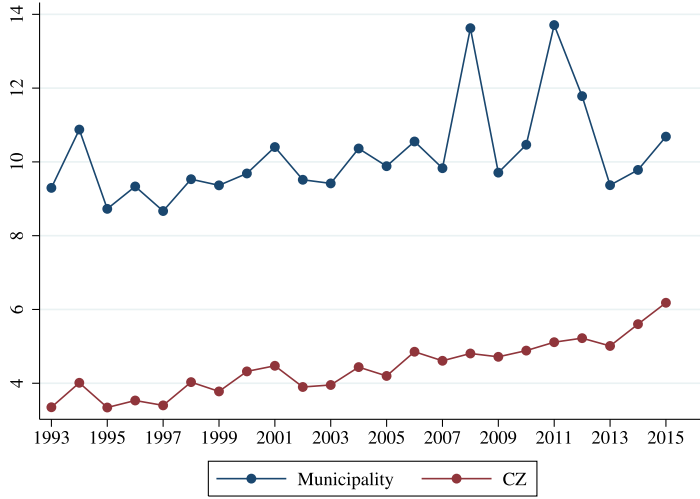
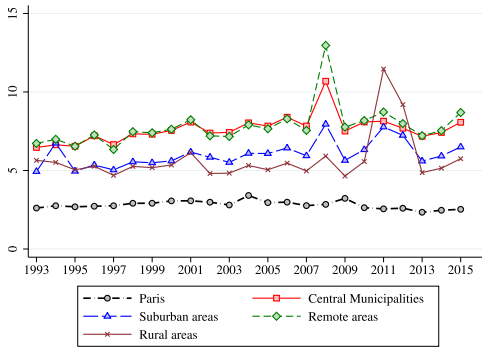


FIGURE C.1. Mobility between municipalities and between commuting zones. *Note:* Figure C.1 plots against time the share of workers moving between municipalities and between commuting zones (CZ). Data set: Panel DADS.

(a) By Territory of origin



(b) For movers to Paris

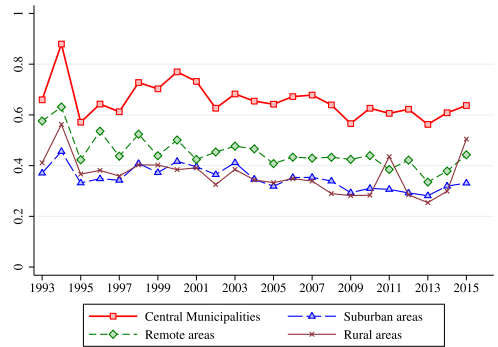


FIGURE C.2. Geographic mobility. *Note:* Figure C.2 plots against time the following variables: (a) share of workers changing place of residency between t and $t + 1$ by territory of origin, (b) share of workers moving to Paris between t and $t + 1$ by territory of origin. Data set: Panel DADS.

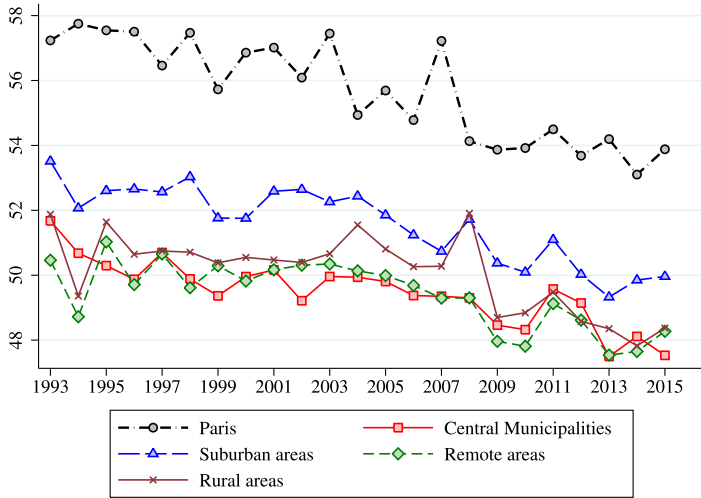


FIGURE C.3. Permanent earning rank of movers by territory of destination. *Note:* Figure C.3 plots against time the permanent earning rank of workers moving home between t and $t + 1$ by territory of destination. The rank is computed based on the national permanent earning distribution in year t . Data set: Panel DADS.

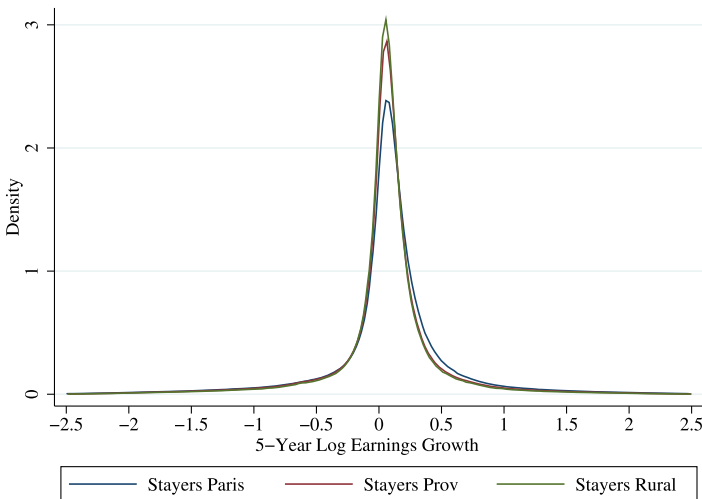


FIGURE C.4. 5-year log earnings growth for stayers. *Note:* Figure C.4 plots the density of the 5-year log earnings growth separately for workers staying at least three consecutive years ($t - 1$, t , $t + 1$) in a given territory. The territory denoted “Prov” includes all territories except for the urban unit of Paris and rural territories. Data set: Panel DADS.

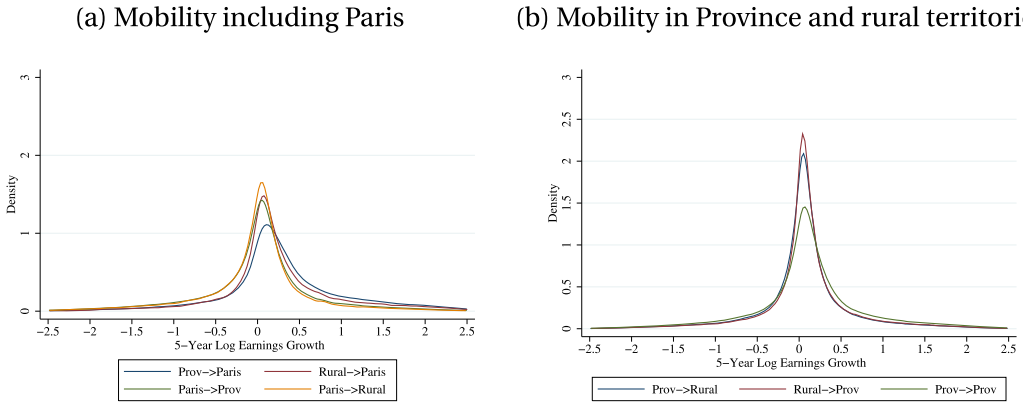


FIGURE C.5. 5-year log earnings growth for movers. *Note:* Figure C.5 plots the density of the 5-year log earnings growth separately for workers moving (a) from or to Paris, and (b) from or to Rural territories and “Province.” A mobility is defined as a worker changing of place of residency between t and $t + 1$. Data set: Panel DADS.

APPENDIX D: EVOLUTION OF PUBLIC EMPLOYMENT

Figure D.1 presents the national changes and the local changes of public employment for our five categories of territories, both in number of jobs (A and B) and as a share of total employment (C and D). First, the number of public employment jobs strongly decreases between 2002 and 2003 but then reincreases until 2008 and decreases afterwards at the 2002 level.² The analysis by territories shows that most territories display a similar evolution except perhaps suburbs where employment seems to stabilize at a higher level than that of 2002 (+8%) and Paris which loses public jobs in 2016 when compared to 2002 (−7%). Using shares instead of numbers provides similar insights except for central municipalities, where public employment increased as a share, and for suburban areas, where it decreased due to private employment increasing faster than public employment.

Figure D.2 shows the evolution of public employment by category of civil service (state, local, hospital) both in levels (left panel) and relative to the initial year (right panel).

The number of state civil servants, as well as their share in total employment, decreases almost continuously with a stabilization after 2009. By contrast, employment of local civil servants and employment in public hospitals increases until 2010 for the first, until 2016 for the second (see Figure D.2b).

These changes are the outcome of several waves of decentralization that took place between 2006 and 2011. The structure of public employment was modified by having transfers from state to local civil service (around 5–6% of state civil servants).³

²We suspect that the decrease observed in 2003 is due to data quality issues and does not reflect the evolution of public employment. Statistics produced by the French statistical office suggest much smaller variations between 2002 and 2003.

³It is worth noting that more than one-half of local civil servants are employed by municipalities.

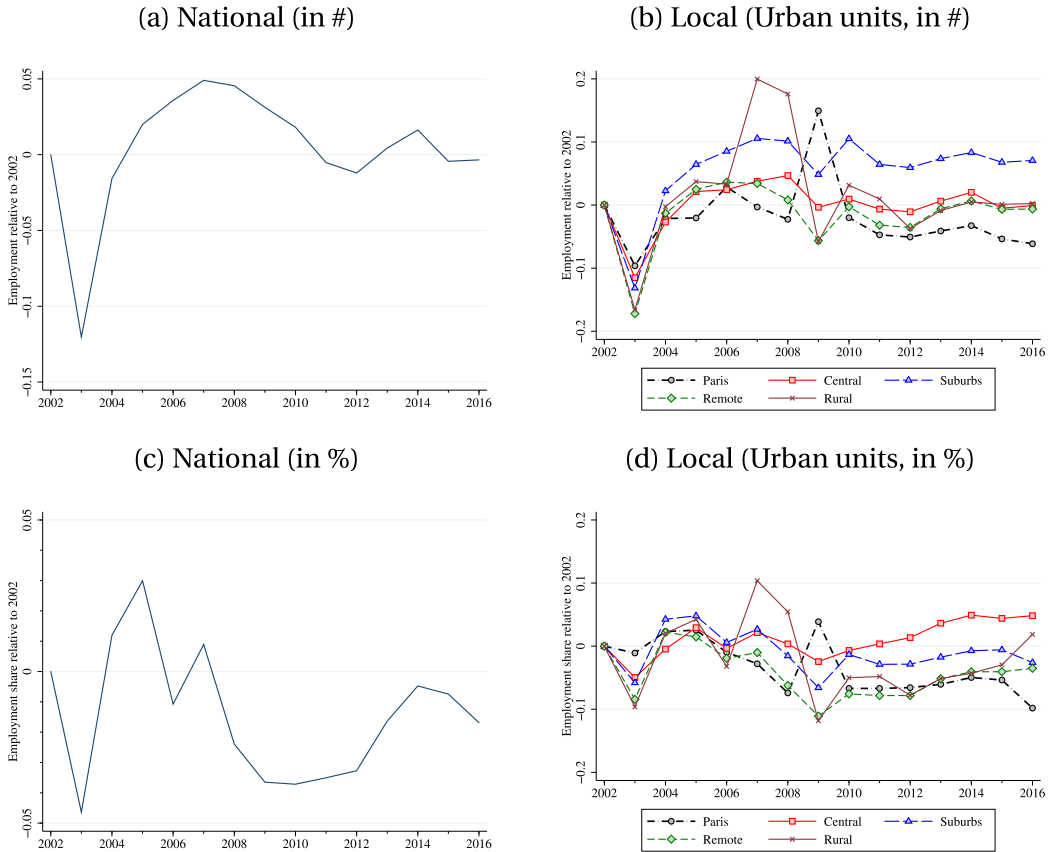


FIGURE D.1. Public employment. *Note:* Figure D.1 plots against time the number of workers in the public sector (a) at the national level (b) in the territories and the share of workers in the public sector at the national (c) and local (d) levels. Employment is computed using full time workers working the whole year. All statistics are normalized to 0 in the first available year. Territories and Paris are defined using urban units. Data set: Panel DADS.

Notice though that these figures do not include the strong reduction in the military and related employees over the last two decades. Indeed, between 2005 and 2015, employment decreases by approximately 14%. The closure of many military bases might have affected negatively remote and rural areas, something we cannot measure.

Finally, Figure D.3 plots the evolution of employment for the three types of public jobs, relative to 2002, by type of territory. Because some jobs were transferred from the state civil service to the local civil service, we see on all figures that the decrease in the first one is associated to an increase in the second one, essentially between 2005 and 2010. Because employment in hospitals was often pretty low in most territories, the relative change seems huge. Still, Paris clearly lost state jobs, which were not compensated by an increase in hospitals or local civil service, in contrast to other territories. Interestingly, and in contrast with public perception, employment in the hospital civil service has increased steadily everywhere but in Paris. To assess robustness of the above results,

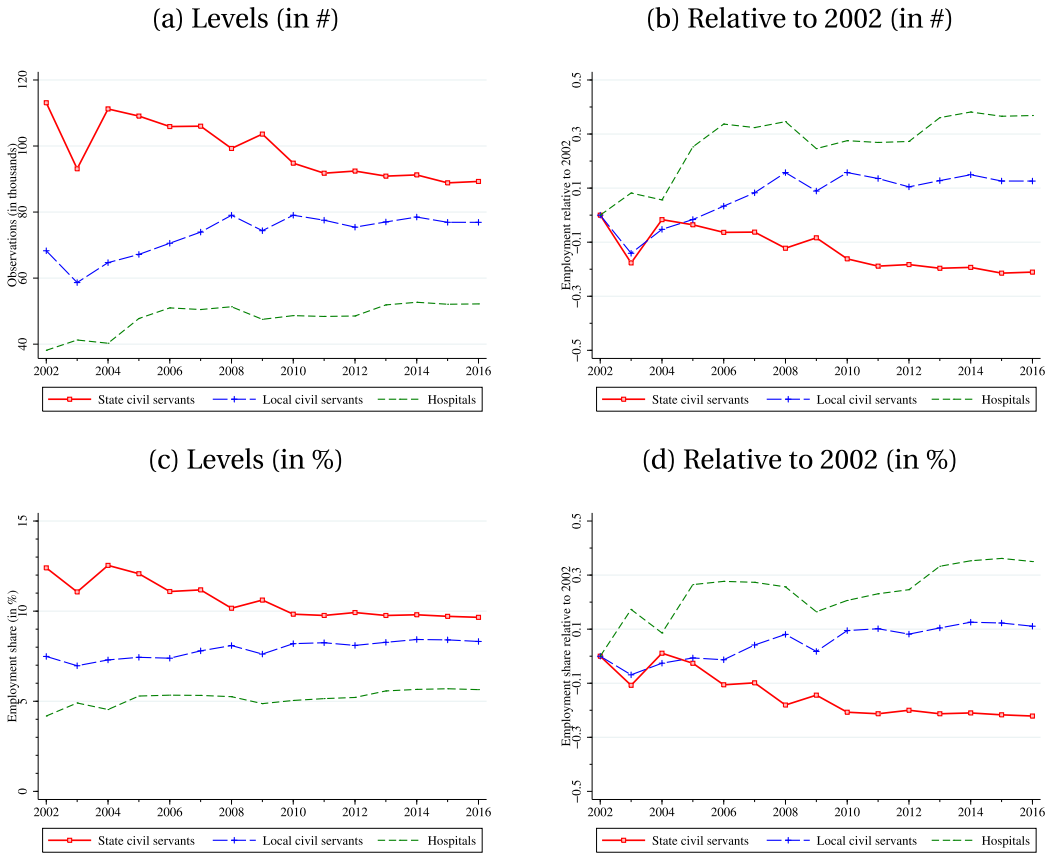
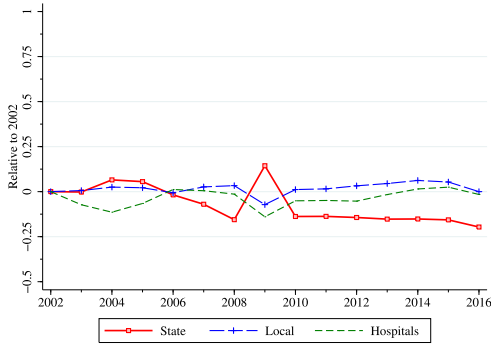


FIGURE D.2. Public employment by category in France. *Note:* Figure D.2 plots against time (a) the number of observations in the public sector by type of public employment (b) the number of observations in the public sector by type of public employment normalized to 0 in the first available year (c) the the share of workers in the public sector by type of public employment (d) the number of observations in the public sector by type of public employment normalized to 0 in the first available year. Employment is computed using full-time workers working a full year. Territories and Paris are defined using urban units. Data set: Panel DADS.

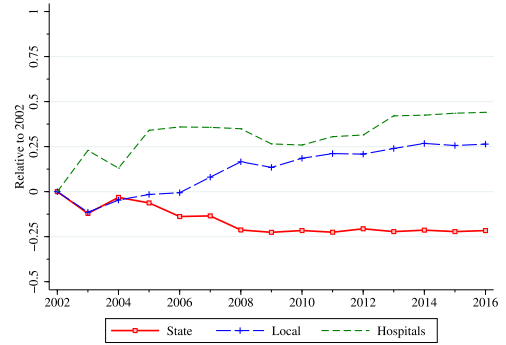
we computed these different types of public jobs as a share of total employment, with none of the conclusions and results affected. Hence, these numbers do not support the idea—often invoked when attempting to make sense of the Yellow Vests movement—that public employment has left the remote and rural territories. However, these numbers on public employment, especially in hospitals, do not take into account the geographic concentration of public infrastructures that took place over the past decades. In particular, the latest report by the Ministry of Health and Solidarity shows a decrease in the number of hospitals by 3.7% between 2013 and 2019, mainly due to a reduction in public hospitals (−4.6%).⁴ The decrease in accessibility, especially for people living in

⁴DREES, “Les Etablissements de Santé”, 2021

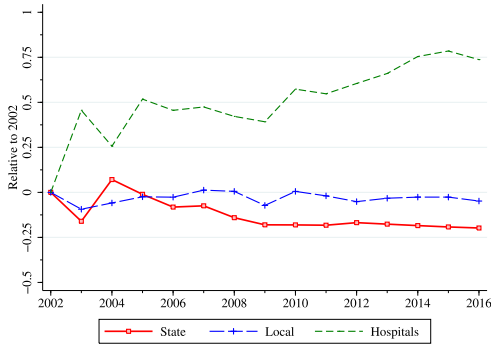
(a) Paris



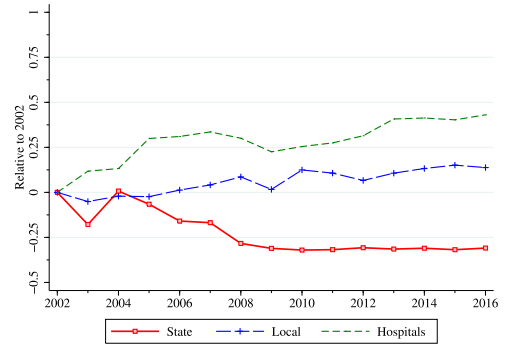
(b) Central municipalities



(c) Suburban areas



(d) Remote municipalities



(e) Rural areas

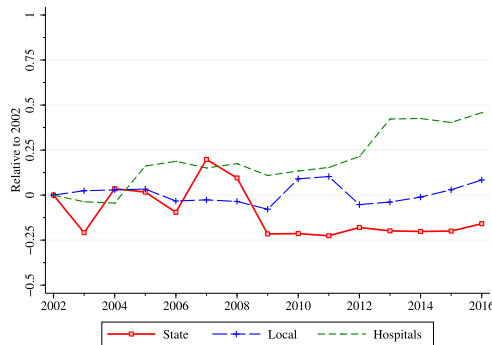


FIGURE D.3. Public employment by category in the territories. *Note:* Figure D.3 plots against time the number of workers in the public sector by type of public employment normalized to 0 in the first available year. Employment is computed using full-time workers working a full year. Territories and Paris are defined using urban units. Data set: Panel DADS.

rural and remote territories, should be taken into consideration to fully account for the evolution of public employment.

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