# Comparing the Employment Sensitivity of Third Sector and Conventional Organisations over the Business Cycle

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**Abstract**

This paper analyses, from a comparative perspective, the behaviour of private organisations characterised by distinct ownership structures over the business cycle. In particular, we gauge the sensitivity of third-sector employment (encompassing nonprofits and cooperatives) to macroeconomic fluctuations, relative to that of the conventional sector (comprising for-profit organisations). Drawing on a recently released French dataset covering the period from 2000 to 2019, our analysis reveals that the cyclical sensitivity of the third sector (i.e., social and solidarity economy sector) is systematically lower than that of the conventional sector. This difference is largely driven by the third sector's less cyclical behaviour during downturns. Our findings resist an array of robustness checks and are not affected by strong heterogeneity across types of activities and regional characteristics. Additionally, the cyclicality of the number of establishments is greater in the third sector than in the conventional sector, potentially contributing to the difference in employment sensitivities.

Keywords: Ownership Structure; Third Sector; Nonprofits; Cooperatives; Social and Solidarity Economy; Business Cycle.

JEL classification: D23, E32, L21, P13, R11.

# 1. Introduction

Between 2007 and 2009, the number of unemployed individuals rose by 3.8 million (+24%), in the European Union and by 7.7 million (+107%) in the United States.[1] As a result, households experienced sharp declines in income and consumption (Hoynes et al., 2012; DeNavas-Walt et al., 2013). Firms play a pivotal role in shaping these outcomes as they may either mitigate economic fluctuations or, conversely, amplify them. The existing literature identifies various characteristics, including firm age, size and industry type, as potential determinants of the cyclicality of firm behaviour (Braun and Larrain, 2005; Fort et al., 2013; Crouzet and Mehrotra, 2020). Likewise, foreign ownership has been linked to differential sensitivity to business cycles (Belderbos and Zou, 2007; Varum and Rocha, 2011).[2] However, the employment sensitivity of firms under different ownership structures to economic fluctuations has been virtually overlooked from a systemic perspective.

In this paper, we partly address this neglect by comparing employment sensitivity in the for-profit sector with that in the third sector in France. The third sector, which sits between the for-profit sector and the public sector, can be defined as comprising nonprofit and cooperative organisations (Anheier and Seibel, 1990; Gui, 1991).[3] Nonprofits are controlled either by members or by external donors none of whom benefit from the organisation's surplus. Cooperatives, by contrast, are controlled by their members—workers, suppliers or consumers—who can benefit from the organisation's surplus. Third-sector organisations differ from private, for-profit firms (hereafter 'conventional'), which are owned and controlled by investors who

[1] Authors' own calculations based on World Bank data accessed in 2023.
[2] Entrepreneurship may also depend on economic conditions (Koellinger and Thurik, 2012), and firm entry and exit patterns may differ over the business cycle (Lee and Mukoyama, 2015; Tian, 2018). Start-up dynamics may likewise depend on the type of activity (Konon et al., 2018).
[3] In the rest of the paper, 'sector' and 'sectoral' will consistently refer to differences in the type of ownership structure (i.e., third sector or conventional sector).

may have no direct business interaction with the firm. Unlike conventional firms, third-sector organisations do not treat profit maximisation as their sole objective; rather, ensuring a minimum profit is regarded as a constraint necessary for economic viability, while their main objective is to maximise community welfare (the general interest) and/or member welfare (the mutual interest). From an ownership-structure perspective, third-sector organisations share principles that restrict the rights of residual claimants, thereby banning or strictly limiting profit distribution (Hansmann, 2000).

France presents a notably relevant context for comparative analysis. With 12.2% of total private employment[4], France is among the countries with the largest third sector worldwide (Salamon et al., 2017; ICA, 2022). Its third sector is also marked by strong internal coherence, shaped by its long history (Vienney, 1994). Since the French Revolution—when all solidarity-based organisations were banned—the third sector has expanded dramatically and undergone significant transformations, especially during periods of acute economic distress, ultimately becoming institutionalised (Gueslin, 1998; Archambault, 2001; Prouteau & Tchernonog, 2021; Urvoy, 2025). The 2014 Law on Social and Solidarity Economy (SSE) formally affirmed the unity of the third sector and set out its defining features—democratic governance and limited profit distribution—as distinct from the conventional sector. The existing statistical studies on the French third sector predominantly offer descriptive insights intended to provide an overview into the sector's structure, whether in general or by region and industry (e.g., Tchernonog and Prouteau, 2019; ESS France, 2023).

In this paper, we estimate fixed-effects models based on a unique dataset retrieved from URSSAF (*Union de Recouvrement des Cotisations de Sécurité Sociale et d'Allocations*

[4] Authors' own calculation based on the 2018 FLORES database obtained from INSEE (*Institut National de la Statistique et des Etudes Economiques*).

*Familiales*), the main French social security body. This open-source dataset, released in 2022, contains quasi-exhaustive information at the regional level for the 2000-2019 period, thereby enabling a meaningful comparison between third and conventional sectors.[5] In keeping with the literature, we estimate cyclical sensitivity as the correlation between employment growth and GDP growth.

Our baseline findings suggest that third-sector employment is systematically less procyclical than that of the conventional sector, with both third-sector subgroups (i.e., nonprofits and cooperatives) exhibiting similar sensitivities to business cycle. These findings hold under various business cycle proxies, omitted variable bias, alternative specifications and different assumptions regarding standard errors. Further analysis does not reveal strong heterogeneity across types of activities and regional characteristics (population density, income, inequality). Additional results indicate that the third sector's lower cyclical sensitivity primarily stems from its less pronounced responsiveness in recessionary periods. Moreover, the cyclicality of the number of establishments is lower in the third sector than in the conventional sector, which may partly explain the observed difference in employment sensitivities.

Our paper contributes to the longstanding debate on how different ownership structures shape economic behaviour along three dimensions. First, we adopt an integrative and systemic perspective on the third sector when comparing its employment sensitivity with that of the conventional sector. Such a perspective has not yet been explored. Existing scholarship has focused primarily on specific segments of the third sector, particularly worker cooperatives (e.g., Craig and Pencavel, 1992; Burdín and Dean, 2009), which account for only a small share of

[5] The data are exhaustive for all non-public establishments except for agriculture, which is affiliated with a different social security provider. Similarly, independent workers have their own social security provider and are not included in the dataset.

third-sector employment. Our study addresses this gap by integrating all categories of the third sector, including nonprofits, which account for the majority of third-sector employment. Second, while most existing comparisons rely on firm-level data, our empirical exercise uses regional-level data, enabling an aggregate view on how the third sector may stabilise local economies. Third, our findings highlight the significance of alternative—albeit often criticised (Alchian and Demsetz, 1972; Jensen and Meckling, 1979)—property rights regimes in buffering economic downturns. Limiting abrupt employment contractions can be beneficial not only economically (Hoynes et al., 2012; DeNavas-Walt et al., 2013), but also from social and even public health standpoints (Blakely et al., 2003; Bitler and Hoynes, 2015; Hone et al., 2019).

The remainder of this paper is structured as follows. Section 2 relates our work to the existing literature. Section 3 provides background information and summary statistics on the French third sector. Section 4 analyses how firms behave over the business cycle based on their ownership structure. Section 5 explores potential mechanisms. Section 6 concludes.

## 2. Related Literature

In this section, we present a state-of-the-art overview from both a theoretical and an empirical perspective, regarding the employment behaviour over the business cycle in the subcategories of the third sector that have been studied thus far. This is particularly the case for worker cooperatives. We also elucidate mechanisms relating to wages and the creation of establishments, both of which may interact with the sensitivity of employment to the business cycle.

**Worker cooperatives.** In worker cooperatives, the ultimate decision rights of the firm rest with labour (Dow, 2003). Ward's (1958) seminal model of worker cooperatives proposed that

maximising income per worker was this type of firm's objective function. This model was met with criticism, leading to subsequent refinements incorporating employment maximisation into the objective function (Kahana and Nitzan, 1989). This theoretical development is supported by a number of empirical studies. For instance, Craig and Pencavel (1992) and Pencavel et al. (2006) find that US worker cooperatives adjust their employment levels to variations in output and input prices to a lesser extent than conventional firms. In addition, the authors find that worker cooperatives adjust wages more than employment. Burdín and Dean (2009) report that both employment and wages are negatively affected by crises, but with a greater employment adjustment in conventional firms and no marked differences in wage adjustments. Garcia-Louzao (2021) shows that, over the business cycle, worker cooperatives adjust employment less than conventional firms, whereas wages and working hours are similarly adjusted in both types of firms due to labour regulation constraints.

The relatively greater employment stability seen in worker cooperatives may also stem from lower cyclical fluctuations in entry and exit rates. There is some evidence documenting that the formation of worker cooperatives is less cyclical than conventional firms. Countercyclicality is often observed at the point of entry (e.g., Ben-Ner, 1988; Pérotin, 2006; Conte and Jones, 2015). This fits with the so-called 'push' hypothesis, where workers establish their own firms when they see limited opportunities for wage employment in unfavourable economic conditions (Kalmi, 2013). By contrast, differences in cyclicality between worker cooperatives and conventional firms due to macroeconomic conditions at exit are less apparent. Pérotin (2006) reports that the effect of the business cycle on exit is the same for both groups of firms, while Burdín (2014) finds that worker cooperative status lowers the probability of dissolution under both expansionary and recessionary conditions.

**All types of cooperatives.** Only a handful of studies have sought to generalise insights from worker cooperatives to other forms of cooperatives (including consumer, marketing and supply cooperatives). Borzaga et al. (2021) document that, when treated as a cohesive whole, cooperative firms achieve greater employment stability than conventional firms, as their aim is not to maximise profits but to continue providing goods and services to their members and to meet their needs, regardless of the economic situation. Moreover, cooperative are better problem solvers, as their democratic governance promotes inclusive decision-making, thereby allowing more flexibility and adaptability in addressing production challenges (Narvaiza et a., 2017).

Kalmi (2013) likewise reveals that cooperatives, taken as a whole, are founded more frequently in regions with higher unemployment, while conventional firms are more commonly formed in places with lower unemployment and stronger demand growth. The incentive to establish a cooperative firm in depressed economic conditions may outweigh that of creating an individual firm, given that acting as the sole residual claimant involves a relatively unfavourable balance of moderate upside gains and heightened bankruptcy risks (Conte and Jones, 2015).

**Nonprofits.** As with cooperatives, the literature on the impact of business cycles on the behaviour of nonprofit organisations is also scarce. We therefore derive plausible speculations from the theoretical *raison d'être* of nonprofits. Theory generally posits that nonprofits are found to perform activities that for-profit organisations, or the State, are either unwilling or unable to carry out, thereby addressing specific market and/or government failures (Anheier and Ben-Ner, 2003; Anheier, 2014). Equally, nonprofits may take on public tasks delegated to them by the State, as their less bureaucratic, centralised structure often allows them greater efficiency and responsiveness to local needs (Salamon, 1987). Alongside this widely accepted viewpoint, some

authors stress organisational supply, i.e., the motivations and deeds of coalitions of individuals that underlie the formation and existence of nonprofits (Ben-Ner and Van Hoomissen, 1993).

During periods of economic distress, market failures may be exacerbated, thereby raising the demand for goods and services offered by nonprofits. First, their sensitivity to information asymmetries is lower, as consumers may have greater confidence in nonprofits compared with for-profit firms, fearing that the latter's pursuit of profit might undermine quality (Hirschman, 1970; Newhouse, 1970). Second, the aggravation of market failures during recessions may be particularly costly for the most vulnerable individuals, amplifying the need for nonprofit provision (Sard, 2009). Third, the role of social spending and automatic stabilisers, triggered by the State, plays a key role in determining the extent of demand for nonprofit services during downturns (Darby et al., 2008). For instance, a strong (weak) government intervention through social policy may dampen (or intensify) demand. In parallel, increased social spending may boost demand by delegating more public responsibilities to nonprofits (Salamon, 1987).

An additional perspective on nonprofit behaviour comes from the supply side, particularly the missions and revenue sources of nonprofits. The composition of these resources is very heterogeneous across organisations but it always stems from three main sources: earned income, government support and/or donations (Brooks, 2000; Prentice, 2016). Giving appears to fluctuates procyclically with macroeconomic conditions (e.g., List, 2011; Meer et al., 2017). As demonstrated by Exley et al. (2023)—who provide the only explicit study on nonprofits over the business cycle known to us—, this implies, holding other types of resources constant, that nonprofits are procyclical and have to curtail their activities when the economy deteriorates. Interestingly for our research question, Exley et al. (2023) also find that nonprofits are less procyclical than for-profit firms, with margin squeeze being less of an issue. Competition for

financial resources among nonprofits with varying aims may also intensify in recessions. Some nonprofits are distinctly 'welfare-oriented', aiming to address inequality and serve disadvantaged groups, while others are 'elite-oriented', focusing on art, cultural and educational issues (Marquis et al., 2013). 'Welfare-oriented' nonprofits may be constrained from meeting their goals by competition for funding from 'elite-oriented' nonprofits (Berrone et al., 2016). Finally, recessions may amplify crowding in or crowding out effects among the three main aforementioned funding sources (Brooks, 2000; Nikolova, 2015; Shea and Wang, 2016).

In sum, from a demand-side perspective, nonprofits may appear countercyclical—markedly unlike their for-profit counterparts—but the supply side complicates this picture due to challenges in securing financial resources. Ultimately, the cyclicality of nonprofit organisations remains an empirical question.

# 3. Institutional Context and Data

## 3.1. The Third Sector in France

The French third sector, known as the Social and Solidarity Economy (SSE), is defined by a specific set of rules established in national laws and the by-laws of individual organisations. These rules aim to ensure that social objectives are met while providing a framework for access to financial resources (such as subsidies) and tax relief schemes (Defourny and Nyssens, 2017). The most recent law on the SSE (*économie sociale et solidaire*) was adopted on 31 July 2014 (Law No. 2014-856). SSE organisations are private, democratic and collective enterprises in which ownership and control reside with voluntarily participating members.

SSE organisations abide by three fundamental principles. First, profit distribution is either prohibited or subject to strict limitations. Indeed, most of their profits are retained as indivisible

reserves devoted to maintaining and expanding economic activity. Second, ultimate decision-making rights are not based on shareholding but are instead governed either by a 'one member, one vote' rule or by a governing body whose power is not tied to capital ownership. Third, governance is participatory in nature, ensuring that users, customers or other stakeholders affected by the organisation's activities have representation and influence over strategic decisions and managerial choices. These foundational principles of the French third sector both reinforce the internal coherence and accentuate its external distinctiveness vis-à-vis the conventional sector. While France tends to be broadly representative of the institutional context within the European Union, it differs significantly from the United States, where it would be more difficult to regard nonprofits and cooperatives as part of a single unified group (Hansmann, 2000).

The French third sector typically comprises four main categories: associations, cooperatives, mutuals and foundations. In keeping with the literature on the third sector, associations and foundations are grouped together as nonprofits, while cooperatives and mutuals are grouped under the broader category of cooperatives. Mutuals can indeed be viewed as a specific type of consumer cooperative that provides insurance (Hansmann, 1985). Consequently, our dataset allows for a meaningful comparison between two sectors, namely the third (or SSE) sector including the subgroups of nonprofits and cooperatives, and the conventional sector, made up of profit-maximising organisations.

## 3.2. Data

**Sector size**. Our main dataset, released in 2022, is the first publicly available source that allows a longitudinal comparison between these two sectors. The data are retrieved from URSSAF, the major French social security system operator that provides a quasi-exhaustive coverage of

private establishments. More specifically, in France, anyone working legally is enrolled in a social security scheme. All private organisations must use URSSAF as their social security system, with the exception of farmers and self-employed individuals, who have separate social security arrangements. The dataset contains annual information for the period 2000-2019 across the 94 *départements* of mainland France.[6] This divisional level is granular enough to capture cross-regional heterogeneity without encountering major statistical confidentiality constraints. It should also be noted that our analysis is confined to mainland France, as it is customary in regional economic studies of France (e.g., Tricaud, 2025).

We draw upon three key growth variables from the URSSAF dataset. The first, and most important, is employment growth, defined as the annual change in the number of people employed in each region. The second variable is the growth in the number of establishments, measured as the count of establishments per region with at least one employee. The third variable is the growth in the average wage, calculated as the total annual payroll in euros for each region divided by the number of employed individuals in that region. To account for price changes, we divide the average wage by the World Bank's Consumer Price Index (CPI), taking 2010 as the reference year.

**Business cycle.** GDP growth and unemployment growth, at both national and regional levels are used to approximate business cycles. In line with the literature, we use GDP as our preferred measure, as it reflects the overall trajectory of economic output (Lee and Mukoyama, 2015; Tian, 2018; Crouzet and Mehrotra, 2020). National GDP and regional GDP figures are taken from Eurostat and cover the entire study period. We take the nominal values estimated by Eurostat and adjust them by the CPI in order to obtain real values in all subsequent analyses. Unemployment-

[6] In the rest of the paper, the terms 'regions' and 'regional' will systematically refer to the *département* level.

related data are sourced from *France Travail*—the French national agency responsible for the distribution of unemployment benefits—and span the full 2000-2019 interval. Under *France Travail*'s definition, a person is classified as a 'job seeker' if they declare that they are in search of employment.[7]

**Regional characteristics.** Regional characteristics are used in the heterogeneity analysis. Income data are obtained from the French Ministry of Finance and correspond to the declared taxable income from capital and labour per unit of consumption (in euros) at the regional level. Income data allow us to assess income disparities between regions—distinguishing between high- and low-income areas—as well as within-region levels of income inequality. Population density is approximated by the number of inhabitants per km² in each region, as computed by INSEE.

**Public subsidies.** Information on regional subsidies is provided by the French Ministry of Finance. The Ministry compiles detailed financial accounts for each region. The data, which cover the years from 2008 to 2019, identify the amount of subsidies allocated by each region.

## 3.3. Summary Statistics

Table 1 provides summary statistics on employment over the 2000-2019 period. Panel A displays the level of employment per sector. The conventional sector, with an average of 216.86 employed individuals per 1,000 inhabitants per region, is much larger than the third sector, with an average of 30.18. Nevertheless, despite its smaller employment size, the third sector carries considerable weight in the private sector as a whole, with an average share of 12.2%. The third

[7] *France Travail* requires registered unemployed individuals to be, more or less, actively searching for work depending on the number of hours worked in the past month. The number of national and regional unemployed individuals is provided monthly by *France Travail*. In this study, we use the yearly average number of job seekers to calculate the unemployment rate per inhabitant.

sector is largely dominated by nonprofits with 26.14 employed individuals per 1,000 inhabitants per region. They take the lion's share, accounting for 86.61% of employment in the third sector. Although the behaviour of the third sector in aggregate is likely driven by nonprofits, distinguishing between its two main subgroups (nonprofits and cooperatives) will enable us to capture any disparities that may exist between them.

[Insert Table 1 about here]

Panel B of Table 1 describes regional employment growth per sector, calculated as the difference in logarithm between year $t$ and year $t-1$. Over the study period, the conventional sector's average growth rate per year and per region was 0.26%. Both the between-region and within-region standard deviations are relatively high compared to the mean. The 'between' standard deviation reflects heterogeneity across regions, whereas the 'within' standard deviation is even larger and raises questions about fluctuations over time. The third sector's average growth rate is 1.15% and has smaller standard deviations relative to its mean. Within the third sector, nonprofits exhibit a positive average growth rate with small standard deviations, whereas cooperatives also show a positive average growth rate but with higher standard deviations.

Figure 1 depicts the national employment growth per sector alongside national GDP growth over time. The evolution differs markedly between the two sectors under examination. While the conventional sector typically follows the broader economic context, the third sector appears less sensitive to cyclical fluctuations or even decoupled from them. The third sector rarely aligns with the ups and downs observed in the conventional sector, which more closely mirrors overall GDP movements.

Figure 2 maps average employment growth per region during recession years. A year is considered to be in recession if national GDP growth is negative.[8] To account for cross-regional heterogeneity and differing ownership structures, we centre and scale employment growth rates within each region-sector combination. The contrast between the two sectors is striking: in the conventional sector, growth rates are negative in almost all regions, whereas nearly half of the regions show positive growth rates for the third sector.

[Insert Figures 1 and 2 about here]

In sum, the previous descriptive statistics reveal notable differences between the two sectors and provide several insights. The employment growth trajectories do not coincide and are even asymmetric in some cases. The regional analysis further indicates that the conventional sector exhibits more cyclical behaviour than the third sector.

# 4. Ownership over the Business Cycle

## 4.1. Regression Model

Our aim is to compare how sensitive employment in the conventional and third sectors is to business cycles. Drawing on the literature on local economic shocks (Autor et al., 2013; Crouzet and Mehrotra, 2020; Exley et al., 2023), we define business cycle sensitivity as the association between changes in economic conditions and changes in sector size. Specifically, we regress employment growth on GDP growth for each sector. This empirical strategy does not identify a causal relationship, but it does allow us to measure the sensitivity of each type of ownership structure to business cycles. We estimate the following model:

$$\Delta EMP_{it} = \beta\ \Delta GDP_{it} + \delta_i + \varepsilon_{it} \quad (1)$$

[8] The years in which the national GDP growth rate is negative are 2008, 2009 and 2012.

where $\Delta EMP_{it}$ is the annual logarithmic change in employment in region $i$ between year $t$ and $t-1$; $\Delta GDP_{it}$ is the annual logarithmic change in employment in national or regional GDP; $\varepsilon_{it}$ is the error term. The coefficient of interest, $\beta$, measures a sector's sensitivity to the business cycle. We include region fixed effects $\delta_i$ to account for any time-invariant heterogeneity specific to each region.

## 4.2. Baseline Results

**Cyclicality by sector.** Table 2 displays sector-specific estimates of how employment growth correlates with GDP growth. Striking differences emerge between the conventional and third sectors. Column (1) indicates that a 1 percentage point increase in the national GDP growth is associated with a 0.678 percentage point increase in conventional-sector employment growth. In contrast, as shown in column (2), the third sector displays far weaker cyclical sensitivity: a 1 percentage point increase in national GDP growth corresponds to only a 0.151 percentage point increase in third-sector employment. Thus, the conventional sector's sensitivity to national GDP growth is approximately 4.49 times higher (0.678 / 0.151) that of the third sector.

[Insert Table 2 about here]

Examining the sensitivity to regional GDP growth yields similar results, albeit with smaller coefficients. Columns (3) and (4) show that a 1 percentage point uptick in regional GDP growth is linked to a 0.305 percentage point rise in conventional-sector employment but only a 0.097 percentage point rise in third-sector employment, meaning the cyclicality of the conventional sector is about 3.144 times greater than that of the third sector.

It is worth noting that these results align closely with comparable research. For instance, Exley et al. (2023) examine how various indicators (i.e., expenditures, revenues, assets and liabilities) respond to national and local economic fluctuations. Their findings reveal that

expenditures—the variable most akin to employment (given that it includes employee compensation)—are 3 to 4 times as sensitive for the conventional sector than for nonprofits. Moreover, they observe stronger sectoral divergences at the national level than at the regional level, paralleling our own findings. Finally, the sectoral differences in sensitivity reported by Exley et al. (2023) are higher than ours in absolute values, potentially reflecting differences in institutional contexts (e.g., employment regulations) between the United States and France. A more protective regulatory environment may result in lower cyclical sensitivities.

In all the remaining analyses, we retain regional GDP growth as our preferred measure of the business cycle. While both measures of GDP aggregation yield broadly consistent conclusions, the regional measure more accurately gauges local sensitivity.

**Cyclicality by third-sector subgroup.** Table 3 narrows its focus to the sample of the third-sector organisations, comparing the cyclical sensitivity of its two main subgroups: nonprofits and cooperatives. As shown in columns (1) and (3), nonprofits naturally mirror the third-sector patterns noted above, since they represent the bulk of third-sector entities. Furthermore, we do not observe any systematic difference in terms of cyclicality between nonprofits and cooperatives. This near-equivalence suggests a certain unity within the French third sector.

[Insert Table 3 about here]

## 4.3. Robustness Checks

**Alternative business cycle proxy.** An ongoing debate in the literature concerns the choice of the business cycle variable, which is commonly measured by variations in GDP or in unemployment (Tian, 2018). Appendix Table A1 reports sensitivities to both national and regional employment. All the coefficients are negative and significant for both sectors, with smaller magnitudes for the third sector. When examining national unemployment, the conventional sector's sensitivity is

approximately 3.537 times higher than that of the third sector (–0.191 / –0.054). For regional unemployment, it is about 3.700 times higher (–0.185 / –0.050). These results align with those derived from the regressions using GDP, indicating that our findings are not substantially affected by the choice of business cycle proxy.

**Omitted variable bias.** Through the granting of subsidies, the government may shift certain general-interest activities to private organisations. Nonprofits are natural candidates because they are less bureaucratic and more cost-effective than public agencies, and have experience delivering such services (Salamon, 1987). To ensure that the sensitivity of the third sector is not influenced by subsidies, we control for the growth in the total subsidies allocated by each region. As those data are only available from 2009 to 2019, the estimation covers a shorter timeframe than the baseline model. Columns (1) and (2) in Appendix Table A2 show the initial estimates for this shorter 2009-2019 period. During this reduced period, the third sector becomes countercyclical, while the conventional sector continues to exhibit cyclical patterns, suggesting our baseline results are conservative. Columns (3) and (4) show that the employment sensitivity of the third sector is positively correlated by subsidy growth, whereas that of the conventional is negatively correlated. Yet, the difference in sensitivities between the two sectors changes very little when subsidies are taken into account.

**Alternative specifications.** Although regressing growth rates is standard in the business-cycle literature, Appendix Table A3 presents three alternative specifications. First, as displayed in columns (1) and (2), adding a time effect common to all regions (i.e., year-fixed effects) reduces the cyclical sensitivity of both sectors. This is expected, since a considerable portion of fluctuations are shared across regions. Notably, the conventional sector remains cyclical, whereas the third sector becomes acyclical. Second, we lag the GDP growth by one year.

Columns (3) and (4) show that cyclicality of the third sector is still lower than that of the conventional sector. Third, we regress the logarithm of employment on the logarithm of GDP. In this specification, we use a Hodrick–Prescott (HP) filter to isolate the cyclical component of GDP from its trend, following standard business cycle literature (Ravn and Uhlig, 2002). Columns (5) and (6) indicate that the conventional sector's cyclical sensitivity is higher than that of the third sector, with somewhat larger differences than in the baseline results.

**Alternative error assumptions.** In our baseline model, errors are assumed independent across regions. Yet, any unobserved time-variant correlation among regions could complicate inference. Hence, we relax this assumption and allow for spatial autocorrelation. Following Conley (1999) and Colella et al. (2019), we employ a heteroscedasticity-autocorrelation consistent variance-covariance matrix. The resulting standard errors account for both spatial correlation and serial autocorrelation. We use a contiguity matrix defining regions as connected if they share common borders, while still including regional fixed effects. Results are reported in columns (1) and (2) of Appendix Table A4. All coefficients are identical to those in columns (3) and (4) of Table 2, and all sensitivities remain significant, suggesting that our findings are robust to this alternative assumption.

So far, separate estimations have been run for each sector. However, an omitted variable could influence both equations, leading to correlated error terms. We therefore estimate a two-equation system, one equation per sector, allowing the error terms to be correlated. Since both equations include the same regressors, the coefficients would be again identical to the baseline estimates. Column (3) in Appendix Table A4 displays slightly different standard errors with no change in significance observed. The Breusch-Pagan test of independence is not rejected at the 1% significance level, confirming that our main conclusions hold under this revised assumption.

## 4.4. Heterogeneity Analysis

**Activity-related effects.** Previous studies have documented that the sensitivity to business cycle may depend on the nature of the economic activity (Braun and Larrain, 2005; Konon et al., 2018). The conventional and third sectors show markedly different distributions of employees across activities. According to the URSSAF dataset for 2010, 98.4% of third-sector employees work in services. Notably, 63.4% of all third-sector employees are engaged in non-commercial services.[9] To ensure that our baseline results are not driven by activity-related effects, we restrict our analysis to those economic activities in which the third sector has most of its employees. For this purpose, we draw upon a supplementary database retrieved from INSEE, given that our main URSSAF dataset does not break down employment by type of economic activity. This INSEE database has a shorter time span from 2007 to 2015.[10]

Appendix Table B1 presents the results for total services and non-commercial services, respectively. We observe a notable downward shift in terms of cyclical sensitivity in this restricted sample. In total services and non-commercial services, the third sector appears countercyclical, while the conventional sector proves to be acyclical. These results highlight enduring sectoral differences in cyclical sensitivity, implying that our baseline findings remain qualitatively unchanged when focusing on the cyclicality within the main activities of the third sector.

[9] Non-commercial services (*services non marchands*), defined by INSEE as activities supported by tax returns, include education, health and social activities.

[10] We ran additional (unreported) regressions to verify that the results based on this supplementary INSEE dataset are consistent with those based on our original URSSAF dataset for the period 2007–2015. The results are indeed consistent.

**Effects due to regional heterogeneity.** Theory suggests that the development of nonprofits and cooperatives may depend on structural factors, notably income, inequality and population density. Here we estimate the heterogeneity of employment sensitivity according to these factors.

As noted in Section 2, social needs gain importance during recessions, potentially increasing the demand for goods and services provided by third-sector organisations. This phenomenon may be especially pronounced in low-income regions. In Panel A of Appendix Table B2, we explore any sectoral differences in cyclical sensitivity between low- and high-income regions. Specifically, we interact the variation in regional GDP with a dummy variable that takes the value of one if a region's per capita income is above the median, based on the values in 2010 (the midpoint of our sample), and zero otherwise. The coefficient on these interaction terms is nonsignificant for both sectors, thereby suggesting that the cyclical sensitivity of employment does not depend on the average income of regions.

Government failure theory suggests that public goods are provided to match the preferences of the median voter, which implies that the proportion of unmet demand—and thus the share of third-sector organisations in the economy—rises with greater demand heterogeneity (Hansmann, 1987). In Panel B of Appendix Table B2, we check whether sectoral differences in cyclical sensitivity vary with regional economic inequality, measured through the Gini index. As before, we combine changes in regional GDP with a dummy variable set to one for regions whose Gini index (based on 2010 data) exceeds the median. Our findings suggest that neither sector's cyclical sensitivity varies with the measure of regional heterogeneity of demand (i.e., intra-regional economic inequality).

According to the literature on economies of agglomeration, conventional businesses tend to prosper in large and densely populated areas where efficiency and profit prospects are more

promising (Puga, 2010). Consequently, third-sector organisations may be inclined to develop in low density areas (Norton and Staiger, 1994). In Panel C of Appendix Table B2, we include an interaction term for high-density regions. We convert the measure of population density into a dummy variable set to one for regions above the median (in 2010) and zero otherwise. The results indicate that, while the conventional sector is indeed more cyclical in high-density regions, the third sector does not behave differently according to the level of regional density.

# 5. Mechanisms

**Adjustment in expansions and recessions.** As the most problematic effects of business cycles typically stem from recessions, we estimate cyclical sensitivity by distinguishing between expansionary and recessionary periods. In columns (1) and (2) of Table 4, we replicate columns (1) and (2) of Table 2, but we include a dummy variable, *Recession years*, which takes the value of one for the recession years (i.e., 2008, 2009 and 2012) and zero otherwise. The significantly negative coefficient on *Recession years* in column (1) indicates that, in the conventional sector, employment growth is slightly lower in recessions than in expansions. The significantly positive coefficient on *Recession years* in column (2) shows an opposite pattern for the third sector, where employment growth appears to be slightly stronger in recessions.

[Insert Table 4 about here]

In columns (3) and (4) of Table 4, we interact the variable *Δ Regional GDP* with *Recession years*. During expansion years, both sectors exhibit more similar patterns: The coefficient for the conventional sector is 0.194, while that for the third sector is 0.161, and both are significant. However, during recessions, sensitivities diverge markedly. The sensitivity of the conventional sector increases to 0.321, while the sensitivity of the third sector decreases to a value still significant (as mentioned by the joint test) yet close to zero. Interestingly, this suggests

that the less cyclical behaviour of the third sector can be largely attributed to its less cyclical response during downturns.

**Cyclicality of establishments.** Sectoral differences in employment sensitivity may be related to the dynamics governing the number of establishments over the business cycle. We investigate this possibility in Table 5. Columns (1) and (2) indicate that the sensitivity of the growth in the number of establishments to regional GDP is roughly $0.083 / 0.044 \approx 1.89$ times greater in the conventional sector compared to the third sector. This finding corroborates earlier research on particular third-sector organisations. Notably, cooperatives have been shown to exhibit lower cyclical birth rates (Pérotin, 2006; Kalmi, 2013) and better survival rates than conventional firms (Estrin and Jones, 1992; Burdín, 2014; Monteiro and Stewart, 2015), both of which contribute to stabilising employment levels (Alves et al., 2016).

[Insert Table 5 about here]

**Cyclicality of wages.** Third-sector organisations may adjust wages more readily than conventional firms to preserve employment, a hypothesis supported by studies of worker cooperatives (Craig and Pencavel, 1992; Burdín and Dean, 2009). To gain insight into this mechanism, we estimate the cyclical sensitivity of the average wage per employee in columns (3) and (4) of Table 5. Wage sensitivity is significantly positive in the conventional sector, while it is nonsignificant in the third sector. The procyclicality of the conventional sector and the acyclicality of the third sector putatively indicate that third-sector organisations may be more inclined to bear losses rather than adjust wages, assuming a constant composition of workforce.[11]

[11] Other complementary explanations could be put forward. For example, conventional organisations, especially for managers, offer compensation packages with a higher proportion of variable pay linked to profit targets (e.g., bonuses) than similarly sized third-sector organisations (Van Rijn et al., 2023). Sectoral differences in wage sensitivity may therefore stem from variations in compensation package design.

# 6. Conclusion

The last financial crisis served as a stark reminder of the adverse socio-economic consequences of recessions. Economic downturns and crises are unlikely to be a rare occurrence in the face of environmental uncertainties and geopolitical tensions. Governments and policy makers are exploring a variety of levers to stabilise employment and macroeconomic conditions.[12] Are the alternative ownership structures found in third-sector organisations one of these levers? Our analysis suggests that it is indeed a possibility worth considering.

In this study, we compare the employment sensitivity of the third sector with that of the conventional sector in France. Encompassing nonprofits and cooperatives, the third sector is characterised by absent or limited profit distribution and by democratic governance. With profit maximisation being less of a priority, it is plausible to expect the third sector to exhibit less cyclical behaviour than the conventional sector. Our main findings confirm that the third sector's employment is systematically less sensitive to the business cycle than is the conventional sector's. This result holds true when using both national and regional GDPs as business cycle proxies. Both main subgroups of the third sector, i.e., non-profits and cooperatives, exhibit lower cyclical patterns. Using unemployment as an alternative measure of the business cycle delivers similar conclusions. Further robustness checks alleviate concerns about the choice of model specification and assumptions regarding standard errors. Examining heterogeneity, we find consistent differences in sensitivities across various activities and regional characteristics. Investigating potential mechanisms, we observe that lower cyclicality of the third sector

[12] Recently, international institutions have considered third sector organisations, such as non-profit organisations and cooperatives, as one of the solutions to global crises. The United Nations Task Force on Social and Solidarity Economy (UNTFSSE) was created in this spirit. In addition, the Organisation for Economic Co-operation and Development (OECD) and the European Commission have promoted these organisations as alternative and innovative firms.

primarily stems from its less pronounced response during downturns. We also note that the number of establishments is more cyclically sensitive in the conventional sector than in the third sector, which may contribute to the gap in employment sensitivities between sectors. Meanwhile, the average wage is not cyclical in the third sector, but procyclical in the conventional sector, suggesting that third-sector organisations may be more willing to accept losses than reduce wages. In sum, our results corroborate, for the third sector as a whole in the European context, findings and mechanisms that have been previously documented either for subgroups of the third sector (notably worker cooperatives) or under different institutional settings (particularly in the United States).

Our findings highlight broad patterns related to ownership structure and point to the need for further research on underlying mechanisms. While implementing randomised control trials in organisational contexts is challenging, natural experiment would be helpful in establishing causal links (Montero, 2022; Nimier-David et al., 2023). In particular, it remains unclear whether difference in cyclicality arise chiefly from demand-side or supply-side factors and how they relate to specific features of ownership structures (e.g., restrictions on profit distribution or democratic governance). For instance, third-sector organisations may exhibit better adaptability or a greater capacity and willingness to endure losses during downturns as a result of organisational differences, or their demand may simply be less cyclical than that of conventional firms.

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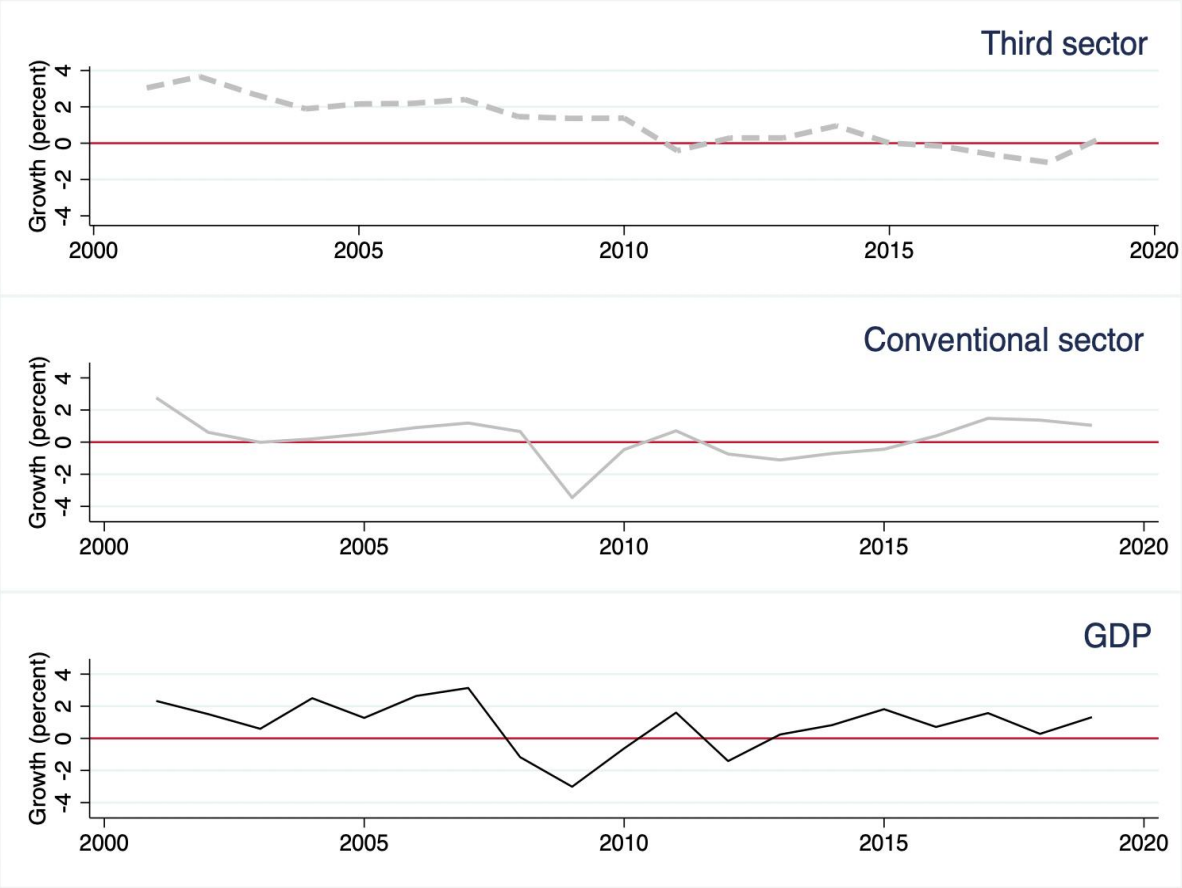
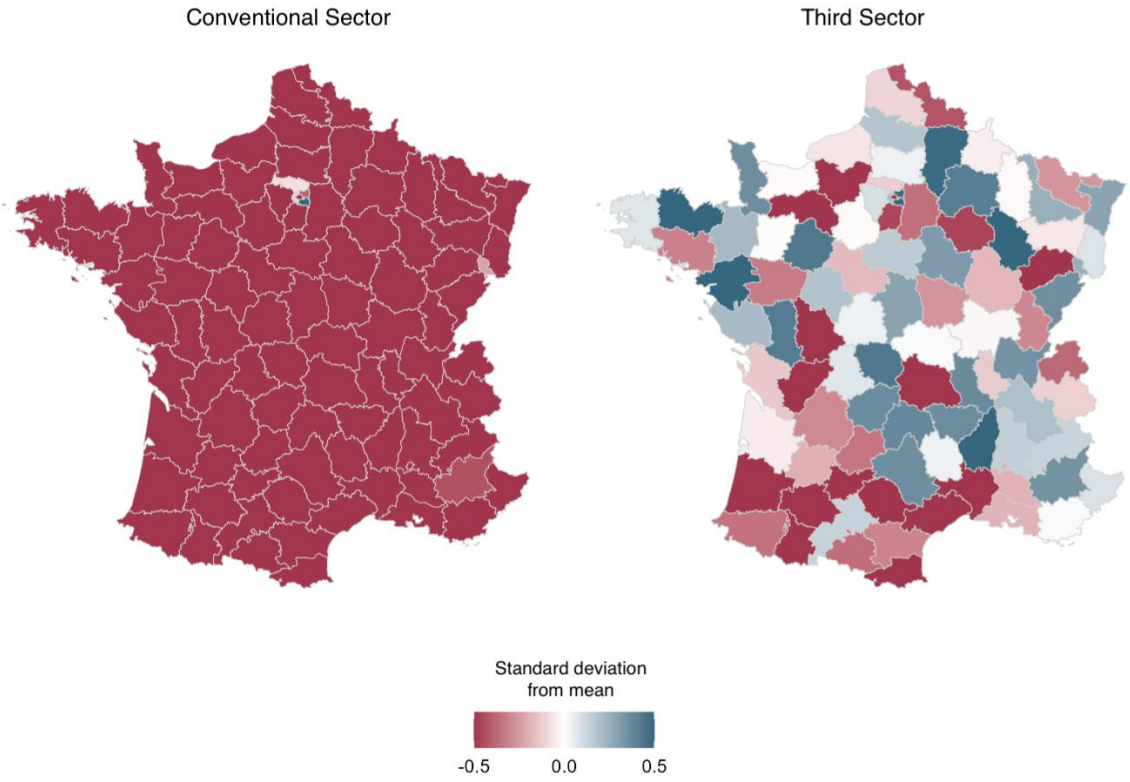
# Figures

**Figure 1. Annual Employment Growth per Sector**




Notes: Growth rates are based on the employment per inhabitant and reported in percentage. The GDP growth is based on real national GDP per inhabitant. All years from 2001 to 2019 are included. All 94 mainland French regions (i.e., *départements*) are covered. Growth rates are computed as annual logarithmic difference between $t$ and $t-1$.

**Figure 2. Employment Growth during Recession Years by Sector**




Notes: Growth rates are the average of "within scaled regional growth rates" over the recession years (2008, 2009 and 2012). "Within scaled regional growth rates" are growth rates centred and then scaled by their standard deviation within each region (i.e., *département*)-sector.

# Tables

## Table 1. Descriptive Statistics on Employment by Sector

| Variable | Mean | SD overall | SD between | SD within | N |
|---|---|---|---|---|---|
| *Panel A: Employment (per 1,000 inhabitants)* | | | | | |
| Conventional sector | 216.86 | 60.76 | 60.33 | 9.42 | 1,880 |
| Third sector | 30.18 | 8.24 | 8.09 | 1.77 | 1,880 |
| Nonprofits | 26.14 | 7.50 | 7.35 | 1.66 | 1,880 |
| Cooperatives | 4.04 | 2.53 | 2.48 | 0.52 | 1,880 |
| *Panel B: Employment growth (in percent)* | | | | | |
| Δ Conventional sector | 0.26 | 1.64 | 0.77 | 1.45 | 1,786 |
| Δ Third sector | 1.15 | 2.05 | 0.50 | 1.99 | 1,786 |
| Δ Nonprofits | 1.21 | 2.16 | 0.52 | 2.10 | 1,786 |
| Δ Cooperatives | 0.82 | 4.82 | 1.46 | 4.60 | 1,786 |

Notes: Employment is measured per 1,000 inhabitants per region. All years from 2000 to 2019 are included. All 94 regions are included. *SD between* is the standard deviation between regions. *SD within* is the standard deviation within regions. Employment growth rates are computed as the annual logarithmic difference between $t$ and $t-1$.

## Table 2. Cyclicality of Employment by Sector

| **Outcome variable** | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Δ Employment** | | | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ National GDP | 0.678*** | 0.151*** | | |
| | (0.014) | (0.033) | | |
| Δ Regional GDP | | | 0.305*** | 0.097*** |
| | | | (0.016) | (0.019) |
| Region FE | No | No | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -10,962.8 | -8,949.2 | -10,505.9 | -8,952.36 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment*, *Δ National GDP* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$.

## Table 3. Cyclicality of Employment by Third Sector Subgroup

| Outcome variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Δ Employment | | | |
| | Nonprofits | Cooperatives | Nonprofits | Cooperatives |
| Δ National GDP | 0.166*** | 0.121* | | |
| | (0.031) | (0.081) | | |
| Δ Regional GDP | | | 0.097*** | 0.120** |
| | | | (0.020) | (0.051) |
| Region FE | No | No | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -8,638.7 | -5,760.9 | -8,747.3 | -5,938.2 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment*, *Δ National GDP* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$.

## Table 4. Cyclicality of Employment During Recessions

| Outcome variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Δ Employment | | | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | 0.224*** | 0.117*** | 0.194*** | 0.161*** |
| | (0.017) | (0.019) | (0.019) | (0.024) |
| Recession years | -0.010*** | 0.002** | -0.008*** | 0.0004 |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| Δ Regional GDP X Recession years | | | 0.127** | -0.185*** |
| | | | (0.051) | (0.036) |
| Region FE | Yes | Yes | Yes | Yes |
| Joint test | | | 75.72*** | 22.67*** |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -10,610.2 | -8,953.1 | -10,621.9 | -8,962.8 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% level, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$. *Recession years* is a dummy variable that takes the value of one for the recession years (i.e., 2008, 2009 and 2012) and zero otherwise.

## Table 5. Cyclicality of Establishments and Wages

| Outcome variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Δ Number of establishments | | Δ Average wages | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | 0.083*** | 0.044** | 0.082*** | -0.011 |
| | (0.007) | (0.020) | (0.010) | (0.013) |
| Region FE | Yes | Yes | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -11,582.3 | -8,722.4 | -12,832.2 | -10,167.5 |

Notes: Standard errors (in parentheses) are clustered at the regional (i.e., *département*) level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Number of establishments*, *Δ Average wages* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$.

# Appendix

## Appendix A. Robustness Checks

### Table A1. Alternative Business Cycle Proxy

| Outcome variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Δ Employment** | | | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ National unemployment | -0.191*** | -0.054*** | | |
| | (0.003) | (0.007) | | |
| Δ Regional unemployment | | | -0.185*** | -0.050*** |
| | | | (0.004) | (0.008) |
| Region FE | No | No | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -11,553.8 | -8,973.6 | -11,733.2 | -8,972.8 |

Notes: Standard errors (in parentheses) are clustered at the regional (i.e., *département*) level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment*, *Δ National unemployment* and *Δ Regional unemployment* are computed as the annual logarithmic difference between $t$ and $t-1$.

### Table A2. Omitted Variable Bias

| Outcome variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Δ Employment** | | | |
| | 2009-2019 | | 2009-2019 | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | 0.358*** | -0.131*** | 0.354*** | -0.129*** |
| | (0.026) | (0.027) | (0.026) | (0.027) |
| Δ Subsidy | | | -0.015*** | 0.008*** |
| | | | (0.003) | (0.003) |
| Region FE | Yes | Yes | Yes | Yes |
| N | 1,034 | 1,034 | 1,034 | 1,034 |
| AIC | -6,049.0 | -5,711.1 | -6,075.3 | -5,715.1 |

Notes: Standard errors (in parentheses) are clustered at the regional (i.e., *département*) level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2009 to 2019 are included. All 94 regions are included. *Δ Employment*, *Δ Regional GDP* and *Δ Subsidy* are computed as the annual logarithmic difference between $t$ and $t-1$.

## Table A3. Alternatives Specifications

| Outcome variable | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | **Δ Employment** | | **Δ Employment** | | **Log Employment** | |
| | Conventional sector | Third sector | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | 0.089*** | 0.019 | | | | |
| | (0.015) | (0.019) | | | | |
| Δ Regional GDP $(t-1)$ | | | 0.199*** | 0.121*** | | |
| | | | (0.017) | (0.024) | | |
| Log Regional GDP | | | | | 0.452*** | 0.086** |
| | | | | | (0.023) | (0.033) |
| Region FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | No | No | No | No |
| N | 1,786 | 1,786 | 1,692 | 1,692 | 1,880 | 1,880 |
| AIC | -12,553.4 | -9,917.2 | -9,962.5 | -8,540.5 | -6,077.4 | -4,103.3 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$. *Δ Regional GDP* $(t-1)$ is *Δ Regional GDP* lagged by one year. *Log Regional GDP* and *Log Employment* are the logarithm of *Regional GDP* and *Employment* respectively.

## Table A4. Alternative Standard Error Adjustments

| Outcome variable | (1) | (2) | (3) | |
|---|---|---|---|---|
| | **Δ Employment** | | | |
| | Errors adjusted for spatial autocorrelation | | Errors adjusted for inter-sectoral correlation | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | 0.305*** | 0.097*** | 0.305*** | 0.097*** |
| | (0.031) | (0.026) | (0.016) | (0.019) |
| Region FE | Yes | Yes | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 |
| Breush Pagan Test of independence | | | 0.026 (Pr 0.87) | |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$. With 1,786 observations and, in equation (3) a 0.0038 correlation coefficient of the residuals, the observed $\chi^2(1) = 1786 \times 0.0038^2 = 0.026$ with an associated p-value of 0.87.

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# Appendix B. Heterogeneity Analysis

## Table B1. Effects Related to the Type of Activity

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| **Outcome variable** | **Δ Employment** | | | |
| | Total services | | Non-commercial services | |
| | Conventional sector | Third sector | Conventional sector | Third sector |
| Δ Regional GDP | -0.022 | -0.541*** | -0.050 | -0.813*** |
| | (0.058) | (0.081) | (0.058) | (0.084) |
| Region FE | Yes | Yes | Yes | Yes |
| N | 752 | 752 | 752 | 752 |
| AIC | -3,102.0 | -2,801.5 | -2,862.9 | -2,661.5 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2008 to 2015 are included. All 94 regions are included. *Δ Employment* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$.

## Table B2. Effects Related to Regional Characteristics

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Outcome variable** | **Δ Employment** | | | | | |
| | Conventional sector | Third sector | Conventional sector | Third sector | Conventional sector | Third sector |
| ***Panel A*** | | | | | | |
| Δ Regional GDP | 0.306*** | 0.110*** | | | | |
| | (0.021) | (0.029) | | | | |
| Δ Regional GDP x High income | -0.002 | -0.026 | | | | |
| | (0.032) | (0.039) | | | | |
| ***Panel B*** | | | | | | |
| Δ Regional GDP | | | 0.301*** | 0.091*** | | |
| | | | (0.022) | (0.030) | | |
| Δ Regional GDP x High inequality | | | 0.008 | 0.012 | | |
| | | | (0.032) | (0.039) | | |
| ***Panel C*** | | | | | | |
| Δ Regional GDP | | | | | 0.274*** | 0.084*** |
| | | | | | (0.016) | (0.027) |
| Δ Regional GDP x High density | | | | | 0.068** | 0.029 |
| | | | | | (0.034) | (0.038) |
| Region FE | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 1,786 | 1,786 | 1,786 | 1,786 | 1,786 | 1,786 |
| AIC | -10,504.1 | -8,950.4 | -10,510.5 | -8,950.8 | -10,503.9 | -8,950.8 |

Notes: Standard errors (in parentheses) are clustered at the regional level. ***, **, * indicate statistical significance at the 1%, 5% and 10% levels, respectively. All years from 2001 to 2019 are included. All 94 regions are included. *Δ Employment* and *Δ Regional GDP* are computed as the annual logarithmic difference between $t$ and $t-1$. *High income* is a dummy variable that takes the value of one if a region's per capita income is above the median, based on the values in 2010, and zero otherwise. *High inequality* is a dummy variable that takes the value of one if a region's Gini index is above the median, based on the values in 2010, and zero otherwise. *High density* is a dummy variable that takes the value of one if a region's population density is above the median, based on the values in 2010, and zero otherwise.