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Evaluating the labor market impact of Italy's National Strategy for Inner Areas

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Abstract

This paper provides the first causal evaluation of the labor market effects of the Italian National Strategy for Inner Areas (SNAI), a major place-based policy introduced in 2014 to address depopulation and limited access to essential services in marginal municipalities. Using administrative data on labor demand from Compulsory Communications and information on SNAI-funded municipalities from the OpenCoesione monitoring system, we analyze employment dynamics over 2014–2022. Treated municipalities are Inner Areas that received funding during the first programming cycle, while comparable non-funded Inner Areas serve as controls. Exploiting staggered policy adoption, we estimate treatment effects using a staggered difference-in-differences approach. Results show no robust evidence that SNAI increased contract activations or the number of activated workers. Effects are generally small and statistically not significant, with some modest negative impacts for male workers.

Keywords: *Inner areas; Italian labor market; Staggered difference in differences.*

1. Introduction

Regional inequality has re-emerged as a central concern in Europe, reflecting the uneven territorial consequences of globalization, fiscal consolidation, and demographic decline. Italy offers a particularly salient setting, given its persistent spatial disparities and the large number of municipalities facing depopulation and limited access to key public services. A major policy response is the National Strategy for Inner Areas (Strategia Nazionale Aree Interne – SNAI), introduced in 2014 by the Italian government within the context of European cohesion policies.

SNAI builds on the place-based perspective advocated by Barca (2009), emphasizing context-specific interventions and multi-level governance (Barca et al., 2012; Barca, 2019). The strategy targets marginal municipalities identified primarily by their remoteness from essential service hubs (schools, healthcare, and rail mobility). In the 2014-2020 cycle, more than 1,000

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municipalities (around 17% of national territory) were included among targeted areas. In the 2021-2027 cycle, the classification was revised to reflect methodological improvements and changes in service provision, especially hospital closures (NUVAP, 2022; MSAL, 2025); eligible municipalities increased to more than 1,900, while the broader set of marginal municipalities exceeds 3,800 (almost 60% of Italy's territory).

Overall resources associated with SNAI amount to about € 1.76 billion, combining national and EU sources. In the first cycle (2014-2020), allocations totaled around € 281 million, while additional resources in 2021-2027 include major contributions from the National Recovery and Resilience Plan (NRRP).

Despite its prominence, causal evidence on SNAI's economic effects remains limited, particularly regarding labor market outcomes. This paper addresses two questions: (i) what are the impacts of SNAI funding on local labor market demand and employment dynamics?; (ii) do effects differ by gender?

To answer these questions, we exploit staggered policy adoption across municipalities and estimate treatment effects using the staggered difference-in-differences (DiD) approach of Callaway and Sant'Anna (2021). We combine funding information from OpenCoesione (PCM, 2025) with Compulsory Communication (Comunicazioni Obbligatorie – CO) data for 2014-2022. Outcomes are the annual number of contract activations and the annual number of workers with at least one activation. Results indicate largely null effects, with some specifications suggesting modest negative impacts concentrated among male workers. The paper contributes to the place-based policy literature by providing the first causal evaluation of SNAI's labor market effects.

2. Institutional setting

Inner Areas are characterized by long-term marginalization driven by out-migration, productive and social rarefaction, land abandonment, and exposure to economic decline and natural risks (Modica et al., 2021). The SNAI operational definition relies on accessibility to essential services. A technical working group established under the Italian Agency for Territorial Cohesion defined service hubs and classified municipalities by driving time to the nearest hub offering (i) secondary education, (ii) acute healthcare, and (iii) rail mobility services (UVAL, 2014). Based on thresholds derived from the distribution of travel times, municipalities were grouped into belt, intermediate, peripheral, and ultra-peripheral areas; excluding belt municipalities, the remaining groups were defined as Inner Areas.

In the 2014-2020 cycle, 4,261 municipalities were classified as Inner Areas, but implementation focused on 72 pilot areas (1,060 municipalities), selected based on demographic and institutional criteria and formalized through framework agreements (Accordi di Programma

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Quadro) (Lucatelli, 2022; PCM, 2014). The 2021-2027 revision updated the identification strategy to reflect changes in service provision and improved travel-time measurement (NUVAP, 2022; PCM, 2022). The revised classification identifies 3,834 municipalities as Inner Areas and 123 intervention areas covering 1,904 municipalities (see Figure 1).

SNAI-related resources amount to about e 1.76 billion across funding streams, including national and EU funds and NRRP allocations. Monitoring data from OpenCoesione (PCM, 2025) provides a dedicated section for Inner Areas only for the first programming cycle (2014-2020), reporting e 675.3 million across 2,630 projects (as of August 31, 2025), with roughly one-third completed. Because systematic monitoring for 2021 2027 remains limited, the empirical analysis focuses on the first SNAI cycle.

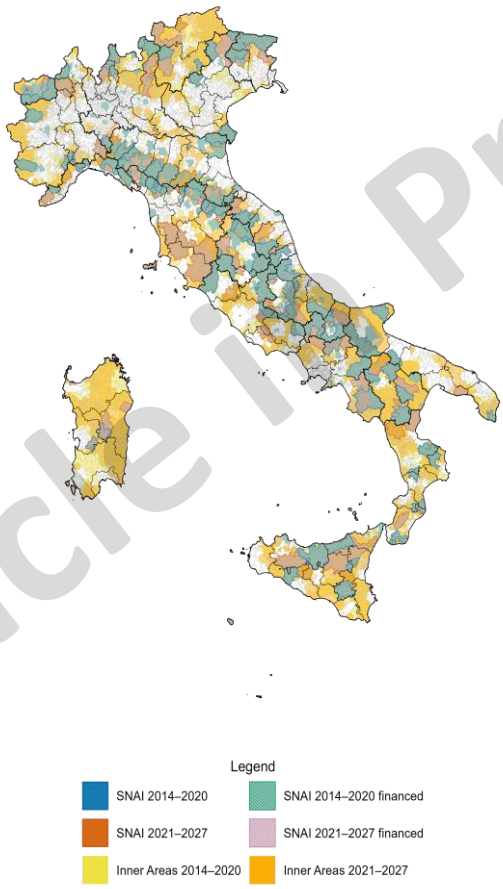


Figure 1 Italian Inner Areas and municipalities receiving resources. Source: Author's personal elaboration based on ISTAT (2022, 2025b) and PCM (2023, 2025).

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3. Literature review

The literature on place-based policies has expanded substantially (Busso et al., 2013; Neumark and Simpson, 2015; Partridge et al., 2018; Duranton and Venables, 2018; Rodr guez-Pose, 2018), yet evidence on SNAI remains relatively scarce. Recent studies report heterogeneous positive effects on specific margins, including entrepreneurship and new productive units (Monturano et al., 2025) and tourism outcomes (Di Matteo, 2025). Other contributions emphasize the role of local institutional quality and administrative capacity and question aspects of the classification method (Perchinunno et al., 2019; Compagnucci and Morettini, 2024; Benassi et al., 2024). Against this background, rigorous evidence on labor market impacts is still limited.

4. Methodology and data

4.1. Methodology

We estimate the causal impact of SNAI funding on municipal labor market outcomes under staggered adoption. Because two-way fixed effects may be biased in this setting, we employ the group-time average treatment effect on treated (ATT) framework and the staggered DiD estimator of Callaway and Sant'Anna (2021), assuming an absorbing treatment. We report dynamic (event-time) effects and aggregated ATTs, implementing a doubly robust estimator with a rich set of municipal covariates.

The control group consists of municipalities classified as Inner Areas under the 2014 2020 definition (driving time above 20 minutes to the nearest hub), excluding municipalities closer to urban centers. This design compares treated municipalities to similarly remote areas and accounts for remaining differences through covariates capturing possible confounding factors and accounting to municipalities specific characteristics.

4.2. Data

The municipal universe comprises 7,904 municipalities as of January 1, 2021 (ISTAT, 2025b). We restrict the analysis to municipalities classified as Inner Areas under UVAL (2014), resulting in a sample of 4,055 municipalities (ISTAT, 2022). The treatment indicator is constructed using data from OpenCoesione: a municipality is defined as treated if it received at least e 1 in SNAI funding during the 2014-2020 programming cycle (PCM, 2025). We do not differentiate funding by thematic area, as projects may influence local labor markets through multiple direct and indirect channels. In total, 841 municipalities are treated. Municipalities treated in the first period are excluded, as required by the staggered DiD framework.

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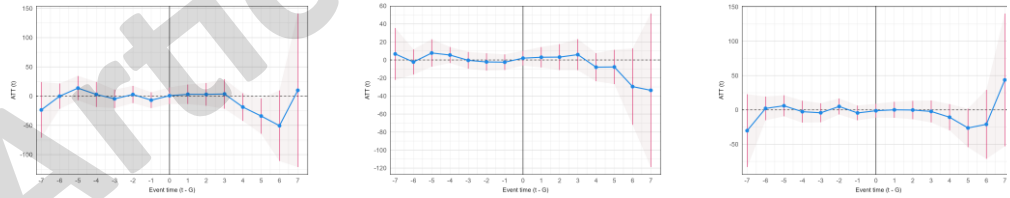
Outcome variables are derived from Compulsory Communications (CO) data provided by the Italian Ministry of Labor and Social Policies (MLPS).1 These data record mandatory notifications of hires, contract extensions, transformations, and terminations for dependent employment relationships. We consider two annual outcomes: (i) the number of contract activations and (ii) the number of workers with at least one activation. Activations are assigned to municipalities based on the worker's municipality of residence (or, when unavailable, the employer's location). Outcomes are measured in $t + 1$ to allow for potential implementation and administrative lags. Since CO data capture employment flows rather than stocks, activations are interpreted as a proxy for local labor demand dynamics.

The empirical specification controls for 18 municipal-level covariates capturing geographic, demographic, economic, institutional, and tourism-related characteristics (Cerqua et al., 2025; ISTAT, 2025a,c,d).

5. Results and discussion

Figure 2 reports dynamic treatment effects for the annual number of contract activations, while Figure 3 shows results for the number of workers with at least one activation. In both cases, pre-treatment coefficients are small and statistically not significant, supporting the validity of the parallel-trends assumption.

Across specifications, we find no robust evidence that SNAI funding increased local labor demand in treated Inner Area municipalities. Post-treatment effects are generally small and statistically not significant. In some event-time estimates, negative effects emerge several years after treatment, particularly for male workers; however, aggregated average treatment effects remain limited in magnitude. Overall, the baseline evidence suggests that SNAI did not generate measurable improvements in dependent employment dynamics during the period under analysis.

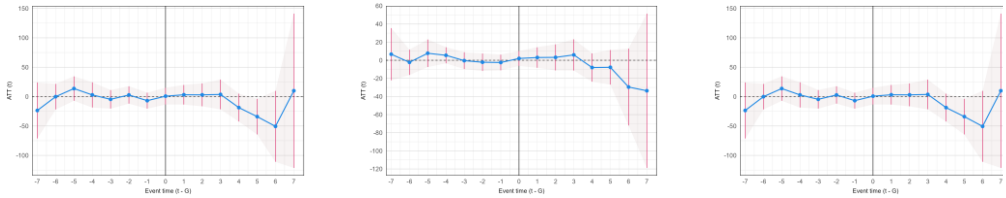


All workers Female workers Male workers

Figure 2: Average effect by length of exposure, number of activations (2014-2022)

[1] This data is provided to the Department of Economics of the Roma Tre University through a specific research agreement with MLPS.

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All workers Female workers Male workers

Figure 3: Average effect by length of exposure, number of activated workers (2014-2022)

5.1. Robustness analysis

We conduct several robustness checks to assess the stability of these findings. First, we restrict the control group to municipalities explicitly targeted by the two SNAI waves, thereby further reducing potential heterogeneity across units. Second, we exclude covariates that may themselves be affected by the policy in order to mitigate concerns of post-treatment bias. Third, we re-estimate the model excluding the COVID-19 years, given the large and symmetric shock to labor markets during the pandemic. Finally, we implement a double Machine Learning (DML) (Chernozhukov et al., 2018; Chang, 2020) framework to flexibly model covariates and reduce potential misspecification of nuisance functions.

Across all specifications, the qualitative conclusions remain unchanged. Estimated effects remain close to zero and rarely statistically significant. Excluding COVID-19 years leads to somewhat more negative estimates, suggesting that pandemic dynamics may have attenuated adverse effects in the baseline period; nevertheless, results do not reveal any consistent positive impact of SNAI on labor demand.

Detailed robustness results are available upon request.

6. Conclusions

This paper provides the first causal assessment of SNAI's labor market effects using a staggered DiD design and administrative data on labor demand. Across a broad set of specifications, we find that SNAI funding did not increase job activations or the number of activated workers in treated Inner Area municipalities; if anything, some estimates suggest modest negative effects concentrated among male workers. These findings raise concerns about the capacity of the strategy as implemented in the first cycle to translate territorial investments into labor market improvements for dependent employment. More broadly, the results highlight the importance of implementation capacity and of linking place-based investments to explicit job-creation mechanisms when the policy objective includes stabilizing population and reversing decline in marginal territories.

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