Declining Free Lunch: State Capacity and Foregone Public Spending

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Abstract

This paper documents substantial fiscal waste in the context of one the world's largest regional development programs – the EU Cohesion Policy. We study Italy, and find that 20% of funding commitments are never paid out and funneled into unfinished or never-started projects. In our setting, this happens for reasons unrelated to fiscal constraints – municipalities appear to simply leave money on the table. Foregone spending is more prevalent in Southern regions, but there is also stark variation across municipalities within regions. We show that such under-utilization of available funds is strongly associated with limited administrative capacity of local governments.

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1 Introduction

Local governments across the world are responsible for provisioning public goods – from schools, to policing, to public housing. Several economic models suggest that fiscal decentralization may be efficient as it incentivizes competition between areas, or moves decision making closer to local communities (Tiebout, 1956; Oates, 1972, 1999). However, local governments may lack the administrative capacity to implement complex projects, thus foregoing available public resources or wasting them on unfinished projects. Such misuse of public funds may also arise as a consequence of corruption and agency issues – a common drawback of government decentralization (Bardhan and Mookherjee, 2000; Decarolis et al., 2020; Vannutelli, 2022). These concerns are key for regional policy, where funds allocation is managed by a central authority but local actors are often responsible for implementation (Juhász and Lane, 2024).

This paper aims to quantify foregone public spending, which we define as public expenditure on approved projects that could have occurred but did not for reasons unrelated to fiscal constraints. We develop precise measures of foregone spending in the context of one the world's largest regional development programs – the EU Cohesion Policy (henceforth cohesion policy) – in Italy. Importantly, cohesion policy funds represent a "free lunch" for local governments since they are given with only very general stipulations on acceptable types of projects, and are not part of the regular budgets that would present fiscal trade-offs. We document the extent of foregone spending and investigate its possible drivers, exploring whether it reflects mechanisms consistent with *passive* waste (low administrative capacity) or *active* waste (local corruption) following Bandiera et al. (2009).

While there is plenty of anecdotal evidence about under-utilization of available public funds by local governments[1], existing research has not been able to systematically study foregone public spending. A key limitation is measurement. Foregone spending is difficult to measure as funds earmarked for specific uses but never spent do not typically appear in data. In this paper, we are able to differentiate actual payments to each project from the original funding commitments – legally binding obligations allocating financial resources to a project upon approval. This enables us to measure foregone public spending as the share of commitments never paid out, covering roughly 8,000 municipalities (the most granular

[1]See U.S. Government Accountability Office (2023); Loguercio (2023); Home Builders Federation (HBF) (2025).

administrative unit in Italy) over time during two EU funding periods (2007-2013 and 2014-2020). Using administrative data on project completion status, we can further distinguish whether funds remain unspent because planned projects were never launched or because (started) projects are not finished.

We begin by documenting the relevance of foregone public spending under cohesion policy in Italy, showing that it is a significant and widespread issue. At the national level, 20% of funding commitments are not paid out, with 5.2% and 13.5% of commitments going to never-started projects or unfinished projects, respectively (the remainder is cost savings on complete projects). There is noticeable heterogeneity in these measures across areas, with foregone spending being higher in Southern Italy. However, these patterns are not driven solely by differences between regions. We show that even within regions, municipalities vary greatly across those same measures – with several municipalities in the North exhibiting high degrees of foregone spending.

Motivated by such stark variation in foregone spending across local governments, we investigate possible factors associated with it. We follow the classification in Bandiera et al. (2009) and aim to distinguish between two sources of inefficiency in public spending – i) *active* waste, or corruption, entailing direct gains for the public decision maker; and ii) *passive* waste, which does not benefit the decision maker and arises due to deficiencies in local administrations. We proxy active waste with the number of corruption cases of public officials in the municipality (Daniele and Giommoni, 2024). To capture local administrative capacity, or passive waste, we use the number of public workers employed in municipal offices. Anecdotal evidence suggests low administrative capacity to be a key reason why local governments are unable to spend the available funds. However, foregone spending stemming from projects that are started but not completed could also be related to corrupt behavior from local officials, if some of the funds are disbursed before the project stalls.

To assess empirically whether foregone public spending is associated with sources of active and passive waste, we run regressions that relate our measures of foregone spending in Italian municipalities on the two proxies of active and passive waste described above. Our specification exploits variation across municipalities within the same province and region, thus accounting for institutional factors such as regional regulations and laws that may be correlated with foregone spending. Additionally, we control for a range of municipality-level characteristics including geographical traits, labor market and demographic characteristics, previous municipal spending and the human capital of local politicians.

While descriptive, our results suggest a consistent pattern. Local administrative capacity is systematically correlated with foregone public spending, which points to passive waste as a possible underlying channel. More precisely, a one standard deviation increase in the number of public employees per inhabitant is associated with a roughly 1 percentage point decrease in the share of funding commitments never paid out (7% of the mean), suggesting that local governments with higher administrative capacity are better able to spend the allocated funds. Higher administrative capacity is also associated with a lower share of commitments to never-started projects and, to a lesser extent, incomplete projects. In contrast, we find no relationship between local corruption and the share of commitments never paid out, suggesting a minor role of active waste. However, corruption is significantly correlated with commitments to started, but incomplete projects – suggesting that corrupt local actors might extract rents from the initial execution phase (e.g., through procurement contracts).

Whether public resources are used efficiently is a key question for economists (Hart et al., 1997), as is understanding the possible sources of waste in public spending. In this regard, a key distinction is that between active and passive sources of waste (Bandiera et al., 2009). Most of the literature has emphasized active waste as a main driver of inefficiency in public spending, especially in the context of public procurement (Szucs, 2024; Bosio et al., 2022; Coviello et al., 2018; Cingano et al., 2022) and fiscal decentralization (D'Amico, 2021; Rodríguez-Pose and Ezcurra, 2010; Buscemi and Romani, 2024; Enikolopov and Zhuravskaya, 2007; Celli et al., 2025), and with reference to the "rules-discretion" tradeoff. Passive waste has instead received less attention in the literature. However, when comparing the relative importance of the two, Bandiera et al. (2009) identify passive waste as a potentially more relevant determinant of inefficient public spending than active waste. Other studies have indeed stressed the relevance of administrative capacity in the provision of public services (Rasul and Rogger, 2018; Best et al., 2023).

This paper contributes to the literature by providing a novel, relevant measure of waste in public spending. Rather than focusing on the prices and quality of public goods and services once they are provided, we take a step back and study the (in)ability of local governments to provide a good or service at all, in a context where fiscal constraints are irrelevant. We define clear measures of foregone spending using granular data on funding commitments and payments, and systematically assess whether they are correlated to active and passive sources of waste. Our results, in particular, highlight the role of passive waste as local governments with low administrative capacity exhibit higher degrees of foregone public spending.

The administrative capacity of local governments has indeed been identified as an important determinant of absorption of EU funds, but the evidence in this regard is limited and based on cross-regional analyses (Bachtler et al., 2024). More broadly, several papers have argued how institutional factors mediate the local economic effects of EU development programs, with more positive impacts in areas with high "absorptive" capacity (Becker et al., 2013; Rodríguez-Pose and Garcilazo, 2015; Carrieri et al., 2024). There is, in turn, increasing support for a policy shift towards improving institutions in recipient regions (von Ehrlich, 2024). Our paper computes precise measures of absorption of cohesion policy funds as well as of possible sources of waste in their use. We focus explicitly on administrative capacity, and leverage within-region variation to show that less equipped local governments are also those where cohesion policy funds are absorbed the least. We also document that corruption of public officials is associated with higher commitments to unfinished projects, suggesting that active waste may drive low project completion rates (De Angelis et al., 2020).

2 Foregone Public Spending

Foregone public spending – which we define as public expenditure that could have occurred but did not for reasons unrelated to fiscal constraints – is impossible to measure in most contexts. We leverage the setting of cohesion policy in Italy, using unique administrative data on geolocated projects with information on funding commitments, payments, and project completion status to construct novel measures of foregone spending. These include the share of funding commitments that are never paid out, commitments for projects that are never begun, and commitments to incomplete projects. In Section 3, we then correlate these measures to local administrative capacity and local government corruption to explore the possible drivers of foregone spending.

2.1 Institutional Context

Cohesion policy has the goal of reducing regional economic disparities across Europe. While all regions benefit from cohesion policy, the policy mainly targets less-developed areas.[2] The fiscal transfers are sizable, making cohesion policy the largest budget item of the EU.

[2]These are defined as NUTS-2 regions with a GDP per capita below 75% of the EU average – see Fritz and van der List (2025) for details on financing rules. In Italy, NUTS-2 regions correspond to the 20 administrative regions, which are responsible for managing cohesion policy funds.

Budget cycles are (currently) seven years in length – with the 2014-2020 funding period totaling approximately 530 billion Euros (US$ 614 billion).[3]

Local governments have strong incentives to utilize cohesion policy funds, as they are large sums of money made available by the European Union and national governments to increase regional budgets.[4] Furthermore, the funds that are not used by the end of the funding period cannot be repurposed by the regions, and the regional accounts are considered closed by the EU (Council of the European Union, 2006, 2013). Cohesion policy is very broad in scope, as it includes a wide variety of projects – making local governments broadly unrestricted by the types of projects they can finance and undertake.[5]

At the beginning of each funding period, Italian regions prepare a Regional Operational Program (*Programma Operativo Regionale*, POR) which outlines both the total cohesion policy funding available – allocated from EU and national sources – as well as the region's planned split of the funds between the EU thematic priorities.[6] While strategic planning and funding decisions are typically made at the regional level, local (municipal) governments play a central role in the absorption of cohesion policy funds. First, municipalities may be direct beneficiaries of cohesion funding – for example, through infrastructure or urban revitalization projects – in which case they assume an implementing role.[7] Beyond direct implementation, municipalities are also expected to facilitate project success through stakeholder engagement, helping ensure that projects align with local needs and assessing feasibility. As such, the capacity and integrity of local governments are likely to influence whether projects are implemented effectively or remain unfinished.

[3]See `https://cohesiondata.ec.europa.eu`.

[4]Cohesion funds are supplemented by national co-financing, which in the case of Italy ranges between 20% and 50% of the total funding allocation based on regional development levels. Even for national co-financing, cohesion policy funding does not come from regional budgets.

[5]Cohesion policy projects are conducted through two so-called Structural Funds – the European Regional Development Fund (ERDF) and the European Social Fund (ESF) – depending on the nature of the investment. We pool financing from both funds throughout the paper.

[6]In the 2014-2020 funding period, thematic objectives were as broad as *Enhancing the competitiveness of SMEs*, *Promoting sustainable transport and improving network infrastructures* or *Investing in education, training and lifelong learning* (`https://ec.europa.eu/regional_policy/policy/how/priorities/2014-2020_en`). Regions have some scope to reallocate money among thematic priorities during the funding period, but changes in the total funding envelope must be approved by the European Commission directly (Council of the European Union, 2006, 2013).

[7]In our sample, municipalities act as implementers in 20% of projects, accounting for 34% of committed funds.

2.2 Data

We combine four main sources of data. Our primary outcome of interest is municipality-level foregone public spending, measured as the percent of commitments that are never paid out.[8] We also split this measure into two sub-components – percent of commitments to incomplete (started) projects and percent of commitments to never-started projects. These three variables are computed using data from OpenCoesione, an administrative database of the universe of cohesion policy projects in Italy maintained by the Italian government. We match the cohesion policy data to data on bureaucrats from the Annual Account of the State General Accounting Department, and data on municipal corruption episodes from the Italian Investigation System. We complement this municipality-level dataset with information on the financial envelope available to Italian (NUTS-2) regions, which we source from regional PORs. We provide more details below, and show summary statistics in Appendix Table A.1.

Cohesion Policy Projects – OpenCoesione Database The data concerns projects taking place in Italy during the 2007-2013 and 2014-2020 funding periods. It includes information about the municipality where the project takes place, funding commitments and payments in Euros (current prices), project completion status, and the fund and POR from which the financing originates. The data also includes the tax identifier of actors involved in the projects, as well as their role, i.e., whether they are in a planning or implementation role. We use this information to identify projects in which a local government is listed as beneficiary – a dimension we investigate in robustness tests in Section 3.

We restrict our analysis to projects funded by a single region's POR, as the data does not include how much funding came from which operational program in the case of multi-program-funded projects.[9] For analysis, we aggregate the data to the region-by-funding-period and municipality-by-funding-period levels. For the latter, we further restrict our sample to projects involving only one specific municipality. This excludes projects that target multiple geographic areas – for example, the entire region or several municipalities.[10]

[8]The share of commitments never paid out may not fully capture foregone spending if regional governments anticipate that some projects will not succeed, and deliberately commit more money than their total allocation to maximize their chances to absorb all of their allocation. This is not the pattern we observe in the data. Only five regions committed more than their allocation, and four of those five over-committed by less than 5% (see Appendix Table A.2).

[9]Multi-source projects represent 7.5% of commitments, and 4.7% of payments.

[10]Projects targeting multiple locations are 5.8% of projects in our regional-level sample.

Using information on projects' completion status, we classify two types of projects as complete: those marked as "complete" and those considered "liquidated" in the database. Liquidated projects are those that have had 95-100% of the initial funding commitment paid out, but have not been marked as complete.[11] We then compute our three measures of foregone spending as follows:

$$Share[\text{Commitments never paid out}]_{mt} = 1 - \frac{payments_{mt}^{compl.} + payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \quad (1)$$

$$Share[\text{Commitments, never-started projects}]_{mt} = \frac{commitments_{mt}^{never-started}}{commitments_{mt}^{all}} \quad (2)$$

$$Share[\text{Commitments, incomplete projects}]_{mt} = \frac{commitments_{mt}^{incompl.} - payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \quad (3)$$

for location m and funding period t. We include both EU and national funding when measuring payments and commitments. The suffix $(compl., incompl., never-started)$ denotes project completion status (complete, incomplete but started, and never-started). The denominator $commitments_{mt}^{all}$ denotes total commitments across all projects regardless of completion status, and is the same for all three measures.[12] The sum of the share of commitments for never-started (2) and unfinished projects (3) does not add up to the share of commitments never paid out (1) as measure (1) also includes cost savings on complete projects.[13] See Appendix 4.1 for simple derivations.

Regional PORs We hand-digitized information about the total funding allocation that was provided from the EU and national sources to regions from the regional PORs, also downloaded from OpenCoesione. When multiple versions of the POR were available (due to revisions during the funding period) we used the earliest version. As discussed above, although regions have room to reallocate funding between thematic priorities during the

[11] Projects with more than 100% of the initial allocation paid without being marked as complete are still considered to be incomplete as they are likely to be over budget. Just 2.2% of projects in our regional sample are over budget (including complete projects), and 0.5% of all incomplete projects are over budget.

[12] $commitments_{mt}^{all} = commitments_{mt}^{compl.} + commitments_{mt}^{incompl.} + commitments_{mt}^{never-started}$

[13] Among complete projects, 16.2% have some savings (2.8% excluding liquidated projects). However, the total savings in such cases are typically small relative to other sources of foregone spending – representing 3.1% of the value of commitments to incomplete projects.

funding period, the total allocation remains constant unless approved by the European Commission. We use information on funding allocations to assess how much of their allocated funding regions commit to projects (see Section 2.3).

Administrative Capacity To measure administrative capacity of local governments, we draw on data from the Annual Account of the State General Accounting Department, providing comprehensive information on municipal bureaucratic structures from 2001 to 2022. Specifically, the data records the number of employees working for the municipality, distinguishing between full- and part-time contracts.[14] Over the past two decades, administrative capacity in Italy has steadily declined: In 2007, the beginning of our sample, the average municipality employed 6.8 staff members (measured in full-time equivalents, FTE) per 1,000 inhabitants. By 2020, the end of our sample, administrative capacity had fallen by nearly 20%, to 5.6 FTE per 1,000 inhabitants.

Corruption We use municipality-level corruption data between 2004 and 2014 sourced from the Italian Investigation System. The data covers police investigation procedures (authorized by the judiciary) into corruption due to, e.g., graft or bribery. One caveat is that the data reports all corruption investigations regardless of their final outcome, thus representing allegations rather than actual crimes. Importantly, these corruption episodes involve exclusively public officials – in line with our goal of capturing active waste in public administration. See Daniele and Giommoni (2024) for more details concerning the data.

Additional Data We leverage additional municipality-level data sourced from the Italian Statistical Institute (Istat), including geographic and demographic characteristics and employment composition across sectors and skill groups. Furthermore, we compute total municipal spending using data on municipality balance sheets sourced from the AIDA PA database. Finally, data on the characteristics of local politicians comes from Italy's Ministry of the Interior. We consider mayors, vice-mayors, members of the executive committee, and municipal council presidents. We calculate the average years of education of these politicians, as well as the share of local politicians working in white-collar occupations.[15]

[14]Since the data does not specify working hours, we assign a value of 1 to full-time employees and 0.5 to part-time employees to calculate employee count.

[15]Years of education for a politician is calculated as follows: less than elementary school implies 0 years, elementary school 5 years, middle school 8 years, high school 13 years, bachelor's degree 18 years, masters'

2.3 Facts About Foregone Spending

Figure 1 shows aggregate commitment and payment statistics for Italy, pooling all regions and both funding periods. Between 2007 and 2020, Italian regions were allocated cohesion policy funds of about 41 billion Euros from the EU and 27 billion Euros from national sources – totaling 68.34 billion. Of these, about 66 billion Euros (97%) were committed to projects. This suggests that foregone spending under cohesion policy is not an issue of insufficient demand, since funding commitments require a project proposal to be allocated.[16] Out of these commitments, however, only roughly 53 billion Euros (80%) were spent – implying about 20% commitments never paid out. These commitments never paid out, totaling approximately 13 billion, is the numerator of our main measure of foregone public spending (measure (1)), and is shown in red at the bottom right of Figure 1.[17] Figure 1 also shows the three potential sources of foregone commitments: those from never-started projects (measure (2)), those from started but incomplete projects (measure (3)), and a final minor component stemming from cost savings on complete projects.[18]

Foregone spending is more pronounced in Southern Italy, but is not absent in Central and Northern Italy. Southern Italy paid out 73.6% of its funding commitments over this time, while the rest of the country paid out 91.5%. Figure 2 illustrates this heterogeneity more clearly, showing our three main measures of foregone public spending across Italian regions. Exact values are reported in Appendix Table A.2. Panel A shows that there is substantial variation in the percentage of commitments never paid out – measure (1) above. As discussed, difficulties paying out committed funds is not exclusive to the South, and there are regions in Central and Northern Italy that have relatively low payout rates. There are two main reasons why commitments are not paid out: projects which are never started, and projects which are started but never finished. The percentage of commitments to projects which are never started (measure (2) above) is shown in Panel B, and the percentages of commitments to projects which are started but never completed (measure (3) above) is shown

degree 19 years, doctoral degree 21 years. White collar occupations were classified using ChatGPT.

[16]There is also little variation across regions in the share of regional allocation committed, with most regions committing at least 85% of their allocation to specific projects. The minimum is 80.2% in Trentino-Alto Adige (see Appendix Table A.2). This represents a lower bound of the commitment rates of the funds, as we restrict to the set of projects financed by single-region PORs (which cover, however, the majority of payments and commitments – see Footnote 9).

[17]For comparison, Italian total public expenditure in 2014 – the midpoint of this period – was about 800 billion Euros.

[18]Formal derivations showing the decomposition of measure (1) into components are in Appendix 4.1.

in Panel C. While there is overlap between the bins of the regions across these measures, there are also notable differences. For example, the South-Eastern region of Molise is in the highest quintile of regions in terms of commitments to never-started projects, but in the lowest in terms of commitments to started and never completed projects. Furthermore, there are regions in the Center and North that commit a relatively high share of funds to projects which will never start (Lazio and Marche) or to projects which will start but never finish (Trentino-Alto Adige).

Figure 3 provides a more granular view, showing our three measures of foregone spending at the municipal level.[19] As is clear from all Panels, there is considerable variation in foregone spending across municipalities within regions. This suggests that for the purposes of project implementation, local governments play a key role, motivating the empirical analysis in Section 3.

3 The Role of Active and Passive Waste

The first part of the paper has documented how a large share of cohesion policy funds available to Italian local governments are not spent. We now investigate the possible drivers of foregone spending. As noted previously, the literature has highlighted two key sources of waste in public spending – active and passive – which we capture here using two proxies: local corruption episodes of public officials for active sources of waste, and the number of local public employees for passive sources of waste (both measured per thousand inhabitants).

We begin by exploring possible correlations visually. Figure 4 shows bivariate maps where each municipality is assigned a color based on the correlation between foregone spending – measured as the share of commitments never paid out (measure (1) in Section 2.2) – and local administrative capacity (Panel A) and corruption (Panel B), respectively.[20] These simple maps reveal interesting facts. Municipalities feature large variation – even within regions – in both administrative capacity and corruption. For administrative capacity (Panel A), we notice a prevalence of areas where high capacity is associated with low foregone spending (the

[19] Appendix Figure A.1 shows a related phenomenon: the percentage of *payments* to incomplete projects. We do not consider this a precise measure of foregone spending because we cannot determine with certainty whether such payments are "beneficial" (e.g., a scholarship program that pays out 80% of its initial commitments versus a half-finished bridge).

[20] Appendix Figure A.2 shows the corresponding bivariate map for corruption and administrative capacity, demonstrating large variation in both and that they are not strongly correlated.

light blue cells), suggesting a prominent role of passive waste. As to corruption (Panel B), there are less clearly detectable patterns, which suggests, possibly, a minor role of active waste.

This visual representation of the data, however, does not consider obvious differences between municipalities that are correlated with both foregone spending and its possible sources. To account for these relevant covariates, we run regressions that relate measures of foregone public spending to local corruption and administrative capacity, aiming to assess whether they are associated with foregone spending and, importantly, which of the two matters the most. Our specification is as follows:

$$y_{mt} = \gamma_1 \cdot AdminCapacity_{mt} + \gamma_2 \cdot Corruption_{mt} + X'_{mt} \cdot \beta + \alpha_{p(m)} + \delta_t + \upsilon_{mt}, \qquad (4)$$

Where the outcome variable y_{mt} denotes each of the three measures described in Section 2.2 – percent of commitments never paid out (measure (1)), percent of commitments to never-started projects (measure (2)) and percent of commitments to incomplete (started) projects (measure (3)) – for municipality m and in funding period t (recall we focus on the two funding periods 2007-2013 and 2014-2020). The coefficients of interest are γ_1 and γ_2, attached to measures of administrative capacity (number of public employees per 1,000 inhabitants) and corruption (number of corruption cases per 1,000 inhabitants) in municipality m and funding period t. X'_{mt} is a matrix of municipality-level controls. These include geographic characteristics (mean elevation, dummies for coastal location and provincial capital status), labor market and demographic characteristics (population density, young age dependency ratio, employment share of high- and medium-skill jobs – low-skill jobs omitted, employment share of industry and services – agriculture omitted), municipal spending (expenses per capita) and characteristics of local politicians (average years of education and share employed in white-collar occupations).[21] Controlling for the quality of local politicians is relevant to the extent that more skilled politicians are, in principle, more able to attract external funds

[21]The young-age dependency ratio is measured as population aged below 15 as a share of population 15 to 64. Employment skill composition is computed using residents' Isco08 occupation codes, with codes 1, 2 and 3 denoting high-skill jobs, codes 6 and 7 denoting medium-skill jobs and code 8 denoting low-skill jobs. We obtain funding-period-specific (suffix t) measures of our main independent variables as averages (administrative capacity) and totals (corruption episodes) computed in the four years before the start of each funding period. The same is done for politicians' characteristics. For labor market and demographic controls, obtained from decennial census data, we use the 2001 level for the 2007-2013 funding period and the 2011 level for the 2014-2020 funding period. All other controls are time-invariant. Municipal spending is measured as of year 2000.

– including EU funding commitments. Last, $\alpha_{p(m)}$ and δ_t are province and funding-period fixed effects. Standard errors are clustered at the province level.

These regressions control for many possible drivers of foregone public spending at the local level, aiming to isolate the contributions of passive and active sources of waste. Before moving to results, however, we caveat that we do not leverage exogenous variation in our independent variables. Hence, we refrain from giving a causal interpretation to our estimates of γ_1 and γ_2, and see our findings as largely descriptive.

Table 1 Columns (1)-(2) reports on our first measure of foregone spending – share of commitments never paid out – showing regression coefficients for the two key explanatory variables capturing passive and active waste. In Column (1), both regressors are measured as a share of local population; in Column (2), they are standardized to allow direct comparison of coefficient magnitudes. Higher administrative capacity is associated with a significantly lower share of commitments never paid out, with a one standard deviation increase in the number of public employees per 1,000 inhabitants associated with a 1.14 percentage points reduction in foregone spending – an effect size roughly 7% of the mean. In contrast, we estimate a small and non-significant coefficient for local corruption. This suggests that the under-utilization of (already committed) cohesion policy funds is most likely a result of low administrative capacity rather than diversion of funds by local public officials.

In Table 1 Columns (3)-(6), we break down the effect using information on project completion status, distinguishing between commitments to never-started projects (Columns 3-4) and commitments to incomplete (started) projects (Columns 5-6). Again, we report regression coefficients for local administrative capacity and corruption, with even Columns (4 and 6) showing the estimation output when we standardize regressors.[22]

As in Columns (1)-(2), administrative capacity is a significant predictor of foregone spending across both measures and especially for commitments to projects that are never started, for which a one standard deviation increase in administrative capacity is associated with a 1 percentage point decline – a sizable effect at the mean. Interestingly, when looking at commitments to incomplete (started) projects, we now estimate a positive coefficient for local corruption, quantitatively very similar to that for administrative capacity – a standardized effect of about 0.3 percentage points – and more statistically significant (Column 4). This

[22]The coefficients in Columns (3)-(6) do not precisely add up to those in Columns (1)-(2) since, as explained in Section 2.2 and showed in Appendix 4.1, the shares of commitments to incomplete and never-started projects do not exactly add up to the share of commitments never paid out.

suggests that local corruption could lead to foregone public spending to the extent that it channels funds to possibly unproductive projects, which are not completed but nevertheless allow local actors to extract rents (e.g., via procurement contracts linked to project execution).[23]

Robustness We confirm these results in several robustness tests, presented in Appendix Table A.4. First, we cluster standard errors at the region (NUTS-2) rather than province (NUTS-3) level (Panel A). Doing so slightly lowers the precision of our estimates but does not alter the baseline findings of a negative association between administrative capacity and foregone spending. In Panel B, we show that results are unchanged when replacing corruption per capita with a corruption dummy – a binary indicator taking value one in municipalities with at least one corruption episode and zero otherwise.[24] Last, Panel C additionally controls for municipality-level mafia presence sourced from Dugato et al. (2020).[25] Accounting for local organized crime does not affect our baseline estimates much. Interestingly, higher mafia presence is positively associated with the share of commitments to incomplete (started) projects, but negatively associated with the share of never-started projects – suggesting local organized crime may have incentives that projects are initiated in order to benefit from their execution. Taken together, these robustness tests support our key conclusion that administrative capacity is a relevant predictor of foregone public spending.

Local actors Finally, Appendix Table A.4 Panel D computes our three main measures of foregone spending using exclusively data for projects implemented by local governments (provinces or municipalities) as opposed to any other type of actor.[26] The role of local administrative capacity and corruption in driving foregone spending should be stronger for projects that uniquely rely on local competences and infrastructure for their realization.

[23]This is confirmed also when focusing on the share of *payments* (rather than commitments) to incomplete (started) projects as outcome. See Table A.3.

[24]This is done to address a concern arising when measuring local corruption using the number of corruption cases – as we do in the baseline specification – since a single corruption investigation may be counted multiple times if it involves violations of multiple Penal Code articles (Daniele and Giommoni, 2024).

[25]The measure constructed in Dugato et al. (2020) is a municipal-level index of five indicators: mentions of mafia presence from the government task force's annual reports, criminal offenses for mafia associations, homicides and attempted homicides, dissolutions of city councils due to mafia infiltration, and assets confiscated from organized crime. The index uses data between 2000 and 2015 for most sub-indicators.

[26]Specifically, this measure conditions on whether a municipal or provincial government is listed in an implementation role for the project. See the notes to Table A.4 for details.

Indeed, we estimate larger coefficients on both administrative capacity and corruption in this case, with one exception – as administrative capacity does not seem to be associated much with commitments to incomplete projects (Panel D Column 3).

4 Conclusion

Government decentralization is a common feature of modern economies and has accelerated in recent decades. There are concerns about the possible drawbacks of such decentralization, with anecdotal evidence that local governments under-utilize available resources. Using novel data on funding commitments, payments, and completion status for EU cohesion policy projects in Italy, we document striking evidence of foregone public spending by local governments. Local governments across Italy are unable to start or finish projects for which funds have already been allocated. While the percentage of funding commitments never paid out is approximately 20% nationally, this masks stark variation across regions and municipalities. In many municipalities, almost all of the allocated funds go to projects which are ultimately never begun or never finished.

After documenting patterns in foregone public spending across Italy, we empirically investigate its possible drivers, distinguishing between *passive* (low administrative capacity) and *active* (corruption) sources as described in Bandiera et al. (2009). Results suggest that administrative capacity in Italian municipalities is a more important predictor of foregone public spending than corruption of local public officials – with a one standard deviation increase in the number of public employees per inhabitant associated with a roughly 1 percentage point decrease in the share of funding commitments never paid out (7% of the mean). Local corruption is, instead, a significant predictor only when examining started but incomplete projects.

Overall, these findings should be of interest to both policymakers and academics. We have developed novel measures of foregone spending – quantifying a problem that has, to our knowledge, never been previously measured. Our results empirically demonstrate a potential drawback of government decentralization: that poorly equipped local governments may not have the means necessary to implement public works. Moreover, understanding whether foregone public spending arises because funds are diverted by corrupt public bodies or because local administrations lack capacity to manage such funds has relevant implications for future policy design. For instance, enhanced monitoring and regulations would improve

utilization of public funds if active waste is the key source of inefficiency; instead, if foregone spending is due – as our results suggest – mainly to low administrative capacity, more regulation would increase the burden on local governments and possibly even exacerbate foregone spending (Bosio et al., 2022). Future research employing quasi-experimental designs will establish these channels causally.

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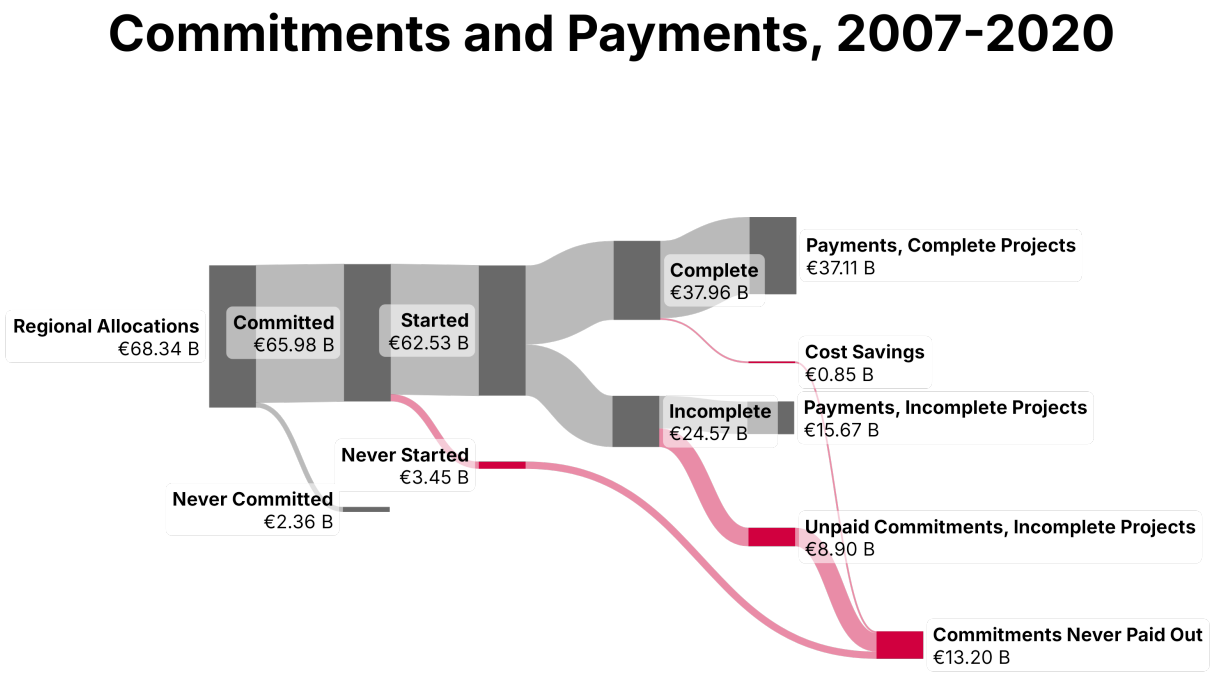
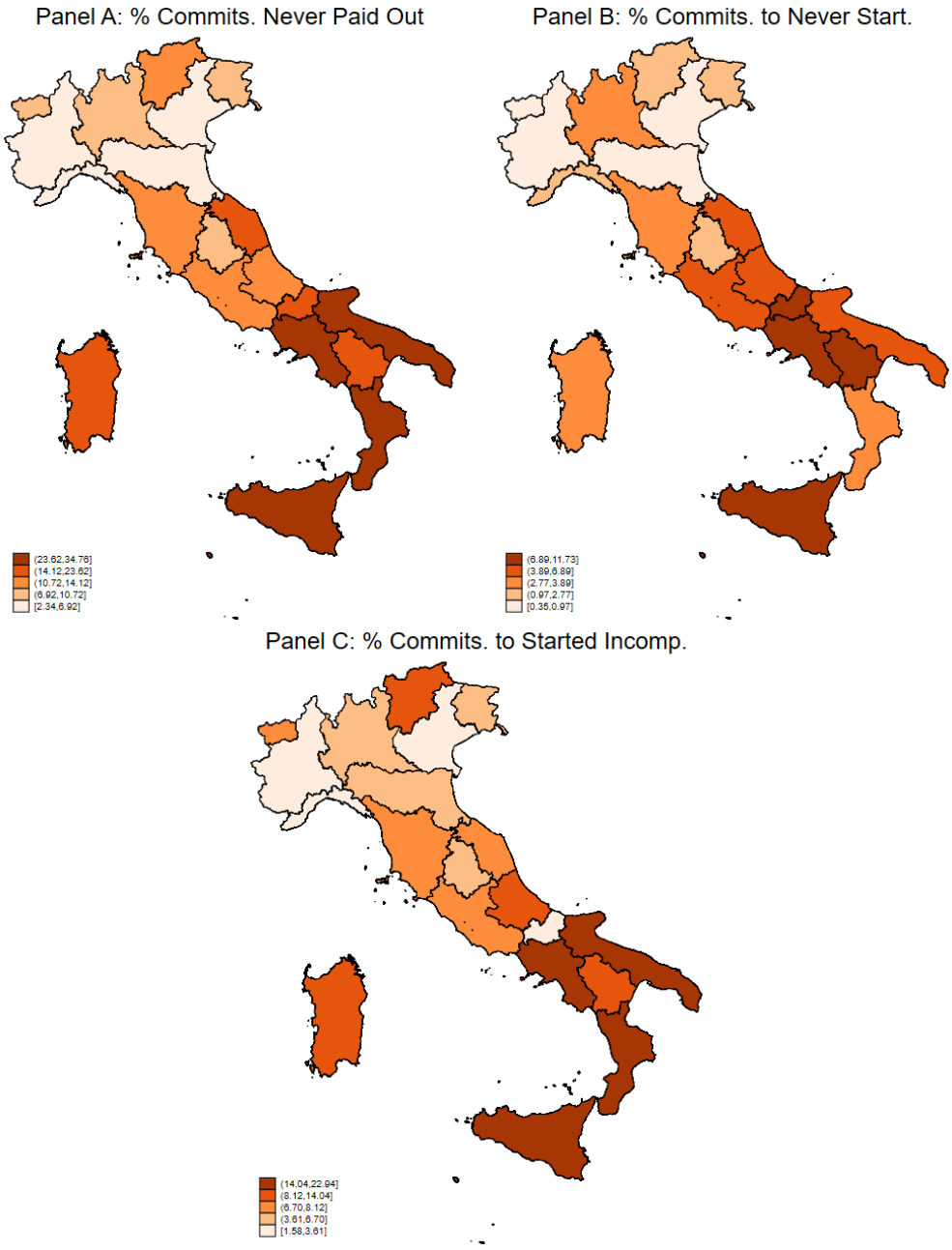
Figures

Figure 1: Foregone Spending in EU Cohesion Policy in Italy



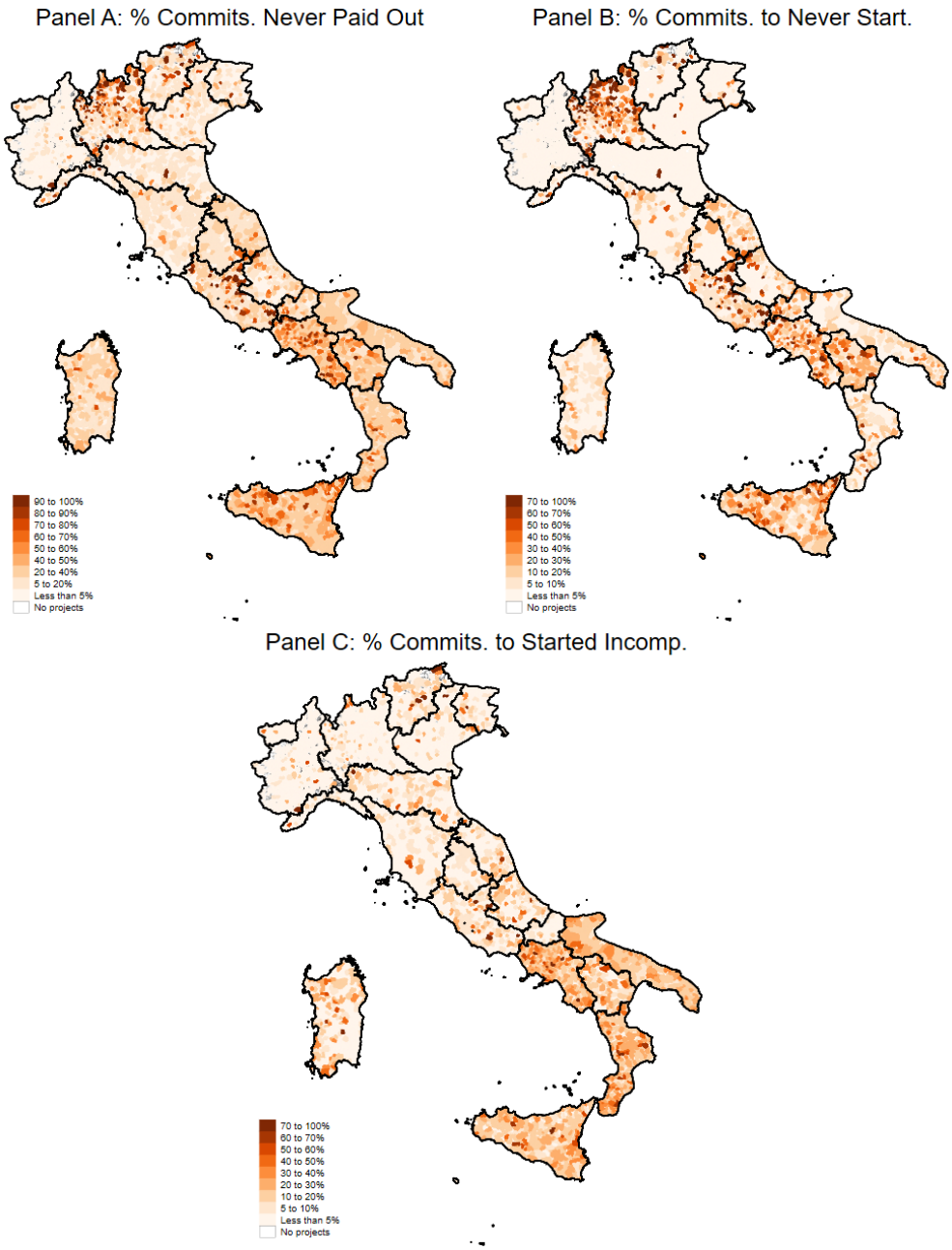
Notes: Regional allocations are funds allocated via PORs for the ERDF and ESF, pooled across both funding periods (2007-2013 and 2014-2020). Commitments and payments are also pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects described in Section 2.2. Never-started projects are those with zero payments. The numerators of equations (2) and (3) are the red "Never Started" and "Unpaid Commitments, Incomplete Projects" lines, respectively. The numerator of equation (1) is the red "Commitments Never Paid Out" line.

Figure 2: Foregone Public Spending – Regional Level



Notes: Foregone public spending measures are as defined in Section 2.2 (measures (1), (2), and (3) for Panel A, B, and C, respectively). Commitments are pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects described in Section 2.2. Never-started projects are those with zero payments.

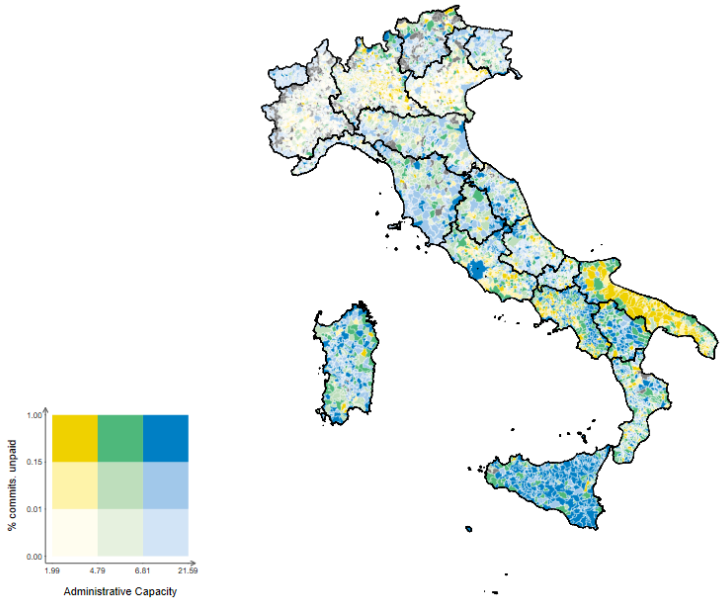
Figure 3: Foregone Public Spending – Municipal Level



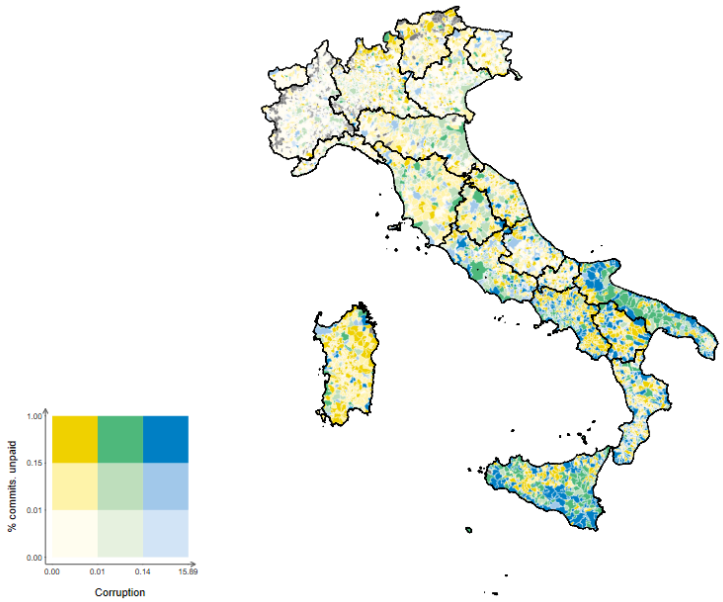
Notes: Foregone public spending measures are as defined in Section 2.2 (measures (1), (2), and (3) for Panel A, B, and C, respectively). Commitments are pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects and multi-location projects described in Section 2.2. Never-started projects are those with zero payments.

Figure 4: Explaining Foregone Spending: Bivariate Maps

Panel A: % Commitments Never Paid Out and Administrative Capacity



Panel B: % Commitments Never Paid Out and Corruption



Notes: Percentage of commitments never paid out is defined in Section 2.2 (measure (1), bounded at zero), pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects and multi-location projects described in Section 2.2. Administrative capacity and corruption are the averages over the two funding periods of our regressors of interest – the the averages (administrative capacity) and total number of per-capita charges (corruption) computed in the four years before the start of each funding period. Municipalities in gray had no projects.

Tables

Table 1: Explaining Foregone Spending: Passive and Active Waste

	(1)	(2)	(3)	(4)	(5)	(6)
	% Commitments Never Paid Out		% Commitments to Never Started Projects		% Commitments to Incomplete Projects	
Administrative capacity	-0.33**	-1.14**	-0.30**	-1.01**	-0.09*	-0.31*
	(0.14)	(0.47)	(0.12)	(0.41)	(0.05)	(0.18)
Corruption	2.07	0.17	-0.96	-0.08	3.19**	0.26**
	(3.84)	(0.32)	(3.31)	(0.27)	(1.48)	(0.12)
Standardized regressors	No	Yes	No	Yes	No	Yes
Observations	11,804		11,804		11,804	
R^2	0.39		0.24		0.26	
Mean	15.55		7.92		5.99	
Standard deviation	23.84		20.74		12.41	

Notes: Estimation output of Equation 4. The outcome variables are the percent of commitments never paid out (Columns (1)-(2)), the percent of commitments to never started projects (Columns (3)-(4)) and the percent of commitments to incomplete (started) projects (Columns (5)-(6)). The main regressors of interest are administrative capacity, measured as the number of public employees in each municipality per 1000 inhabitants (winsorized at 1% and 99%), and corruption per capita, measured as the number corruption charges in the municipality per 1000 inhabitants (winsorized at 5% and 95%). In Columns (2), (4) and (6) both regressors are standardized. The specification additionally controls for funding period fixed effect, province fixed effects and the following municipality-level controls: elevation (in meters), dummies for provincial capital status and coastal location; population density, young age dependency ratio, share of employment in high-skill and medium-skill occupations, share of employment in manufacturing and services; municipality expenses per capita, characteristics of local politicians (average number of years of education and share of those employed in white-collar occupations). Standard errors clustered by province are in parentheses. * p<0.10, ** p<0.05, *** p<0.01.

Declining Free Lunch: State Capacity and Foregone Public Spending (Fritz, Incoronato and van der List)

Supplemental Appendix

4.1 Technical Appendix

Our main measure of foregone spending given in equation (1) is the share of commitments never paid out for location m and funding period t:

$$Share[\text{Commitments never paid out}]_{mt} = 1 - \frac{payments_{mt}^{compl.} + payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \quad (1)$$

This measure can be decomposed into three components. First, the share of commitments to never-started projects, equation (2):

$$Share[\text{Commitments, never-started projects}]_{mt} = \frac{commitments_{mt}^{never-started}}{commitments_{mt}^{all}} \quad (2)$$

Second, the share of commitments to incomplete (started) projects that were never paid out, equation (3):

$$Share[\text{Commitments, incomplete projects}]_{mt} = \frac{commitments_{mt}^{incompl.} - payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \quad (3)$$

The remainder and third component is cost savings on completed projects, which can be seen by summing equations (2) and (3):

$$\begin{aligned}
&\frac{commitments_{mt}^{never-started} + commitments_{mt}^{incompl.} - payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \\
&= \frac{(commitments_{mt}^{all} - commitments_{mt}^{completed}) - payments_{mt}^{incompl.}}{commitments_{mt}^{all}} \\
&= 1 - \frac{commitments_{mt}^{completed} + payments_{mt}^{incompl.}}{commitments_{mt}^{all}}
\end{aligned}$$

$$= 1 - \frac{payments_{mt}^{completed} + savings_{mt}^{completed} + payments_{mt}^{incompl.}}{commitments_{mt}^{all}}$$

$$= \underbrace{1 - \frac{payments_{mt}^{completed} + payments_{mt}^{incompl.}}{commitments_{mt}^{all}}}_{\text{Equation (1)}} - \underbrace{\frac{savings_{mt}^{completed}}{commitments_{mt}^{all}}}_{\text{Remainder}}$$

Therefore, the share of commitments to never-started projects and of commitments to started but incomplete projects do not exactly add up to the share of commitments never paid out if there are, as we document, savings on completed projects.

4.2 Additional Figures and Tables

Appendix Table A.1: Summary Statistics

	Mean	sd	p50	IQR
Panel A: Projects				
Number of ERDF/ESF projects	99.21	954.50	9.00	23.00
Avg payments/project (Euros)	67406.13	136640.64	28063.04	61181.09
Number of implementing actors/project	1.80	0.82	1.95	0.60
Panel B: Demographics/Labor				
Population density (km2)	291.22	631.39	106.71	219.96
Young age dependency ratio	20.51	4.17	20.48	4.93
% employment high-skill occs	28.49	7.05	28.16	9.00
% employment medium-skill occs	28.32	7.29	28.64	9.82
% employment manufacturing	34.09	12.07	33.33	17.81
% employment services	56.24	11.40	56.14	15.87
Panel C: Geography				
Mean elevation (meters)	447.89	433.46	309.94	499.07
Provincial capital dummy	0.01	0.12	0.00	0.00
Coastal location dummy	0.08	0.27	0.00	0.00
Panel D: Other				
Municipal expenses (2000, per cap)	1094.76	1167.87	861.75	536.68
Average yrs. educ, politicians	13.55	2.29	13.71	3.14
Sh. politicians white collar occs	0.43	0.28	0.40	0.38
Corruption charges per capita	0.06	0.41	0.00	0.00
Public employees/1000 persons	6.54	3.40	5.65	3.39
Panel E: Foregone Spending				
% Commits. Never Paid Out	15.21	23.57	4.06	20.58
% Payments to Incomp. Proj.	18.43	30.19	0.00	25.51
% Commits. to Never Start.	7.66	20.42	0.00	1.86
% Commits. to Started Incomp.	5.83	12.29	0.00	5.98

Notes: Averaged data from the municipal-level sample across the two funding periods (2007-2013 and 2014-2020). For labor market and demographic characteristics, these are the 2001 and 2011 levels from the decennial census data. Politician characteristics, administrative capacity, and corruption charges, are computed as averages (politician characteristics and administrative capacity) and totals (corruption charges) in the four years before the start of each funding period.

Appendix Table A.2: Foregone Public Spending – Regional Level

	% Allocation Committed	% Commitments Never Paid Out	% Commitments Never Start. Proj.	% Commitments Incompl. Proj.
Region				
Abruzzo	87.34	12.91	3.89	8.39
Basilicata	88.56	23.03	11.73	11.13
Calabria	104.63	26.10	3.89	20.07
Campania	102.58	27.08	8.31	16.94
Emilia-Romagna	105.46	5.96	0.47	4.16
Friuli Venezia Giulia	95.05	8.51	2.70	5.26
Lazio	97.84	13.47	4.94	7.48
Liguria	89.87	4.95	1.34	3.05
Lombardia	91.47	7.42	3.58	3.82
Marche	88.61	15.19	5.48	7.60
Molise	88.88	15.22	10.69	3.26
Piemonte	82.07	2.34	0.35	1.58
Puglia	113.49	24.22	4.91	19.15
Sardegna	89.57	14.78	2.85	9.19
Sicilia	84.80	34.76	9.59	22.94
Toscana	103.42	11.69	3.32	7.75
Trentino-Alto Adige	80.17	13.06	2.00	9.21
Umbria	94.84	8.85	1.66	5.92
Valle d'Aosta	89.79	9.76	0.50	7.86
Veneto	86.07	6.43	0.61	3.40
Total	93.23	14.29	4.14	8.91

Notes: The regional allocation is calculated as the total funding (including national co-financing) provided in the regions' PORs for two funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF). Foregone public spending measures are as defined in Section 2.2 (measures (1), (2), and (3) for Panel A, B, and C, respectively). Commitments are pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects described in Section 2.2. Never-started projects are those with zero payments.

Appendix Table A.3: Payments to Incomplete (Started) Projects

	(1)	(2)
Administrative capacity	-0.43***	-1.46**
	(0.12)	(0.42)
Corruption	8.67**	0.72**
	(4.08)	(0.34)
Observations	11,590	
R^2	0.42	
Mean	19.01	
Standard deviation	30.51	

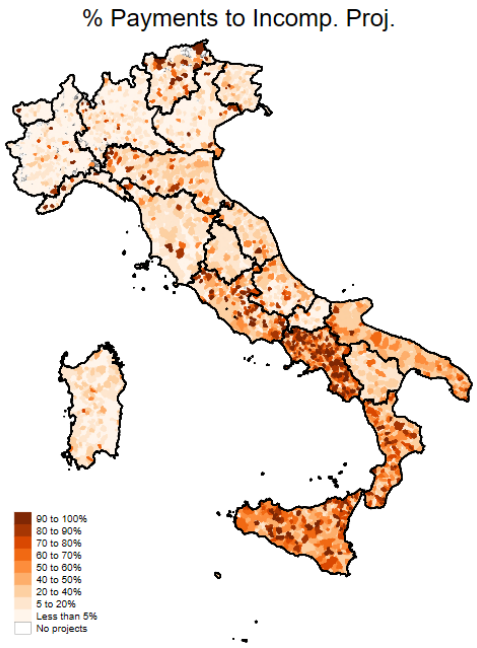
Notes: Estimation output of Equation 4. The outcome variable is the percent of payments to incomplete (but started) projects. The main regressors of interest are administrative capacity, measured as the number of public employees in each municipality per 1000 inhabitants (winsorized at 1% and 99%), and corruption per capita, measured as the number corruption charges in the municipality per 1000 inhabitants (winsorized at 5% and 95%). In Column (2), both regressors are standardized. The specification additionally controls for funding period fixed effect, province fixed effects and the following municipality-level controls: elevation (in meters), dummies for provincial capital status and coastal location; population density, young age dependency ratio, share of employment in high-skill and medium-skill occupations, share of employment in manufacturing and services; municipality expenses per capita, characteristics of local politicians (average number of years of education and share of those employed in white-collar occupations). Standard errors clustered by province are in parentheses. * p<0.10, ** p<0.05, *** p<0.01.

Appendix Table A.4: Robustness Tests

	(1) % Commitments Never Paid Out	(2) % Commitments to Never Started Projects	(3) % Commitments to Incomplete Projects
	A) Region-Level Std. Error Clustering		
Administrative capacity	-1.14*	-1.01*	-0.31
	(0.61)	(0.56)	(0.18)
Corruption	0.17	-0.08	0.26*
	(0.57)	(0.48)	(0.15)
	B) Corruption Dummy		
Administrative capacity	-1.15**	-1.02**	-0.31*
	(0.48)	(0.42)	(0.18)
Corruption	-0.01	-1.10	1.06***
	(0.96)	(0.80)	(0.34)
	C) Control for Mafia Presence		
Administrative capacity	-1.15**	-1.03**	-0.30
	(0.48)	(0.41)	(0.18)
Corruption	0.20	-0.03	0.25*
	(0.31)	(0.27)	(0.12)
Mafia presence	-0.60	-0.81**	0.32*
	(0.42)	(0.34)	(0.18)
Observations	11,804	11,804	11,804
R^2	0.39	0.24	0.26
Mean	15.55	7.92	5.99
Standard deviation	23.84	20.74	12.41
	D) Local Actors Projects		
Administrative capacity	-1.40**	-1.89***	0.24
	(0.60)	(0.59)	(0.22)
Corruption	0.57	0.29	0.40**
	(0.41)	(0.37)	(0.18)
Observations	8,223	8,223	8,223
R^2	0.38	0.31	0.18
Mean	19.95	10.04	7.10
Standard deviation	28.97	26.75	14.36

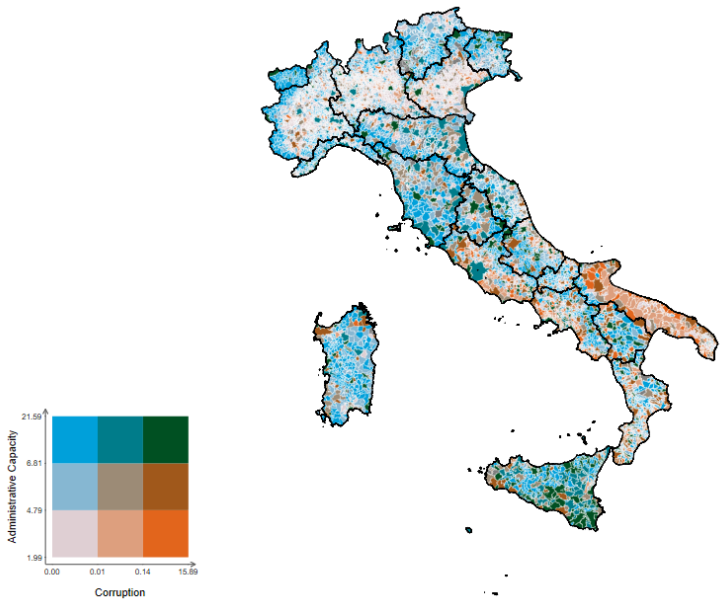
Notes: Estimation output of Equation 4 for the three main outcome variables (see Table 1). The main regressors of interest are administrative capacity, measured as the number of public employees in each municipality per 1000 inhabitants (winsorized at 1% and 99%), and corruption per capita, measured as the number corruption charges in the municipality per 1000 inhabitants (winsorized at 5% and 95%). Both regressors are standardized. The specification additionally controls for funding period fixed effect, province fixed effects and the following municipality-level controls: elevation (in meters), dummies for provincial capital status and coastal location; population density, young age dependency ratio, share of employment in high-skill and medium-skill occupations, share of employment in manufacturing and services; municipality expenses per capita, characteristics of local politicians (average number of years of education and share of those employed in white-collar occupations). Panel A) presents standard errors clustered by region in parentheses, rather than by province as in all other specifications. Panel B) replaces corruption per capita with a binary indicator taking value of one for municipalities with at least one corruption episode and zero otherwise. Panel C) additionally controls for the Mafia Presence Index presented in Dugato et al. (2020) (see Footnote 25). Panel D) shows results when all outcome variables are computed only considering projects implemented by local actors. Actors we consider to be in this category are: schools, provinces, municipalities, special companies pursuant to consolidated law 267/2000, metropolitan cities, mountain or island communities, chambers of commerce, a union of municipalities, and public welfare/charity institutions. * p<0.10, ** p<0.05, *** p<0.01.

Appendix Figure A.1: Share of Payments to Incomplete Projects



Notes: The figure shows the percentage of all payments that are made to incomplete projects, pooled across both funding periods (2007-2013 and 2014-2020) and funds (ERDF and ESF) after making the sample restrictions with respect to multi-source projects and multi-location projects described in Section 2.2.

Appendix Figure A.2: Corruption and Administrative Capacity



Notes: Administrative capacity and corruption are the averages over the two funding periods of our regressors of interest – the the averages (administrative capacity) and total number of per-capita charges (corruption) computed in the four years before the start of each funding period.