From Episodic Finance to Ordinary Capacity: Building Invisible Infrastructures of Financial Resilience in Italian Cities after the PNRR

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Abstract— **Italy's National Recovery and Resilience Plan (PNRR) offered municipalities an unprecedented investment opportunity. Yet the most significant systemic risk was not in implementation delays, but in the instrument's very nature: extraordinary funding that can generate infrastructure without generating the capacity to sustain it. This paper, grounded in the framework developed in Infrastrutture Invisibili. L'arte di governare l'intangibile (2025), proposes an analytical framework for understanding and governing the post-PNRR phase in Italian medium-sized cities. The central thesis is that the post-PNRR problem is not primarily financial but architectural. Urban administrations have operated for decades under a logic of episodic finance—projects triggered by grants rather than missions; capital expenditure (CAPEX) planned without provision for recurring operational costs (OPEX); economic-organisational models left implicit. The paper introduces three original analytical tools: the Post-PNRR Resilience Matrix, the Funding Mix Canvas, and the investment planning unit logic. Drawing on Italian and international case studies, the research shows that what differentiates cities that sustain transformation from those that collapse when funding ends is the presence or absence of a financial orchestration infrastructure—invisible yet decisive.**

Index Terms— post-PNRR, urban finance, operational sustainability, smart city governance, impact finance, outcome-based procurement, invisible infrastructures

I. INTRODUCTION

The conclusion of extraordinary EU and national funding cycles—most notably the Italian National Recovery and Resilience Plan (PNRR), whose spending deadline falls in 2026—poses a structural challenge to Italian municipalities that has received insufficient analytical attention. The dominant discourse has focused on implementation velocity and absorption capacity, while the question of what remains after the funding ends has been largely deferred.

This paper argues that the central challenge is architectural rather than financial. Italian municipalities have historically operated under what we term episodic finance: a modality in which project-level funding drives strategy, capital expenditure (CAPEX) is approved without provision for recurring operational costs (OPEX), and the economic-organisational model sustaining any given initiative remains implicit until its absence becomes critical. The PNRR, despite its scale, has amplified rather than corrected this structural pattern.

The analytical and normative contribution of this paper is threefold. First, we introduce a diagnostic framework—the Post-PNRR Resilience Matrix—that allows municipal administrations to assess the structural sustainability of active projects across six dimensions. Second, we propose the Funding Mix Canvas as a decision-support tool for making economic-organisational models explicit before project approval. Third, we articulate the concept of the investment planning unit as a structural administrative function capable of building investment-ready pipelines and coordinating heterogeneous funding sources over time.

II. THEORETICAL BACKGROUND

A. Episodic Finance and Urban Governance

The concept of episodic finance draws on the public administration literature on project-based governance [1], [2] and on urban finance theory [3]. It describes a configuration in which extraordinary funding sources—EU structural funds, national recovery plans, sectoral grants—function as the primary strategic driver, substituting for the long-term capital planning that characterises financially mature municipalities.

This configuration is neither novel nor exclusively Italian. Analyses of post-2008 austerity trajectories across Southern European municipalities [4] document a systematic reduction in own-source revenues and general transfers, with a corresponding increase in dependency on project-based funding. The Italian case is distinguished by the concentration and velocity of the PNRR cycle, which required municipalities to absorb investments averaging three to five times their ordinary capital expenditure within a compressed timeframe [5].

B. Mission-Oriented Urban Finance

The mission economy framework developed by Mazzucato [6] provides the normative counterpoint to episodic finance. Applied to urban governance, it suggests that administrations should function not as passive recipients of available funding but as architects of investment demand: defining urban missions, assembling funding portfolios coherent with those missions, and maintaining the organisational capacity to manage complex multi-source projects over time.

This perspective is consistent with emerging frameworks for urban impact finance [7] and with the Climate City Contract model introduced by the European Commission's Mission 100 Climate-Neutral and Smart Cities by 2030 [8], which explicitly requires cities to translate strategic commitments into investable project pipelines.

III. METHODOLOGY

The paper draws on mixed methods. The empirical base comprises: (i) analysis of the Italian impact investing market using data from the National Advisory Board for Impact Investing (2020–2022); (ii) structured case analysis of six Italian municipalities (Milan, Turin, Bologna, Ferrara, Venice, Rome) and two international reference cases (Amsterdam, Ghent); (iii) expert interviews with municipal chief financial officers and digital transition officers conducted in 2024; (iv) review of PNRR project databases for a sample of 48 Italian municipalities in the 20,000–150,000 inhabitant range.

The three analytical tools (Post-PNRR Resilience Matrix, Funding Mix Canvas, investment planning unit) were developed through iterative co-design with municipal practitioners and validated through structured walkthroughs with CFOs and Digital Transition Officers (RTD) in eight municipalities.

IV. RESULTS AND DISCUSSION

A. The Post-PNRR Resilience Matrix

The Post-PNRR Resilience Matrix evaluates each active project across six dimensions: OPEX coverage (whether recurring operational costs are budgeted beyond the grant period); governance continuity (whether the project's governance structure survives personnel and political turnover); contractual continuity (whether contracts include post-grant service obligations); data quality (whether the project produces decision-relevant data); residual competences (whether internal staff can operate and maintain the deliverable independently); and outcome measurability (whether impact KPIs are defined and tracked).

Application of the matrix to the 48-municipality sample reveals a consistent pattern: projects score relatively well on CAPEX execution and contractual compliance but poorly on OPEX coverage and residual competences. Only 23% of sampled projects had explicit OPEX provisions beyond a 12-month horizon; only 31% had designated internal owners capable of operating the deliverable without vendor support.

B. The Funding Mix Canvas

The Funding Mix Canvas operationalises the shift from grant-dependent to portfolio-based urban finance. It requires project sponsors to explicitly declare: the urban mission being addressed; the value created for different stakeholders; the asset or service being financed; the funding mix across CAPEX and OPEX; the business model; the delivery model; KPIs; risk allocation; and post-grant sustainability. Two additional rows address climate alignment and AI Act compliance, reflecting the dual structural pressures shaping urban investment.

C. The Investment Planning Unit

The investment planning unit is conceptualised as a structural administrative function—not a project team—responsible for building and maintaining investment-ready pipelines, coordinating funding sources, and translating urban missions into financeable project structures. Evidence from Amsterdam's Investment Unit and Torino Social Impact suggests that even lightweight versions of this function (two to three FTE in a medium city) significantly improve the ratio of investment-ready to funded projects [9].

The Italian impact investing market grew from €5.8 billion to €9.3 billion between 2020 and 2022, yet remains largely inaccessible to municipalities. Expert interviews confirm that the primary barrier is not investor appetite but project readiness: most municipal projects cannot demonstrate a robust theory of change, credible impact metrics, or a governance structure that survives the funding period.

V. CONCLUSIONS

This paper has argued that the post-PNRR challenge for Italian municipalities is architectural: the absence of a financial orchestration infrastructure—invisible in the sense of being organisational rather than physical—is the primary predictor of whether investments generate durable urban capacity or episodic expenditure.

The three tools introduced (Post-PNRR Resilience Matrix, Funding Mix Canvas, investment planning unit) provide a practical entry point for municipalities seeking to make the transition from episodic to structural finance. Future research should focus on longitudinal evaluation of tool adoption and on the development of inter-municipal sharing models for investment planning capacity.

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