Insurance or Indiscipline? Conditional Fiscal Assistance to Finnish Municipalities in Distress

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Abstract

We study a conditional discretionary grant program for financially distressed Finnish municipalities. Combining administrative records on applications and awards with municipal financial statements and a new corpus of 2,312 application documents, we observe the program from stated fiscal distress to subsequent adjustment. Among applicants, weaker annual margins and higher liabilities are the strongest predictors of both award receipt and award size. Applications typically describe fiscal distress as a combination of persistent revenue, expenditure, demographic, and balance-sheet pressures rather than isolated temporary shocks. Broader recovery plans are modestly associated with receipt, and tax-related commitments predict subsequent increases in the corresponding revenues. Matched comparisons of successful and rejected applicants show a sharp improvement in annual margin and financial-year surplus in the award year, but no persistent advantage over the following three years. A separate descriptive analysis finds that recipients are more likely to apply again. The findings suggest that conditional aid is allocated toward observable fiscal need, yet short-run relief does not necessarily resolve persistent fiscal distress.

Keywords: municipal bailouts; soft budget constraints; intergovernmental grants; fiscal distress; conditionality; local public finance

JEL codes: H71; H72; H74; H77

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1 Introduction

How should central governments assist local governments in fiscal distress? A temporary transfer may prevent disruptive cuts in public services and allow gradual adjustment. At the same time, repeated support may weaken fiscal discipline if local governments expect higher-level authorities to cover persistent deficits. This is the central soft-budget-constraint problem: assistance may be desirable ex post even when expectations of rescue distort choices ex ante (Kornai, 1986; Wildasin, 1997; Qian and Roland, 1998; Pettersson-Lidbom, 2010).

Conditional bailouts seek to resolve this tension by combining financial support with requirements to diagnose fiscal distress and propose corrective measures. Their effectiveness depends on several stages that are rarely observed jointly: whether a municipality applies, how the central government allocates a limited budget among applicants, and whether recipients subsequently implement the promised adjustment. Most empirical studies observe transfers and outcomes, but not unsuccessful applicants, stated reasons for seeking aid, or the recovery plans submitted with the request.

We study Finland's discretionary municipal aid program. Finnish municipalities have substantial fiscal autonomy, levy local income and property taxes, and historically provided a broad range of public services. Municipalities facing exceptional or temporary financial difficulties may apply for additional central-government support. Applications must explain the source of distress and set out a plan for restoring fiscal balance. Awards are discretionary, constrained by an annual national budget, and may be accompanied by additional fiscal conditions.

The program is formally designed for temporary difficulties, yet its use is highly recurrent. In the observed application rounds, 95 percent of municipalities apply at least once and nearly 30 percent apply in ten or more years. Some municipalities receive aid repeatedly over long periods, including one with a 15-year consecutive award spell. This recurrence may reflect repeated shocks, persistent structural disadvantages, or expectations that discretionary support will remain available. The institutional puzzle is therefore whether the program operates mainly as temporary insurance, informal structural equalization, or a source of soft budget constraints.

We assemble a new administrative panel linking applications and awards to municipal financial statements, demographics, and merger histories. Award receipt and amounts are observed from 1989 to 2025, while the applicant universe is available for 1999 and 2001–2025. We also construct an application-level corpus of 2,312 municipality-year applications from 2001–2020 and supplement it with 2021 applications for the descriptive analysis of stated distress. The documents identify the reasons municipalities give for applying, the corrective measures they propose, and, for many applications, the monetary scale of the recovery plan.

The applicant data allow us to distinguish three margins that are often con-

flated: application, award receipt conditional on application, and award size. Rejected applicants are a more relevant comparison group than the full municipal population because they reveal demand for support and pass through the same administrative process. The application documents further allow us to characterize the information entering the allocation process and to examine whether stated recovery measures predict subsequent adjustment.

To estimate the fiscal effects of receiving support, we compare successful applicants with municipalities that applied in the same year but were rejected. Our preferred design uses coarsened exact matching on pre-application fiscal conditions, including both the levels and recent changes in annual margin and financial-year surplus, together with prior grant history. We then estimate grant-year effects using lag-adjusted weighted regressions and trace subsequent dynamics in a stacked matched event study. As a broader-sample robustness exercise, we reweight rejected applicants using period-pooled entropy balancing. Across these approaches, recipients experience a sharp improvement in annual margin and financial-year surplus in the award year, of approximately the same order as the grant itself. The relative improvement does not persist in the following years, and the component outcomes provide little evidence of an immediate, broad-based adjustment through higher tax revenue, lower expenditure, reduced liabilities, or greater cash holdings.

Five findings emerge. First, observable fiscal need is the dominant predictor of an award. Among applicants, weaker annual margins and higher liabilities are strongly associated with both receipt and award size. Municipal population does not predict receipt, although larger municipalities receive less aid per resident. These patterns provide little support for a simple extensive-margin "too-big-to-fail" mechanism and indicate that allocation responds systematically to fiscal distress.

Second, recovery plans matter, but less than contemporaneous need. Applicants proposing a broader set of adjustment measures are somewhat more likely to receive aid, conditional on fiscal and demographic characteristics. No individual action category consistently determines receipt, and the ratio of planned adjustment to requested aid is not a strong predictor of the award decision. The Ministry therefore appears to reward the breadth of the documented recovery package rather than one specific reform template.

Third, applications challenge a sharp distinction between temporary and structural distress. Historical applications commonly cite weak revenues, accumulated deficits, debt and liquidity pressure, demographic decline, and mandatory investments. In 2020, COVID-specific shocks were nearly universal, but every application citing such a shock also identified at least one non-COVID source of fiscal pressure. Temporary shocks therefore appear to interact with persistent vulnera-

bilities rather than replace them.

Fourth, stated commitments contain predictive information about subsequent fiscal adjustment. Income-tax and property-tax commitments predict increases in the corresponding municipal revenues, while larger planned adjustment packages predict stronger short-run improvements in annual margins. These relationships weaken over longer horizons, and other commitments are less precisely related to available accounting proxies. The evidence is therefore consistent with partial and short-run implementation rather than a broad transformation of municipal fiscal trajectories.

Fifth, receiving support produces sharp but temporary fiscal relief. In our preferred matched analysis, successful applicants experience a large award-year improvement in annual margin and financial-year surplus relative to rejected applicants with similar pre-application fiscal histories. The result is similar under CEM and period-pooled entropy balancing, but the relative improvement does not persist over the following three years. Component outcomes provide limited evidence of a broad restructuring through tax revenue, operating expenditure, liabilities, or cash. Separately, a descriptive analysis shows that recipients are more likely to apply again, consistent with persistent or recurrent fiscal stress.

The paper contributes to three related literatures. First, it extends work on soft budget constraints and conditional municipal bailouts. Expected support can weaken local fiscal discipline, while stronger conditionality may improve adjustment (Pettersson-Lidbom, 2010; Dietrichson and Ellegård, 2015; Sorribas-Navarro, 2011). Finland is especially informative because substantial local tax autonomy coexists with broad service obligations and discretionary central assistance (Rodden et al., 2003; Inman, 2003; Arespa and González-Alegre, 2023).

Second, we contribute to research on the allocation of discretionary intergovernmental support. Competing theories predict that bailouts may favor larger jurisdictions because their failure threatens more public services, or smaller jurisdictions because political representation and strategic interaction generate "too-small-to-fail" outcomes (Wildasin, 1997; Akai and Sato, 2008; Crivelli and Staal, 2013; Kalamov and Staal, 2023). By separating application, receipt, and award size, we show where municipal size enters the allocation process relative to direct measures of fiscal need.

Third, the paper relates to municipal fiscal consolidation and the use of administrative text in public economics. Municipalities adjust through taxes, spending, borrowing, asset sales, delayed investment, and organizational reform (Buettner and Wildasin, 2006; Solé-Ollé and Sorribas-Navarro, 2012; Fremerey et al., 2025). Our contribution is to observe the proposed adjustment package before the award decision and link specific commitments to subsequent outcomes. Using a common codebook, assisted classification, source-specific coding rules, and supporting

excerpts, we make the selection process more observable and test whether stated commitments contain predictive information (Gentzkow et al., 2019; Grimmer and Stewart, 2013).

The remainder of the paper proceeds as follows. Section 2 describes the Finnish municipal finance system and the evolution of discretionary aid. Section 3 introduces the administrative and application-level data and presents the descriptive evidence. Section 4 presents the application-text analysis, Section 5 presents our counterfactual approach, Section 6 the results and Section 7 concludes.

2 Institutional Background

Under Section 27 of the Act on Central Government Transfers to Local Governments for Basic Public Services (*Laki kunnan peruspalvelujen valtionosuudesta*), a municipality may apply for a discretionary increase in its central government transfer (*harkinnanvarainen valtionosuuden korotus*). Support is granted within the limits of the annual state budget and is intended for municipalities facing exceptional or temporary financial difficulties.

An application must explain the municipality's financial situation and set out a plan for restoring fiscal balance. The Ministry of Finance may also attach conditions concerning municipal finances or the use of the transfer. Commonly cited reasons include rising social and healthcare costs, particularly specialized healthcare expenditures; weak or declining tax revenues; repair and investment needs, including mold and moisture damage; shortcomings in the allocation of formula-based transfers; unfavorable demographic structures; and substantial population changes.

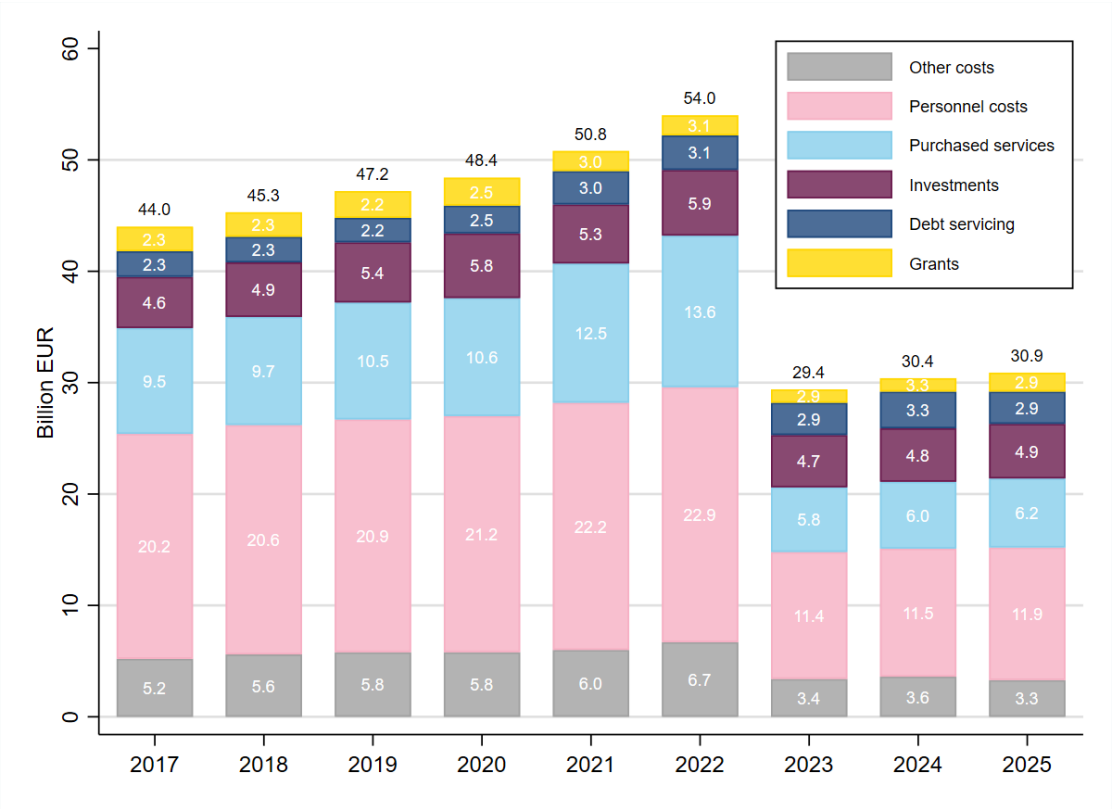
The Ministry of Finance typically opens the annual application round in August, sets a September deadline, and announces decisions by the end of the year. The government determines the aggregate budget before applications are assessed. In 2024, for example, EUR 10 million was distributed among 30 municipalities. Individual awards ranged from EUR 50 to EUR 200 per resident, with an average of EUR 109. The Ministry relies primarily on standardized financial-statement information, supplemented by application materials and local circumstances that can be verified consistently across municipalities. As a general rule, a municipality may receive support for no more than three consecutive years, although exceptions are possible when severe financial difficulties arise from circumstances beyond local control.

2.1 The Finnish Municipal Framework and Fiscal Autonomy

Finland combines extensive municipal responsibilities with substantial local fiscal autonomy. This combination is central to the broader fiscal-federalism trade-off: decentralization can improve responsiveness to local conditions, but its performance depends on the assignment of responsibilities, local accountability, and the credibility of subnational budget constraints (Bardhan, 2002). Municipalities (*kunnat*) have constitutional self-government and levy a local proportional income tax (*kunnallisvero*). In 2026, Finland has 308 municipalities, of which 292 are located in mainland Finland and 16 in the Åland Islands. Historically, municipalities have been responsible for most statutory basic public services, including primary and specialized healthcare, social services, and education. Although central legislation defines many of these duties, municipalities retain considerable discretion over service organization and financing. Figure 1 summarizes municipal and joint municipal authority expenditure. Personnel costs account for the largest share, followed by purchased services and investment.

A major institutional reform took effect in January 2023, when responsibility for healthcare, social welfare, and rescue services shifted from municipalities to 21 self-governing well-being services counties, with Helsinki operating separately. The counties are financed by the central government and organized along regional lines. Because the reform removed more than half of municipal expenditure, it was accompanied by a corresponding reallocation of tax revenue to the central government. Municipal income tax rates were reduced by 12.39 percentage points in every municipality, lowering the national average from about 20 percent in 2022 to 7.37 percent in 2023. Municipalities have since retained discretion to adjust local income tax rates and, within statutory limits, property tax rates. This 2023 reform creates a structural break in municipal accounts and is therefore excluded from the continuous outcome analyses below.

Figure 1: Municipal and Joint Municipal Authority Expenditure

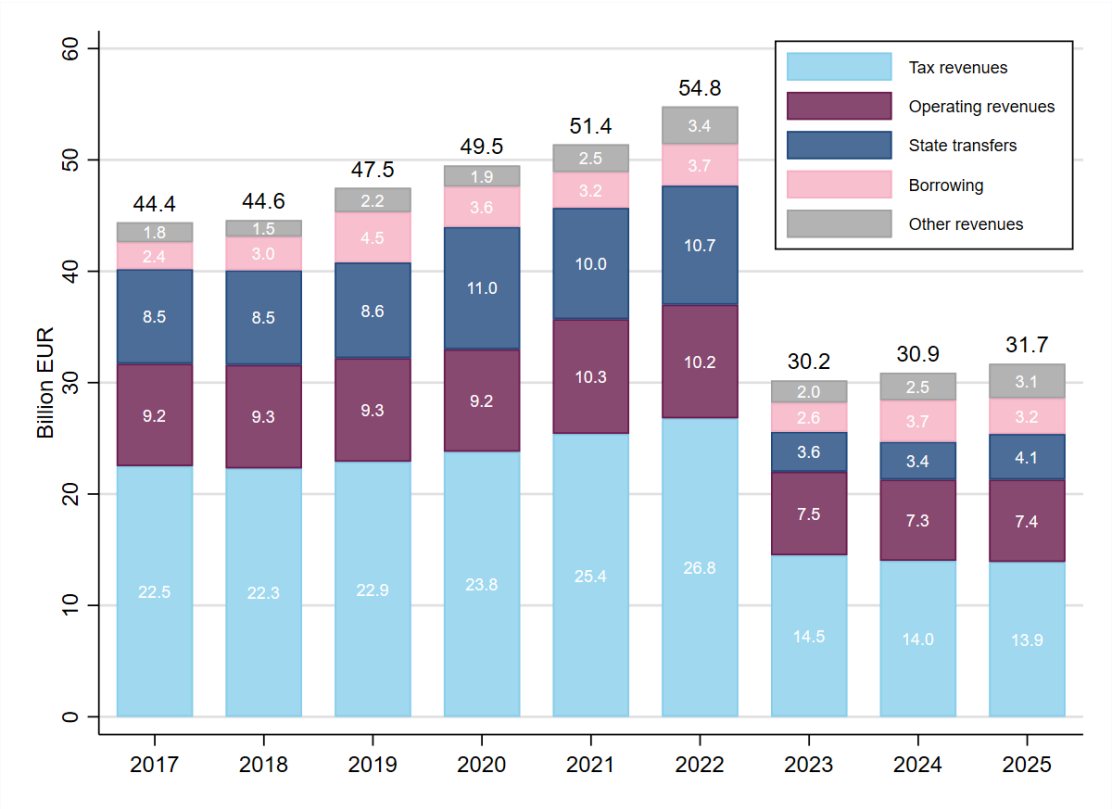


Source: https://www.kuntaliitto.fi/talous-ja-elinvoima/kuntatalouden-tilastot

Tax revenue is the largest source of municipal income, accounting for roughly 44 percent of total revenue. Municipal income tax represents the majority of tax receipts, with property and corporate taxes accounting for the remainder. Municipalities also rely on operating revenue, formula-based central government transfers, borrowing, and other income.

The formula-based transfer system (*valtionosuusjärjestelmä*) is designed to offset differences in expenditure needs and revenue capacity arising from demographic, geographic, and economic conditions. It includes transfers for basic public services administered by the Ministry of Finance and transfers for education and culture administered by the Ministry of Education and Culture. Municipalities with relatively strong tax bases may receive negative equalization transfers, while municipalities with weaker revenue capacity receive positive transfers. These grants are generally non-earmarked. Discretionary aid supplements this formula-based system when exceptional local shocks or persistent structural imbalances leave standard transfers insufficient.

Figure 2: Municipal and Joint Municipal Authority Revenue



Source: https://www.kuntaliitto.fi/talous-ja-elinvoima/kuntatalouden-tilastot

2.2 The Sequential Hierarchy of Fiscal Interventions

Central government intervention can be understood as a sequence of increasingly intensive fiscal measures. Under normal conditions, municipalities operate within the formula-based transfer system. When local shocks, expenditure rigidities, or persistent revenue weakness prevent a municipality from balancing its budget, it may apply for discretionary aid. The grant is therefore intended to provide temporary support while the municipality implements corrective measures. If fiscal distress persists despite local adjustment and discretionary support, the municipality may eventually enter the formal crisis-municipality assessment procedure (*kriisikuntamenettely*), under which the state and municipality jointly evaluate measures needed to restore fiscal sustainability.

2.3 The Preventative Loophole and the "Crisis Municipality" Threshold

The crisis-municipality framework was introduced under the 2007 PARAS reform and strengthened in the Local Government Act of 2015 (*Kuntalaki* 410/2015). A formal evaluation procedure (*arviointimenettely*) may be initiated when a municipality fails to eliminate accumulated deficits within the statutory period or repeatedly breaches a set of financial criteria. The procedure can lead to state-supervised restructuring and, in some cases, municipal merger. More generally, evidence from subnational debt markets shows that the credibility of a no-bailout commitment can materially affect how local fiscal risk is priced (Feld et al., 2017).

Discretionary aid may delay or prevent entry into this process by improving the municipality's short-run fiscal position while a balancing plan is implemented. This institutional interaction creates an important empirical question: does discretionary support restore fiscal capacity, or does it mainly provide temporary accounting relief to municipalities facing persistent structural difficulties? The repeated use of the program by some municipalities, together with the requirement to submit a fiscal-balancing plan, makes this distinction central to the analysis.

2.4 Discretionary Financial Aid: Purpose and Institutional Evolution

Finland's discretionary aid program has evolved through several legislative phases. Figure 3 reports the annual numbers of applicants and recipients, together with total requested and awarded amounts, since 1989.[1]

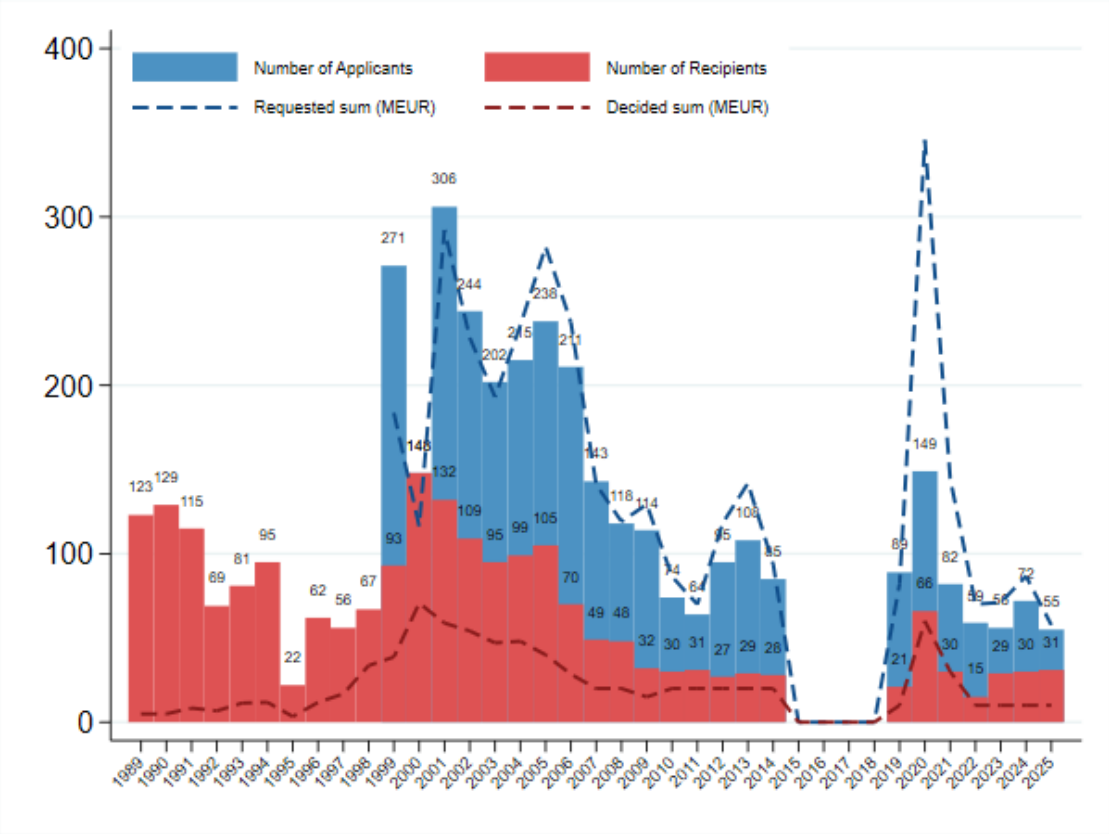
Discretionary municipal grants have existed in Finland since 1978. The government proposal HE 134/1988, which preceded the Act on General State Subsidies and General Financial Assistance to Municipalities (1273/1988), states that the purpose of the discretionary grant is to support municipalities facing sudden changes in municipal finances for which they could not have prepared. This act did not yet impose any conditions on the granting or use of the subsidy; conditions were introduced only with the State Subsidy Act (688/1992), which took effect at the beginning of 1993.

With the introduction of the Act on State Subsidies to Municipalities (1147/1996), the entire subsidy system underwent a major transition. Under the new system, the primary criterion for granting discretionary financial assistance became exceptional or temporary financial difficulties faced by a municipality, a criterion that remains the basis of the current system. To smooth the influence of the subsidy system reform, its effects on municipalities were taken into account in the grant decision process. The resulting expansion of the discretionary grant is visible in the growth in the number of recipients and in the decided sums from 1997 onwards into the early 2000s. The peak came in 2000, when the Ministry of the Interior approved a historic high of 148 municipal bailouts.

In 2006, following proposal HE 88/2005, a new condition for receiving the grant was introduced: a plan outlining the measures to be taken to balance the municipality's finances. Municipalities could propose several ways of improving their finances, such as public sector layoffs, school closures, asset sales, or property tax hikes. The proposal allowed the authorities to withhold financial assistance, or grant it at a reduced rate in subsequent years, if the plan or the set conditions had not been complied with. Failure to comply with the plan would not, however, constitute grounds for recovering assistance that had already been granted. The rationale behind the new regulation was that many municipalities had received discretionary grants for several consecutive years, and the grant had started to become a fixed part of their budgets. The tightened conditions were intended to encourage municipalities to reform their service and cost structures. In the graph, this becomes apparent in the drop in the number of recipients, from an annual number of close to or over 100 during 2000–2005 to around 30 during 2009–2014.

[1] Our data on recipients covers the years 1989–2025. Data on applicant municipalities spans the years 1999–2025, with some missing data in 2000. All statistics in this paper exclude the three extraordinary grant requests of Nokia, Pori, and Tuusula in 2008.

Figure 3: Applications, Awards, and Discretionary Aid, 1989–2025



In 2014, as part of the government's cost-cutting measures, HE 133/2014 proposed discontinuing the discretionary aid system, thereby cutting around 20 million euros of additional support for municipalities. The grant was suspended during the years 2015–2018, as seen from the gap in Figure 3.

After the program resumed in 2019, the number of recipients returned to roughly 30 per year. The principal exception is 2020, when the COVID-19 pandemic generated a sharp increase in both applications and awards.

The allocation process also changed with the withdrawal of the Association of Finnish Cities and Municipalities (Kuntaliitto, SKL) from the formal recommendation process. SKL previously advised the central government on the distribution of the annual budget. Our recommendation data cover 1999–2009; from 2010 onward, the Ministry made allocation decisions without this consultation.

3 Data and Descriptive Statistics

3.1 Data

The analysis combines four administrative sources. First, the Ministry of Finance provides annual application and award records. Second, Statistics Finland provides municipal financial statements and demographic characteristics. Third, Statistics Finland records municipal mergers and absorptions, which we use to construct consistent historical units. Fourth, the application files provide narrative and structured information on stated fiscal distress and proposed adjustment measures.

Award receipt and awarded amounts are observed for 1989–2025. Applicant identities and requested amounts are available for 1999 and 2001–2025, with partial coverage in 2000. Municipal financial and demographic variables are available for 1993–2023. Fiscal indicators are drawn from municipal income statements, cash-flow statements, and balance sheets; Appendix Table 17 defines the principal variables. Monetary values originally reported in Finnish markka are converted at the irrevocable rate of EUR 1 = FIM 5.94573.

3.2 Application Texts and Fiscal Commitments

A distinctive feature of the Finnish program is that municipalities must accompany their request with an explanation of the fiscal difficulties motivating the application and a plan describing measures already adopted, or intended, to restore budget balance. These documents reveal information not contained in standard municipal accounts: the shocks and structural constraints emphasized by applicants, the measures proposed in response, and the monetary scale of the recovery plan. Linking these measures to award decisions and subsequent accounts allows us to study both the information entering discretionary allocation and the predictive content of stated fiscal commitments. To our knowledge, this is the first systematic application-level analysis of both the stated reasons and proposed adjustment measures contained in municipal bailout requests.

The core linked corpus contains 2,312 municipality-year applications from the active program years between 2001 and 2020. Historical municipality identifiers are resolved for 2,285 applications, or 98.8 percent of the corpus. The remaining 27 unresolved records are confined to 2003, where municipality-name fields are corrupted in the source material. We therefore exclude 2003 whenever municipalities must be classified as verified non-applicants. The years 2015–2018 are also excluded from active-program comparisons because the program was suspended rather than because application records are missing. For the descriptive analysis of stated reasons, we supplement the core corpus with 49 applications from the 2021 round. These 2021 records are used only in the reason analysis and are not

included in the allocation or post-award models.

Structured information on proposed adjustment measures is available for 1,488 applications: 1,252 applications from 2005–2014 and 236 applications from 2019–2020. We distinguish between two conceptually separate dimensions of each application. The first captures the stated source of fiscal pressure, including weak revenues, accumulated deficits, debt and liquidity problems, social and healthcare costs, demographic decline, building-related costs, and period-specific shocks. The second captures the municipality's proposed response, including income- and property-tax measures, fee increases, personnel reductions, service-network reform, asset sales, investment reductions, inter-municipal cooperation, and formal fiscal recovery programs.

For the main analysis, we use parsimonious measures derived from this information: the number of distinct proposed action categories, indicators for specific fiscal commitments, and, where available, planned three-year adjustment in euros per resident. Between 2005 and 2011, the median planned-adjustment-to-request ratio ranges from 1.21 to 1.83, indicating that municipalities typically presented fiscal packages whose stated monetary scale exceeded the amount of aid requested. These figures measure stated conditionality rather than verified compliance.

The text measures are linked to the municipal fiscal panel, demographic characteristics, requested aid, actual award decisions, and post-award outcomes. Appendix B describes the source documents, coding framework, treatment of the low-detail 2007 form, and the construction of the harmonized application-text measures.

3.3 Frequency of Applications and Grants

Between 1989 and 2025, the program operated in 32 years, excluding the 2015–2018 suspension. Applicant-level records are available for 22 rounds between 1999 and 2025, covering 444 municipalities. Table 1 reports the number of observed applications per municipality over this period.

Application is highly recurrent. Ninety-five percent of municipalities applied at least once, and nearly 30 percent applied in ten or more rounds. We distinguish municipalities that received aid at least once during 1989–2025 from those that never received an award. Among the 68 never-recipients observed in the applicant data, no municipality applied more than seven times. By contrast, the 376 ever-recipients applied as many as 22 times in the observed rounds. Rääkkylä applied in every fully observed application round.

Table 1: Number of Applications per Municipality

	All (N=444)			Ever Received (N=376)		Never Received (N=68)	
Times Applied	N	%	Cum. %	N	%	N	%
0	22	5.0	5.0	7	1.9	15	22.1
1	25	5.6	10.6	5	1.3	20	29.4
2	44	9.9	20.5	27	7.2	17	25.0
3	31	7.0	27.5	25	6.6	6	8.8
4	37	8.3	35.8	29	7.7	8	11.8
5	17	3.8	39.6	17	4.5	0	0.0
6	40	9.0	48.6	39	10.4	1	1.5
7	48	10.8	59.5	47	12.5	1	1.5
8	25	5.6	65.1	25	6.6	0	0.0
9	29	6.5	71.6	29	7.7	0	0.0
10	30	6.8	78.4	30	8.0	0	0.0
11	15	3.4	81.8	15	4.0	0	0.0
12	8	1.8	83.6	8	2.1	0	0.0
13	14	3.2	86.7	14	3.7	0	0.0
14	13	2.9	89.6	13	3.5	0	0.0
15	10	2.3	91.9	10	2.7	0	0.0
16	13	2.9	94.8	13	3.5	0	0.0
17	6	1.4	96.2	6	1.6	0	0.0
18	1	0.2	96.4	1	0.3	0	0.0
19	7	1.6	98.0	7	1.9	0	0.0
20	4	0.9	98.9	4	1.1	0	0.0
21	4	0.9	99.8	4	1.1	0	0.0
22	1	0.2	100.0	1	0.3	0	0.0

Table 2 extends the comparison to all award years from 1989 onward. Forty-nine municipalities received aid only once, while 51 received support in more than ten years. Utsjoki is the most frequent recipient, with 23 awards, including a 15-year consecutive spell from 1996 to 2010. Because the applicant data begin later than the award data, observed application counts understate total application frequency for municipalities that received grants before 1999. The recurrence of both applications and awards suggests that the program often addresses persistent structural pressures rather than isolated temporary shocks.

Table 2: Number of Received Grants per Municipality

	All (N=447)		
Times Received	N	%	Cum. %
0	71	15.9	15.9
1	49	11.0	26.8
2	34	7.6	34.5
3	58	13.0	47.4
4	41	9.2	56.6
5	30	6.7	63.3
6	28	6.3	69.6
7	23	5.1	74.7
8	29	6.5	81.2
9	17	3.8	85.0
10	16	3.6	88.6
11	15	3.4	91.9
12	5	1.1	93.1
13	9	2.0	95.1
14	7	1.6	96.6
15	5	1.1	97.8
16	5	1.1	98.9
17	3	0.7	99.6
18	1	0.2	99.8
23	1	0.2	100.0

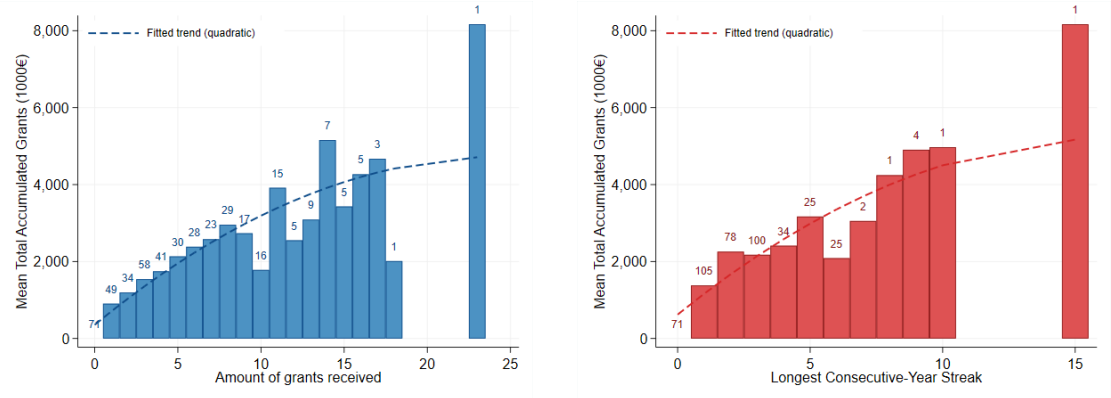
Table 3: The Distribution of Longest Consecutive Grant Streaks

	All (N=447)		
Longest Streak per Municipality	N	%	Cum. %
0	71	15.88	15.88
1	105	23.49	39.37
2	78	17.45	56.82
3	100	22.37	79.19
4	34	7.61	86.80
5	25	5.59	92.39
6	25	5.59	97.99
7	2	0.45	98.43
8	1	0.22	98.66
9	4	0.89	99.55
10	1	0.22	99.78
15	1	0.22	100.00

Table 3 shows that 39 percent of municipalities never received grants in consecutive years, while another 40 percent experienced a longest spell of two or three consecutive awards. Eighty-four municipalities had a spell of four to six years, and nine had a spell longer than six years.

Figure 4 relates award frequency to cumulative grant amounts. The relationship is positive but distinctly non-linear. Municipalities receiving aid more often do not always accumulate the largest total transfers, consistent with frequent recipients tending to be smaller and receiving relatively modest annual awards, while larger municipalities may receive fewer but substantially larger grants in response to exceptional shocks.

Figure 4: Relationship between Total/Consecutive Received Grants and Mean Total Received Grant Money

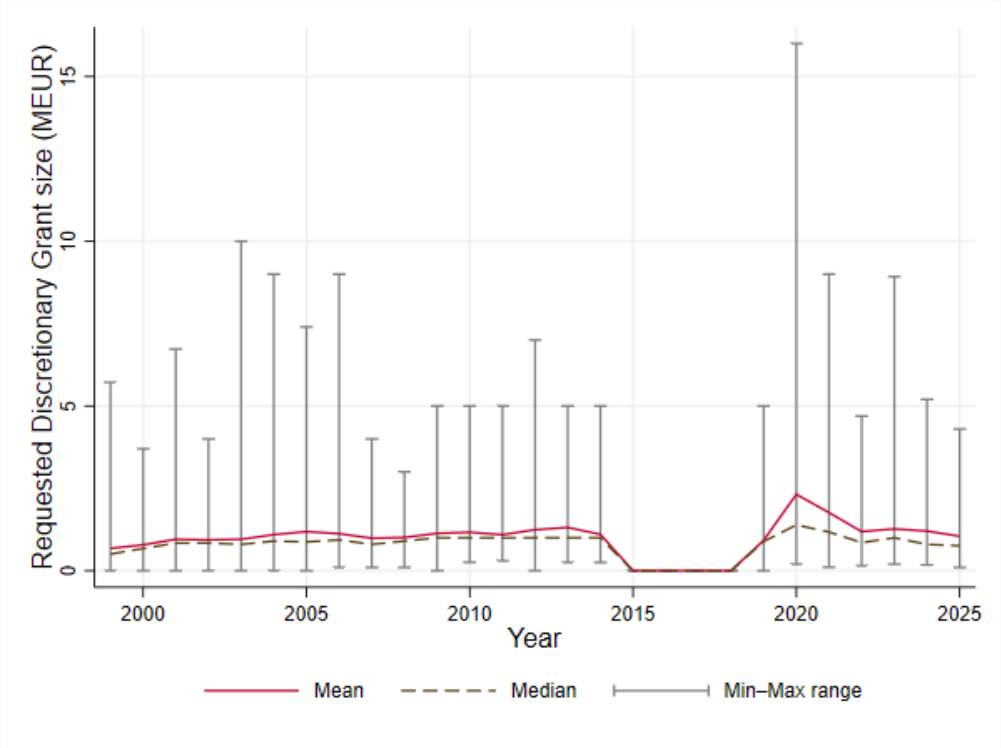


3.4 Grant Size and Yearly Variation

Figures 5 and 6 summarize the annual distribution of requested and awarded amounts.[2] Requests increased sharply in 2020, when both the mean and the upper tail reached their highest values. Across all observed years, the average request was EUR 1.17 million, compared with an average award of EUR 0.43 million. Median requests and awards were lower, at approximately EUR 0.91 million and EUR 0.33 million, respectively, indicating substantial right-skewness.

[2]The figures and tables in this subsection exclude applications with undefined requested amounts.

Figure 5: Requested amount of grant



The smallest observed request was EUR 50,000, submitted by Velkua in 2002 and awarded in full. Velkua was then the smallest municipality in mainland Finland and faced a combination of ferry-service costs, private-road maintenance obligations, accumulated debt, and a negative annual margin. At the other extreme, Lappeenranta requested EUR 16 million in 2020, citing sharply higher payments to its social and healthcare municipal association following a wage settlement with retroactive compensation. The municipality received EUR 3.3 million, or approximately EUR 45 per resident. These cases illustrate both the heterogeneity of local fiscal shocks and the substantial gap between requested and awarded amounts.

Awarded amounts are considerably less dispersed than requests. The smallest awards, EUR 8,409, appear in 1989 and 1990, while the largest single award was EUR 4.2 million to Vantaa in 2004. Vantaa cited accumulated deficits, service investments, and rapidly increasing debt. Appendix Table 18 lists the largest and smallest awards. Comparisons between the lower tails of requests and awards should be interpreted cautiously because requested amounts are not observed before 1999.

Figure 6: Decided amount of grant

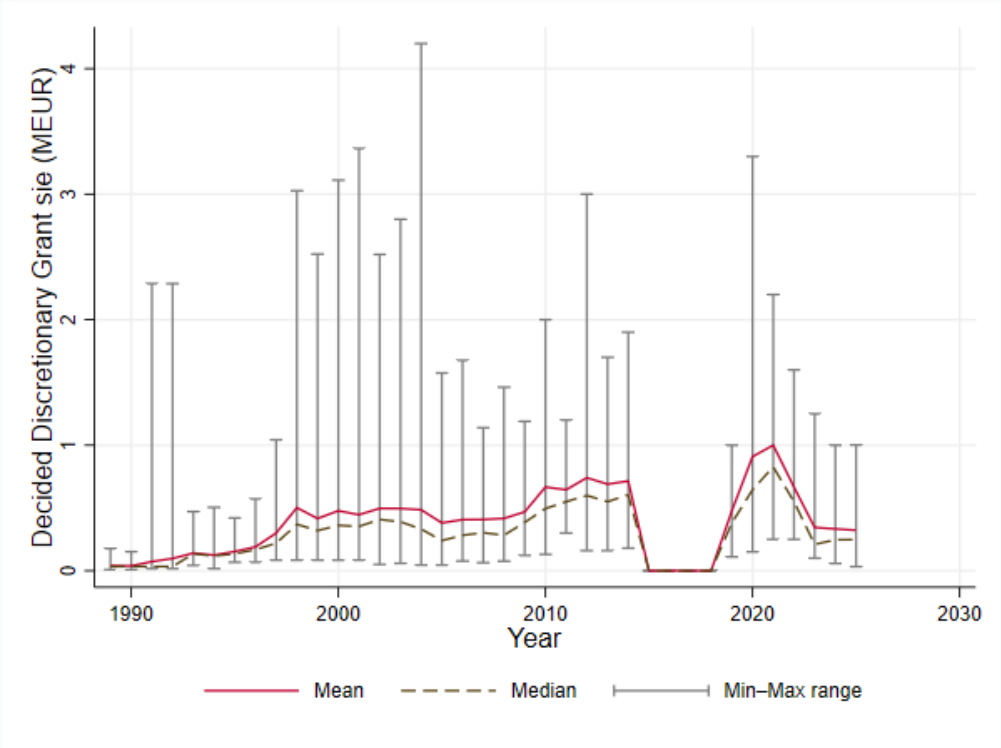


Table 5 reports the same distributions in per-capita terms. Excluding 2020–2022, average requests were relatively stable after 2002, generally ranging from EUR 244 to EUR 293 per resident. Average awards remained below EUR 100 per resident before 2000 and were typically above that level thereafter. The lower tail also shifted upward: several early awards were below EUR 1 per resident, whereas the average annual minimum during 2000–2025 was approximately EUR 41 per resident.

Table 4: Summary Statistics of Requested and Decided Grants by Year

	Requested				Decided			
Year	Mean	Median	Min	Max	Mean	Median	Min	Max
1989					40,133	33,638	8,409	176,597
1990					38,331	33,638	8,409	151,369
1991					72,760	33,638	16,819	2,287,356
1992					97,500	33,638	16,819	2,287,356
1993					140,613	134,550	42,047	470,926
1994					124,282	117,732	16,819	504,564
1995					152,898	134,550	67,275	420,470
1996					189,890	168,188	67,275	571,839
1997					300,336	218,644	84,094	1,042,765
1998					502,054	370,013	84,094	3,027,383
1999	687,941	504,564	67,275	5,718,389	414,071	311,148	84,094	2,522,819
2000	796,161	672,752	82,412	3,700,134	477,953	361,604	84,094	3,111,477
2001	973,862	840,940	50,456	6,727,517	447,380	353,195	84,094	3,363,758
2002	947,241	840,000	50,000	4,000,000	496,853	408,000	50,000	2,520,000
2003	965,343	800,000	100,000	10,000,000	495,705	390,000	59,000	2,800,000
2004	1,100,694	900,000	150,000	9,000,000	485,535	332,000	45,000	4,200,000
2005	1,191,070	900,000	130,000	7,400,000	380,952	240,000	45,000	1,575,000
2006	1,125,196	935,000	100,000	9,000,000	407,143	282,500	77,000	1,676,000
2007	986,688	800,000	100,000	4,000,000	408,163	303,000	64,000	1,139,000
2008	1,009,551	900,000	100,000	3,000,000	416,667	283,000	76,000	1,462,000
2009	1,165,066	1,000,000	200,000	5,000,000	457,871	367,000	122,000	1,190,000
2010	1,167,401	1,000,000	255,000	5,000,000	666,667	495,000	130,000	2,000,000
2011	1,093,078	1,000,000	300,000	5,000,000	645,161	550,000	300,000	1,200,000
2012	1,256,695	1,000,000	257,334	7,000,000	740,741	600,000	160,000	3,000,000
2013	1,313,481	1,000,000	250,000	5,000,000	689,655	550,000	160,000	1,700,000
2014	1,103,629	1,000,000	250,000	5,000,000	714,286	605,000	180,000	1,900,000
2015								
2016								
2017								
2018								
2019	1,141,473	960,000	350,000	5,000,000	487,500	400,000	110,000	1,000,000
2020	2,318,987	1,390,000	200,000	16,000,000	909,091	645,000	150,000	3,300,000
2021	1,764,484	1,175,000	106,000	9,000,000	1,000,000	827,500	250,000	2,200,000
2022	1,187,612	853,776	150,000	4,694,292	666,667	550,000	250,000	1,600,000
2023	1,269,355	1,000,000	200,000	8,923,888	344,828	210,000	100,000	1,250,000
2024	1,203,744	800,000	175,000	5,200,000	333,333	246,500	58,000	1,000,000
2025	1,048,167	756,900	100,000	4,300,000	322,581	248,000	32,000	1,002,000

Table 5: Summary Statistics of Requested and Decided Grants by Year per Capita

	Requested per capita				Decided per capita			
Year	Mean	Median	Min	Max	Mean	Median	Min	Max
1989					17	11	0	115
1990					17	11	1	99
1991					22	13	1	372
1992					25	15	1	373
1993					58	47	8	193
1994					43	39	3	131
1995					28	22	3	64
1996					48	42	12	156
1997					40	36	19	120
1998					48	44	14	123
1999	126	102	9	474	60	59	34	160
2000	198	170	51	731	100	93	51	328
2001	215	174	19	1,979	88	71	35	194
2002	244	191	41	1,840	134	110	73	660
2003	250	189	46	1,271	145	105	72	550
2004	253	201	49	2,117	98	70	23	400
2005	233	202	36	1,027	75	70	17	160
2006	236	194	39	925	74	80	40	80
2007	226	177	31	1,693	107	80	50	500
2008	238	184	31	1,891	104	95	30	750
2009	232	190	31	1,920	111	85	40	750
2010	230	188	14	1,157	155	145	65	614
2011	246	201	25	1,005	135	145	40	251
2012	261	201	10	1,447	131	130	44	570
2013	246	187	43	1,481	115	129	30	177
2014	229	213	35	888	131	140	55	140
2015								
2016								
2017								
2018								
2019	273	214	17	809	125	138	60	149
2020	304	201	20	4,258	110	137	23	145
2021	308	193	16	3,499	134	161	33	185
2022	301	203	12	4,834	123	131	17	225
2023	293	226	38	1,493	81	62	16	259
2024	232	192	22	1,152	109	99	50	200
2025	252	197	26	1,195	73	50	30	200

3.5 Event Studies of Key Fiscal Characteristics

3.5.1 Clean Isolated Grant Years

To describe fiscal dynamics around isolated grant episodes, we construct a sample of "clean" grant events. A grant qualifies as clean when the following conditions hold:

1. The municipality has complete data for the main fiscal and demographic outcomes from three years before through three years after the grant. Given the 1993–2023 outcome panel, eligible grant years are 1996–2020.

2. The municipality receives no other discretionary grant between $t - 3$ and $t + 3$, so that the event window contains a single award.

3. The municipality neither merges with nor absorbs another municipality during the event window.

4. The preferred sample excludes 2019 and 2020 to avoid contamination from the COVID-19 pandemic and contemporaneous extraordinary support measures.

The completeness requirement applies to financial surplus, annual margin, liabilities, total and component tax revenues, investment expenditure, and operating costs. Cash deposits are analyzed separately because missingness would otherwise reduce the main sample substantially. The merger restriction excludes 75 municipalities involved in mergers and 19 that absorbed another municipality during an event window, although many of these events also fail other sample criteria.

The preferred sample contains 148 clean grant events involving 126 municipalities between 1996 and 2014; the corresponding cash-deposit sample contains 109 events. Including 2019 and 2020 would increase the sample to 200 events, but 2020 alone would account for more than one-fifth of the total. Because the pandemic generated both unusual fiscal shocks and additional forms of public support, we exclude these years from the preferred descriptive event study. Table 6 reports the resulting year distribution.

Table 6: Distribution of clean grant events by year

(a) All years

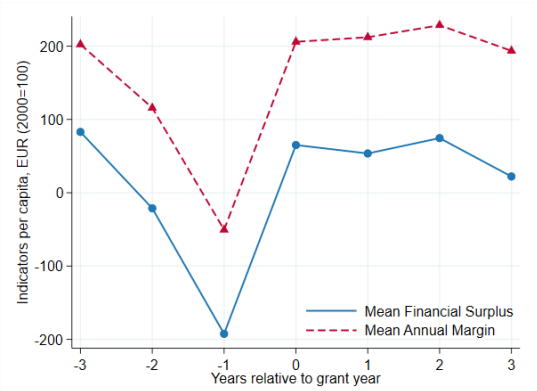
Year	N	Percent	Cumulative
1996	4	2.00	2.00
1997	4	2.00	4.00
1998	10	5.00	9.00
1999	16	8.00	17.00
2000	20	10.00	27.00
2001	12	6.00	33.00
2002	10	5.00	38.00
2003	5	2.50	40.50
2004	6	3.00	43.50
2005	14	7.00	50.50
2006	7	3.50	54.00
2007	1	0.50	54.50
2008	9	4.50	59.00
2009	3	1.50	60.50
2010	6	3.00	63.50
2012	7	3.50	67.00
2013	4	2.00	69.00
2014	10	5.00	74.00
2019	9	4.50	78.50
2020	43	21.50	100.00
Total	200	100.00	

(b) Excluding 2019–2020

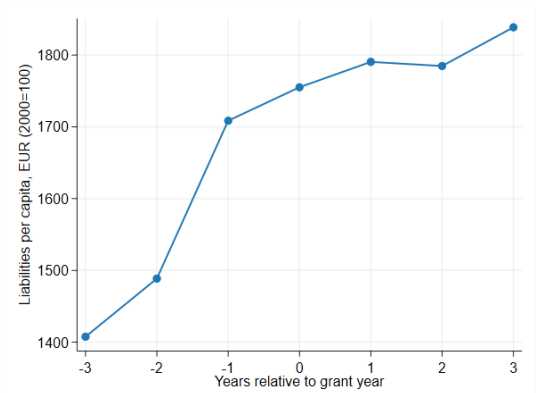
Year	N	Percent	Cumulative
1996	4	2.70	2.70
1997	4	2.70	5.40
1998	10	6.76	12.16
1999	16	10.81	22.97
2000	20	13.51	36.48
2001	12	8.11	44.59
2002	10	6.76	51.35
2003	5	3.38	54.73
2004	6	4.05	58.78
2005	14	9.46	68.24
2006	7	4.73	72.97
2007	1	0.68	73.65
2008	9	6.08	79.73
2009	3	2.03	81.76
2010	6	4.05	85.81
2012	7	4.73	90.54
2013	4	2.70	93.24
2014	10	6.76	100.00
Total	148	100.00	

Figures 7 and 8 plot unadjusted means in euros per resident for the 148 clean events. Event time zero denotes the grant year. Fiscal conditions deteriorate sharply before receipt: between $t-2$ and $t-1$, mean financial surplus and annual margin fall to approximately EUR -194 and EUR -50 per resident, respectively. Both measures improve sharply in the award year and remain positive thereafter. Liabilities rise most rapidly immediately before the grant, from roughly EUR 1,490 per resident at $t-2$ to EUR 1,710 at $t-1$. Although debt growth subsequently slows, average liabilities remain well above their pre-event level throughout the post-award period.

Figure 7: Event study estimates around clean grant years.



(a) Financial surplus and annual margin per capita

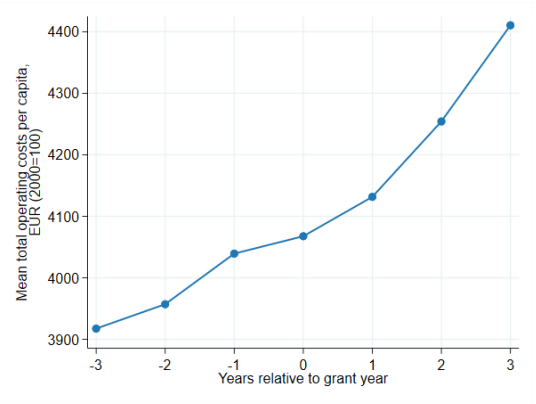


(b) Liabilities per capita

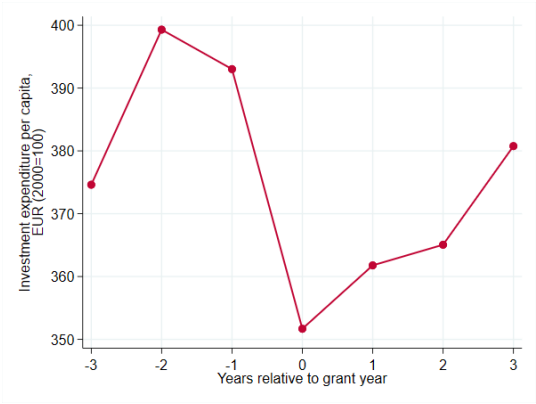
Operating costs increase throughout the event window, with little evidence of a discrete break at the award date. Investment expenditure falls by approximately EUR 41 per resident between $t-1$ and t. Municipal income-tax and property-tax revenues begin to rise more rapidly around the award year, consistent with revenue-side adjustment measures frequently reported in the recovery plans. These patterns accord with evidence that changes in intergovernmental grants can affect local tax rates, deficits, and expenditures (Shani et al., 2023). More broadly, municipal financial distress can also spill over into the provision of local public goods, which motivates examining fiscal adjustment rather than treating the transfer itself as the final outcome (Janas, 2026). Corporate-tax revenue follows a different path and declines over the event window. Because municipalities do not directly set the corporate tax base or the national allocation rule, this decline may reflect weakening local business activity or changes in the national distribution of corporate-tax revenue.

Figure 9 reports the corresponding pattern for cash deposits in the smaller sample of 109 events. Municipalities draw down cash before the award, followed by a sharp increase in the grant year.

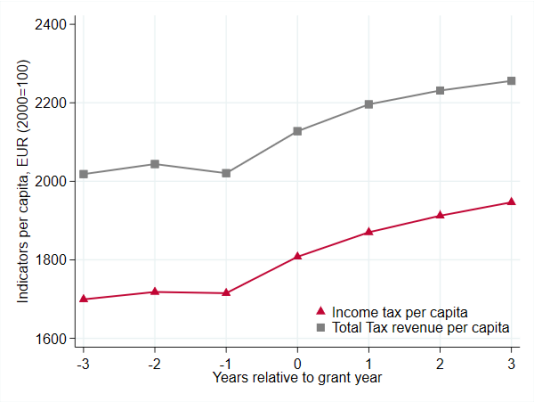
Figure 8: Event study estimates around clean grant years.



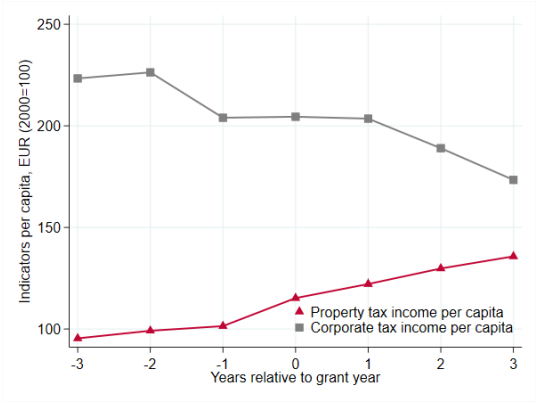
(a) Mean total operating cost per capita



(b) Investment expenditure per capita

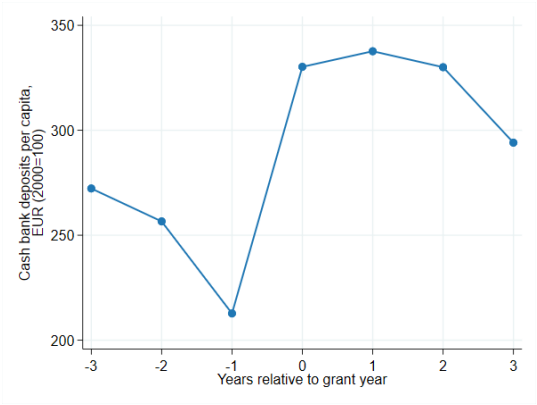


(c) Tax income per capita



(d) Property and corporate tax per capita

Figure 9: Cash bank deposits per capita



3.5.2 Demeaned Outcomes around Clean Grant and Rejection Years

We next compare clean grant events with clean rejection events in years for which the applicant universe is observed. Because applicant data are unavailable before 1999 and incomplete in 2000, this analysis uses application rounds from 1999 through 2014. We apply the same isolation and merger restrictions to recipients and rejected applicants. Rejected municipalities may experience another rejection within the event window, but they may not receive a grant.

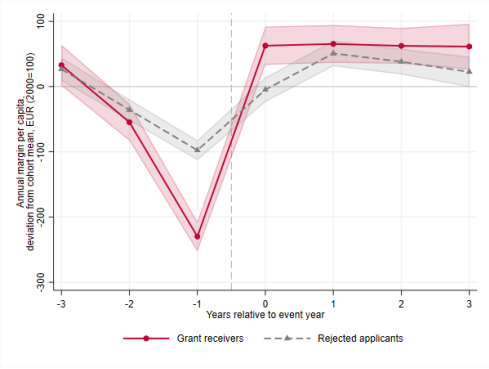
The resulting sample contains 415 events: 305 clean rejections involving 144 municipalities and 110 clean grants involving 79 municipalities. The cash-deposit sample contains 249 events, of which 179 are rejections and 70 are grants. Events occur between 1999 and 2014. All monetary outcomes are expressed in constant 2000 euros.

For visualization, each outcome is demeaned within calendar-year-by-treatment-status cells. Thus, each observation is expressed relative to the mean of municipalities with the same treatment status in the same decision year. This transformation removes common year effects and level differences between recipients and rejected applicants, allowing the figures to emphasize within-group dynamics over event time.

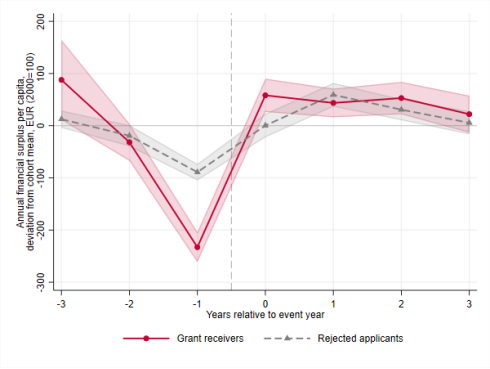
Table 7: Distribution of clean events by year

Year	Clean rejections	Clean grants	Total
1999	44	16	60
2001	56	12	68
2002	26	10	36
2003	10	5	15
2004	16	6	22
2005	26	14	40
2006	22	7	29
2007	11	1	12
2008	6	9	15
2009	20	3	23
2010	5	6	11
2011	4	0	4
2012	12	7	19
2013	29	4	33
2014	18	10	28
Total	305	110	415

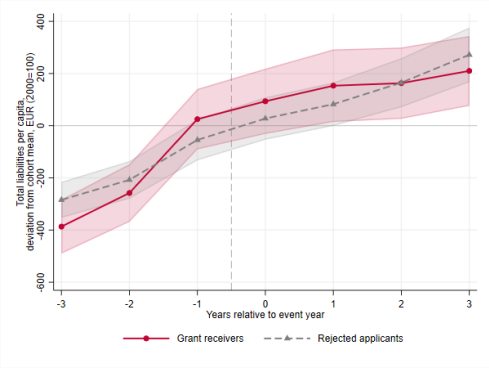
Figure 10: Event study estimates: financial outcomes around clean grant and rejection years. Solid lines denote grant recipients, dashed lines denote rejected applicants. Shaded areas are 95% confidence intervals. All variables deflated and demeaned within cohort-treatment cell.



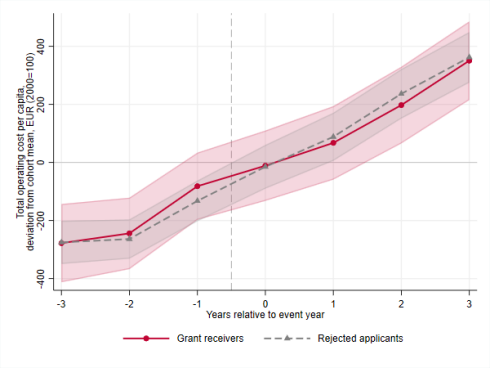
(a) Annual margin



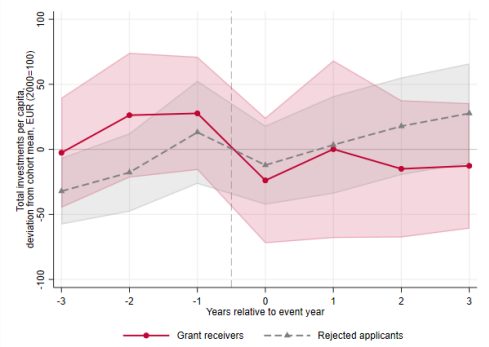
(b) Financial surplus



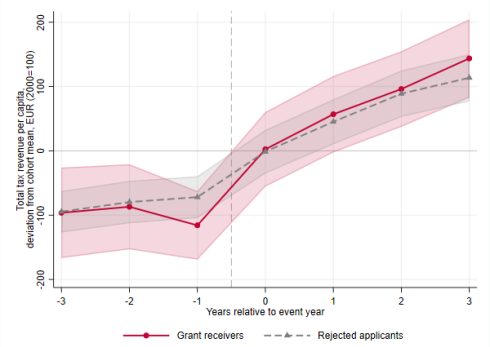
(c) Liabilities



(d) Operating costs

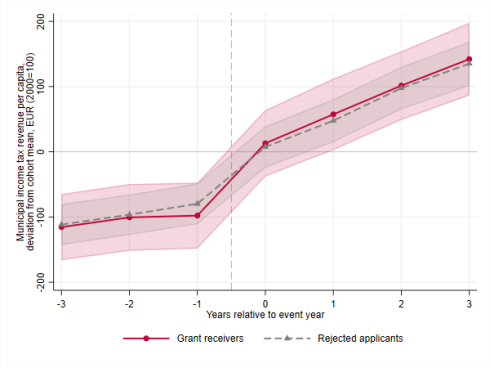


(e) Investment expenditure

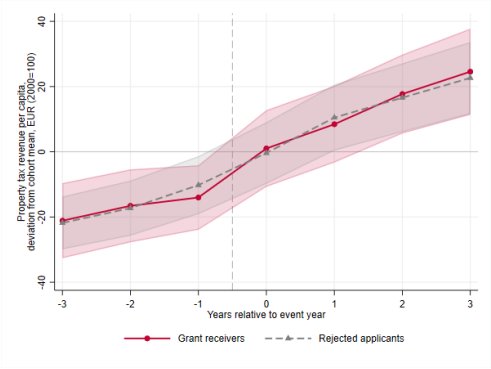


(f) Tax revenue

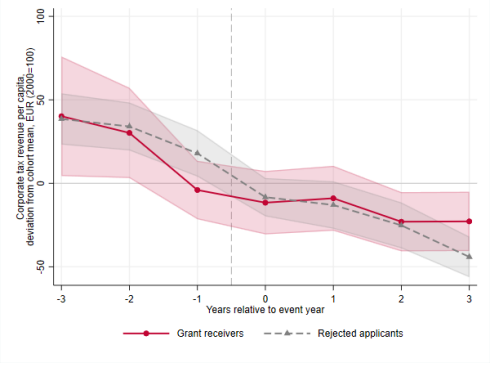
Figure 11: Fiscal Outcomes around Clean Grant and Rejection Years: Additional Outcomes



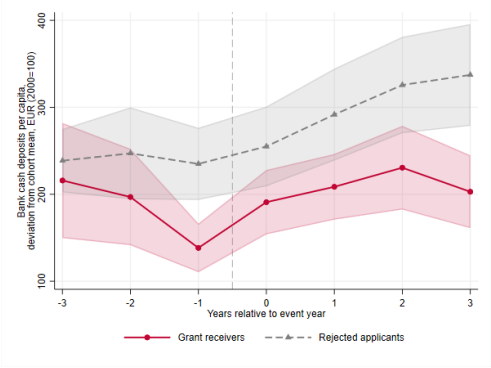
(a) Municipal income tax



(b) Property tax revenue



(c) Corporate tax revenue



(d) Cash bank deposits (with smaller sample)

Figures 10 and 11 should therefore be interpreted as comparisons of trajectories rather than levels. The recipient group exhibits a substantially sharper deterioration in annual margin and financial surplus between $t-2$ and $t-1$. Liabilities and operating costs also rise more rapidly before the award among recipients. In addition, total and component tax revenues decline more sharply at $t-1$, and recipients draw down more cash. These pre-event differences indicate that recipients and rejected applicants were not on parallel fiscal trajectories before the decision.

3.5.3 Randomly Assigned Placebo Event Years

As a descriptive placebo exercise, we assign each never-treated municipality a pseudo-event year drawn to reproduce the marginal distribution of actual first-grant years. We independently randomize the ordering of treated years and eligible untreated municipalities and match the two lists. The procedure does not balance

municipalities on observed characteristics and therefore does not construct a valid causal comparison group. Its purpose is narrower: to show whether similar event-time patterns arise mechanically around randomly assigned dates.

The treated sample includes municipalities satisfying the following conditions:

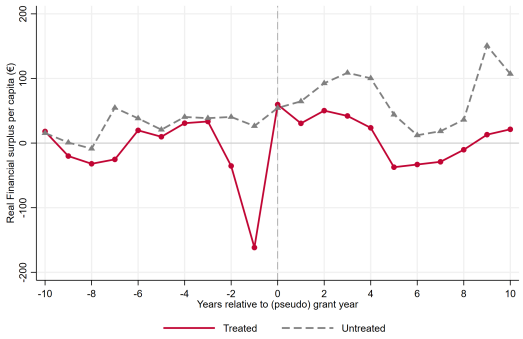
1. Any second grant occurs at least three years after the first.
2. At least three pre-event and three post-event observations are available.
3. The first observed grant occurs before 2020.

The untreated pool excludes municipalities that neither received nor applied for aid during the observed application period, because these municipalities may differ systematically from the applicant population.

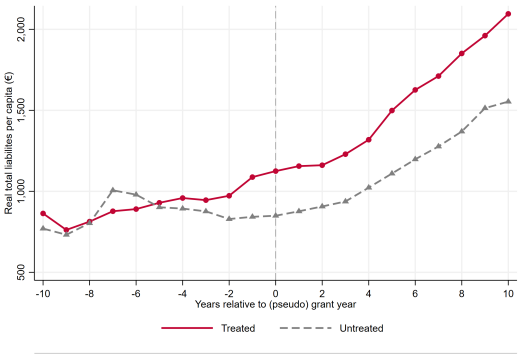
Table 8: Distribution of Grant Years: Treated vs. Untreated

Year	Treated		Untreated	
	N	%	N	%
1996	2	3.28	5	8.62
1997	5	8.20	4	6.90
1998	9	14.75	8	13.79
1999	14	22.95	16	27.59
2000	11	18.03	8	13.79
2001	2	3.28	5	8.62
2002	3	4.92	0	0.00
2003	2	3.28	1	1.72
2004	1	1.64	0	0.00
2005	6	9.84	5	8.62
2006	1	1.64	0	0.00
2008	1	1.64	2	3.45
2009	1	1.64	1	1.72
2012	1	1.64	0	0.00
2013	2	3.28	3	5.17
Total	61	100.00	58	100.00

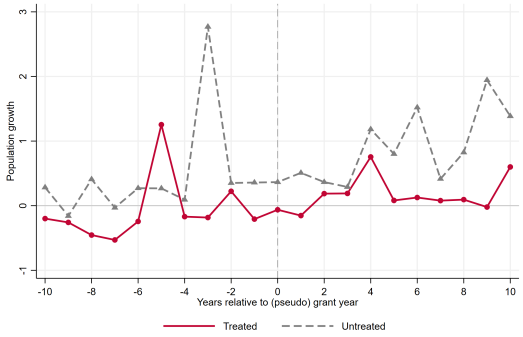
Figure 12: Outcomes around Actual and Randomly Assigned Event Years



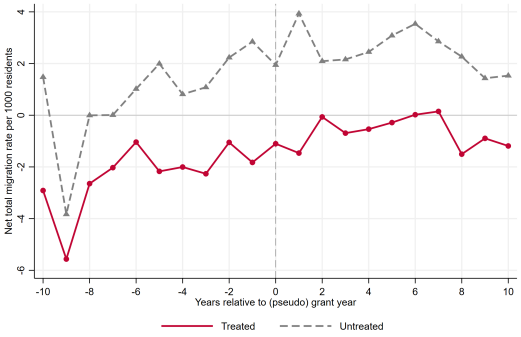
(a) Real financial surplus per capita



(b) Real liabilities per capita



(c) Population growth rate (%)



(d) Net migration rate per 1000 residents

3.6 Selection into Award Receipt

To characterize selection among applicants, we estimate probit models for the probability of receiving a grant. The sample includes pre-pandemic application rounds for which applicant and rejection status are observed. Each event contributes one observation measured at $t-1$, the fiscal year immediately preceding the award decision. All continuous covariates are standardized to mean zero and unit variance, so the reported marginal effects represent the change in award probability associated with a one-standard-deviation change in the corresponding variable.

We estimate three specifications: lagged levels only, changes from $t-2$ to $t-1$ only, and levels and changes jointly. All specifications use the same 438 observations to preserve comparability. Events are excluded when the main covariates are unavailable in either $t-2$ or $t-1$. Cash deposits are not part of this completeness requirement because missingness is especially severe in the early years. Standard errors are clustered by municipality.

Table 9: Selection into Award Receipt: Probit Marginal Effects (Levels)

	(1) Levels	(2) Levels & Changes
Surplus per cap.	-0.023	-0.042
	(0.025)	(0.033)
Annual margin per cap.	-0.272***	-0.291***
	(0.026)	(0.035)
Total liabilities per cap.	0.085**	0.082**
	(0.034)	(0.038)
Tax revenue per cap.	0.056	0.096
	(0.069)	(0.071)
Population	-0.015	0.014
	(0.014)	(0.023)
Unemployment rate	0.033	0.025
	(0.024)	(0.026)
Elderly share	-0.042	-0.046
	(0.049)	(0.050)
Working-age share	-0.005	-0.017
	(0.046)	(0.045)
Urbanisation	0.045	0.054
	(0.032)	(0.034)
Operating costs per cap.	0.011	0.006
	(0.041)	(0.041)
Investment exp. per cap.	-0.004	0.015
	(0.022)	(0.024)
Municipal income tax per cap.	-0.053	-0.093
	(0.089)	(0.094)
Observations	438	438
Log likelihood		

Notes: Table continues on next page. Marginal effects evaluated at the mean. All continuous covariates standardized to mean zero and unit standard deviation at $t-1$.

Lagged annual margin and liabilities are the strongest predictors of award receipt. A one-standard-deviation increase in annual margin per resident is associated with a 27.2 percentage-point lower probability of receiving a grant, while a one-standard-deviation increase in liabilities is associated with an 8.5 percentage-point higher probability. The remaining level covariates are not statistically distinguishable from zero. Adding changes in column (2) leaves these estimates largely unchanged: annual margin and liabilities remain the only precisely estimated level predictors, with similar magnitudes and the same signs.

Table 10: Selection into Award Receipt: Probit Marginal Effects (Changes), Continued

	(1) Changes	(2) Levels & Changes
Δ Surplus per cap.	-0.024	-0.013
	(0.027)	(0.018)
Δ Annual margin per cap.	-0.134***	0.040
	(0.040)	(0.034)
Δ Total liabilities per cap.	0.095***	-0.017
	(0.023)	(0.024)
Δ Tax revenue per cap.	-0.018	0.025
	(0.054)	(0.042)
Δ Population	-0.023	-0.047*
	(0.028)	(0.025)
Δ Unemployment rate	0.003	0.009
	(0.029)	(0.021)
Δ Elderly share	-0.009	0.001
	(0.036)	(0.030)
Δ Working-age share	0.033	0.053**
	(0.031)	(0.027)
Δ Urbanisation	-0.002	0.013
	(0.036)	(0.027)
Δ Operating costs per cap.	-0.024	-0.032**
	(0.019)	(0.016)
Δ Investment exp. per cap.	-0.070***	-0.004
	(0.018)	(0.021)
Δ Municipal income tax per cap.	-0.006	-0.021
	(0.047)	(0.037)
Observations	438	438
Log likelihood		

Notes: Continuation of Table 9. Monetary variables deflated to constant 2000 EUR using the Finnish CPI (World Bank). Standard errors clustered by municipality in parentheses. Year fixed effects included in all specifications but not reported. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The changes-only specification yields a similar pattern. A one-standard-deviation improvement in annual margin between $t-2$ and $t-1$ is associated with an approximately 13 percentage-point lower probability of receiving a grant, while an equivalent increase in liabilities is associated with a 9.5 percentage-point higher probability. Higher investment growth is associated with a 7 percentage-point lower probability. Once lagged levels are included, however, these change coefficients become imprecise. The remaining significant changes are smaller and concern population growth, the working-age population share, and operating costs.

4 Text Analysis

This section uses the application corpus to study four dimensions of the discretionary-aid process. We first document the fiscal problems municipalities report when applying and distinguish persistent vulnerabilities from temporary shocks. We then examine whether the central government rewards fiscal need, the breadth of proposed adjustment, or particular types of promised reform. Third, we compare the post-award fiscal paths of recipients and rejected applicants. Finally, we test whether stated commitments predict subsequent changes in the corresponding municipal accounts. Keeping these exercises conceptually separate clarifies their role: the text evidence makes the selection and conditionality embedded in the program more observable, but it does not by itself solve the endogeneity of award receipt.

4.1 Why Do Municipalities Apply?

The applications reveal the fiscal problems municipalities choose to present to the central government. We harmonize the stated reasons for applying into a common taxonomy covering fiscal balances and liquidity, revenue weakness, service-cost pressure, demographic and local economic conditions, capital and service-network pressures, and, in the pandemic rounds, COVID-specific shocks. The unit of observation is a municipality-year application, and categories are non-exclusive because applications typically cite several concurrent sources of distress.

For 2019–2021, we use the existing structured reason matrices. For 2001–2014, we map the Finnish application summaries into the same taxonomy using a transparent keyword-based classification calibrated against the later structured matrices. The harmonized sample contains 2,252 applications with usable reason information: 1,967 from 2001–2014 and 285 from 2019–2021. The 2007 source is incomplete: reason text is available for only 35 of 143 applications in that year. We retain these observations but do not interpret the 2007 prevalence rates as representative.

Table 11: Stated Reasons for Applying for Discretionary Aid

	2001–04	2005–11	2012–14	2019	2020	2021
Panel A: Historical administrative summaries						
Fiscal balance or liquidity	55.3	53.9	46.9			
Revenue weakness	50.9	32.1	35.1			
Service-cost pressure	31.1	18.7	19.8			
Demographic or local economic pressure	39.6	29.4	30.6			
Capital or service-network pressure	28.2	28.5	24.0			
Applications with reason text	823	856	288			
Mean number of coded categories	2.53	1.88	1.69			
Panel B: Structured application matrices						
Fiscal balance or liquidity				92.1	90.5	89.8
Revenue weakness				82.0	85.7	42.9
Service-cost pressure				88.8	88.4	83.7
Demographic or local economic pressure				60.7	63.3	51.0
Capital or service-network pressure				75.3	66.0	75.5
COVID-specific shock				0.0	93.2	91.8
Applications with reason text				89	147	49
Mean number of coded categories				6.39	8.20	7.33

Notes: Entries are percentages of applications in the indicated period. Categories are non-exclusive. Panel A is based on shorter historical administrative summaries, while Panel B is based on richer structured application matrices. The two panels characterize the composition of stated distress within each source regime; differences between them should not be interpreted as clean time trends. The 2007 source contains reason text for only 35 applications.

Because the historical and recent source materials differ substantially in length and structure, we interpret prevalence patterns within each source regime rather than as a continuous time series. The later matrices recover more categories per application by construction, so the main comparison is substantive composition, not the raw number of coded reasons.

The harmonized historical summaries indicate that applications were rarely framed as responses to a single temporary shock. Between 2001 and 2014, 44.0 percent of applications mentioned a deficit or weak annual margin, 37.3 percent cited weak tax revenues, 23.3 percent referred to mandatory investment pressure, and 20.0 percent mentioned debt or liquidity problems. Demographic decline or aging and unemployment or a local economic shock each appeared in approximately 18 percent of the applications. These patterns indicate that the program served municipalities facing combinations of weak revenue capacity, accumulated fiscal imbalances, and structural expenditure pressures.

The richer 2019 applications make the multidimensional nature of fiscal distress particularly clear. Deficits were mentioned in 86.5 percent of applications, social and healthcare cost pressure in 83.1 percent, weak tax revenues in 71.9 percent,

mandatory investments in 67.4 percent, and building or indoor-air problems in 62.9 percent. Thus, even before the pandemic, applications commonly combined balance-sheet weakness with service costs and capital needs.

The pandemic rounds did not replace these structural explanations with a purely temporary-shock narrative. In 2020, 93.2 percent of applicants cited at least one COVID-specific shock, but the same applications also frequently reported social and healthcare costs (87.1 percent), weak tax revenues (84.4 percent), deficits (83.0 percent), mandatory investments (56.5 percent), and building-related pressures (51.7 percent). Every application coded as COVID-exposed also contained at least one non-COVID reason. The 2021 applications display the same pattern: 91.8 percent mention a COVID-specific shock, while 83.7 percent report fiscal-balance or liquidity pressure and 83.7 percent report service-cost pressure.

The co-occurrence structure reinforces this interpretation. Across 2019–2021, the most common pair is deficit pressure together with social and healthcare costs, followed by deficits together with weak tax revenues and weak tax revenues together with social and healthcare costs. The applications therefore describe fiscal distress as an interaction between persistent vulnerability and contemporaneous shocks, rather than as a sequence of isolated emergencies.

This distinction is central to the interpretation of the program. The statutory language emphasizes exceptional or temporary financial difficulties, but the application texts reveal that many municipalities seek assistance while also facing longer-running structural weaknesses. The result helps explain both the repeated use of the program and the limited post-award divergence between recipients and rejected applicants. A temporary transfer may relieve the immediate accounting pressure without removing the demographic, revenue, service-cost, or capital constraints that generated the application.

4.2 Allocation among Applicants

We begin with the award decision conditional on application. This comparison is more informative than comparing recipients with all municipalities because both recipients and rejected applicants revealed demand for support and submitted information to the Ministry of Finance. The preferred sample pools the 2008–2014, 2019, and 2020 application rounds. All specifications include calendar-year fixed effects, lagged fiscal and demographic controls, and standard errors clustered by municipality.

Table 12: Allocation of Discretionary Aid among Applicants

	(1) Any award	(2) Any award	(3) Award EUR p.c.
Lagged annual margin (p.p.)	−0.562***	−0.559***	−8.28***
	(0.050)	(0.051)	(0.69)
Lagged long liabilities (p.p.)	0.026***	0.025***	0.57***
	(0.007)	(0.007)	(0.17)
Distinct promised action categories		0.139**	1.37
		(0.065)	(1.30)
Log population	−0.100	−0.101	−18.01***
	(0.136)	(0.136)	(5.11)
Year fixed effects	Yes	Yes	Yes
Full lagged controls	Yes	Yes	Yes
Observations	893	892	892

Notes: Columns (1)–(2) report logit coefficients and column (3) reports OLS coefficients. The sample contains applicants in 2008–2014, 2019, and 2020. Columns (2)–(3) use applications with structured action coding. Standard errors clustered by municipality are reported in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

Table 12 shows that the strongest predictors of an award are standard measures of fiscal need. A one-percentage-point lower lagged annual margin is associated with award odds approximately 75 percent higher, holding the other covariates fixed. A ten-percentage-point increase in the long-liabilities ratio is associated with award odds approximately 29 percent higher. The same qualitative pattern appears in the 2008–2014 subsample.

The application text adds a second, more modest dimension to the decision. Conditional on fiscal need and the remaining controls, an additional proposed action category is positively associated with award receipt. By contrast, no individual action family consistently dominates the allocation decision, and the planned-adjustment-to-request ratio does not clearly predict receipt. The reason categories observed in 2019–2020 also add little explanatory power once lagged fiscal conditions are included.

The allocation evidence therefore shows that awards were systematically related to observable fiscal need. Fiscal distress was the primary correlate of receipt, while the breadth of the proposed recovery plan played a secondary role. The Ministry does not appear to have rewarded one particular reform template. Rather, applicants with more severe fiscal problems and somewhat broader adjustment packages were more likely to receive support.

4.3 Post-Award Fiscal Paths and Repeat Application

As a separate descriptive exercise, we compare the post-award fiscal paths and repeat-application behavior of recipients and rejected applicants in the sample for which detailed recovery-plan information is available. These comparisons connect the application evidence to subsequent outcomes, but they do not construct the matched counterfactual used in Sections 5 and 6.

Recipients entered the award process in substantially weaker condition than rejected applicants. Their pre-award annual margin averaged −0.7 percent of operating costs, compared with 3.0 percent among rejected applicants, and their long-liabilities ratio averaged 31.0 percent, compared with 27.6 percent. Recipients also reported slightly broader action packages, with 7.14 distinct action categories on average compared with 6.70 among rejected applicants.

The unadjusted annual-margin path shows a sharp improvement among recipients in the award year. This reversal is consistent with immediate fiscal relief and may partly reflect the accounting treatment of the grant. It does not, however, translate into a clear recipient advantage one or two years later.

Table 13: Post-award Fiscal Outcomes and Repeat Application

	Change, $t-1$ to $t+1$	Change, $t-1$ to $t+2$	Repeat application
Annual margin (p.p. of costs)	−0.01	0.02	
	(0.32)	(0.29)	
Year-end surplus (p.p. of costs)	−0.54	0.01	
	(0.53)	(0.46)	
Tax revenue (EUR p.c.)	−2.71	−14.16	
	(10.37)	(12.55)	
Operating costs (EUR p.c.)	−43.87	−80.49	
	(45.40)	(54.64)	
Long liabilities (p.p. of costs)	−1.00	−0.49	
	(0.85)	(1.18)	
Reapplied next two active years (p.p.)			17.58***
			(4.37)
Award-year fixed effects	Yes	Yes	Yes
Lagged fiscal and demographic controls	Yes	Yes	Yes

Notes: Columns (1)–(2) report adjusted OLS associations in changes from the year before the decision to one and two years after. The repeat-application model is restricted to the 2008–2012 cohorts, for which two subsequent active program years are observable. Standard errors clustered by municipality are in parentheses. The estimates are descriptive, not causal treatment effects. $^{***}p < 0.01$.

The adjusted comparisons in Table 13 show no clear differential improvement among recipients over the following two years. The estimated recipient differ-

ence in annual-margin improvement is -0.01 percentage points at $t + 1$ and 0.02 percentage points at $t + 2$. We likewise find no precise recipient differences in year-end surplus, tax revenue, operating costs, investment, personnel expenditure, purchases of services, or liabilities.

These estimates do not establish that aid had no effect. Recipients were selected from the most distressed applicants, and similar subsequent outcomes may reflect either a small treatment effect or an effect that offset a worse unobserved counterfactual trajectory. The narrower conclusion is that the award generated immediate accounting relief, but recipients did not subsequently outperform rejected applicants in the current conditional comparison.

Repeat application is the clearest post-award pattern. Among the 2008–2012 cohorts, recipients were 17.6 percentage points more likely to apply again within the next two active program years. This finding is consistent with persistent or recurrent fiscal stress among recipients. It is not evidence that receipt itself caused dependence, since the same unobserved severity that raised the probability of an award may also have raised the probability of returning to the program.

4.4 Do Stated Commitments Predict Subsequent Adjustment?

We next test whether the commitments recorded in the applications contain information about subsequent municipal behavior. For each commitment, we select the accounting outcome it should most directly affect. The preferred sample contains applications with structured action information in 2005–2014 and excludes 2007, whose form contains substantially less detail than the surrounding years. All specifications include year fixed effects, lagged fiscal and demographic controls, the lagged level of the outcome, and municipality-clustered standard errors.

Table 14: Text Commitments and Subsequent Matching Fiscal Adjustment

Commitment measure	Matching outcome	$t+1$	$t+2$
Income-tax commitment	Municipal income-tax revenue (EUR p.c.)	46.52*** (6.24)	41.31*** (7.28)
Property-tax commitment	Property-tax revenue (EUR p.c.)	13.51*** (1.91)	14.04*** (2.29)
Planned adjustment, +EUR 100 p.c.	Annual margin (EUR p.c.)	10.78*** (4.05)	5.91 (5.66)
Planned adjustment, +EUR 100 p.c.	Annual margin (p.p. of costs)	0.18*** (0.06)	0.11 (0.08)
Year fixed effects		Yes	Yes
Lagged controls and outcome level		Yes	Yes

Notes: The preferred sample contains 2005–2014 applicants with structured action coding and excludes the low-detail 2007 form. Each row relates a stated commitment to its matching subsequent accounting outcome. Standard errors clustered by municipality are in parentheses. The estimates are predictive associations rather than causal effects or verified legal compliance. $^{***}p < 0.01$.

The clearest validation results concern tax-related commitments. Municipalities stating an income-tax measure subsequently experienced approximately EUR 47 more municipal income-tax revenue per resident by $t + 1$ and EUR 41 more by $t + 2$, relative to otherwise comparable applicants without such a commitment. Property-tax commitments predict approximately EUR 14 more property-tax revenue per resident at both horizons. These relationships remain similar when the 2007 applications are restored. The results complement recent evidence that participation in municipal debt-reduction programs induces local tax-policy adjustment and may generate strategic responses across neighboring jurisdictions (Thunecke et al., 2026).

The monetary scale of the recovery plan also predicts short-run adjustment. An additional EUR 100 per resident in planned adjustment is associated with an approximately EUR 11 larger improvement in annual margin by $t + 1$, or 0.18 percentage points when the outcome is scaled by operating costs. The relationship weakens and is no longer precisely estimated by $t+2$. Municipalities in the highest quartile of planned adjustment recorded an average annual-margin improvement of approximately EUR 254 per resident by $t + 1$, compared with EUR 88 in the lowest quartile.

Other commitment-to-outcome links are not precisely estimated. Fee measures, personnel actions, service-network reform, cooperation, asset-sale language, formal recovery programs, and overall action intensity show no clear relationship with

the available accounting proxies. This absence should not be over-interpreted because several commitments do not have a clean counterpart in the accounting data. In particular, tangible-asset changes are an imperfect proxy for actual asset-sale revenue, and organizational reforms are difficult to identify from aggregate accounts.

The application texts therefore contain predictive information beyond contemporaneous accounting indicators. The breadth of the proposed recovery package is modestly associated with award receipt, and specific revenue commitments predict subsequent changes in the corresponding revenue streams. At the same time, the evidence is more consistent with partial and short-run adjustment than with a general transformation of municipal fiscal trajectories.

4.5 Summary

Taken together, the application records show that fiscal need dominates the award decision, while broader recovery packages have a secondary role. Recipients show an immediate accounting rebound but no clearly stronger one- or two-year fiscal path in the conditional comparisons, and they are more likely to apply again. Specific and measurable commitments, particularly tax measures, predict matching subsequent changes in municipal accounts. The texts therefore reveal meaningful information about both selection and proposed adjustment, but they do not eliminate the endogeneity of award receipt.

5 Empirical Strategy

5.1 Successful and rejected applicants

The award decision is discretionary, and the descriptive evidence shows that successful applicants enter the decision year in greater fiscal distress than rejected applicants. We therefore compare recipients only with municipalities that applied in the same year but did not receive support. Rejected applicants reveal demand for aid, face the same annual budget constraint, and pass through the same administrative process. This is a more credible comparison than the full municipal population, but it does not by itself remove selection among applicants.

Our preferred design uses coarsened exact matching (CEM). For application year t, we match exactly on year and on the pre-application level and change of the two fiscal indicators that most strongly predict receipt: annual margin per resident and financial-year surplus per resident. We additionally match on lagged prior-grant history. The changes are measured from $t-2$ to $t-1$, so all matching

Table 15: Applicant sample and pre-application balance

	Total	Successful	Rejected	Mixed
Panel A: Sample construction				
All observed applicants	2,602	992	1,449	161
Clean binary applicants	2,441	992	1,449	0
Eligible binary applicants with complete covariates	2,307	863	1,444	0
CEM common support	660	264	396	0
Period-pooled entropy balancing	2,307	863	1,444	0

	Unweighted	CEM	Period-pooled EB
Panel B: Absolute standardized mean differences			
Lagged annual margin	0.739	0.073	0.000
Pre-application change in annual margin	0.357	0.074	0.000
Lagged financial-year surplus	0.617	0.109	0.000
Pre-application change in surplus	0.321	0.055	0.000
Lagged number of prior grants	0.149	0.116	0.000
Maximum absolute difference	0.739	0.116	0.000

Notes: The binary sample excludes mixed-success municipality-years and years without both treatment states. CEM is exact on application year and coarsened fiscal histories. It retains 165 cells; rejected-control ESS is 184.5. Preferred period-pooled entropy balancing is `percore2`; rejected-control ESS is 170.0. CEM balances coarsened distributions, so raw-variable mean differences need not be exactly zero.

information predates the award decision.[3] Successful applicants receive weight one; rejected applicants within each matched cell receive weights that make their total weight equal to the number of successful applicants in that cell. The estimand is therefore the average treatment effect on successful applicants who have at least one rejected applicant in the same CEM cell.

Table 15 summarizes the estimation sample. Of 2,307 clean applicant-years with complete matching variables, 660 remain on CEM common support: 264 successful and 396 rejected applications in 165 cells. Matching sharply reduces the imbalance in the fiscal variables used to construct the cells. Because CEM balances their coarsened distributions rather than their raw means, small residual standardized differences remain.

For each grant-year outcome, we estimate a weighted regression that conditions on the outcome in the two years preceding the application:

$$Y_{it} = \tau G_{it} + \rho_1 Y_{i,t-1} + \rho_2 Y_{i,t-2} + \lambda_t + \varepsilon_{it}, \tag{1}$$

[3]The annual-margin level is coarsened at $-100, 0, 100$, and 250 euros per resident and its change at $-300, -150, -50$, and 50. The surplus level is coarsened at $-300, -100, 0$, and 100, and its change at $-300, -100, 0$, and 100. Prior grants are grouped into zero, one or two, and three or more.

where G_{it} indicates a successful application and λ_t denotes application-year fixed effects. Conditioning on the first lag compares applicants with similar starting positions, while the second lag also accounts for their recent fiscal trajectories. This is important because successful applicants are selected partly following sharp fiscal deterioration, after which ordinary persistence or mean reversion could otherwise be attributed to the grant. The adjustment also increases precision and removes residual within-bin differences after CEM. The coefficient τ is the CEM-weighted grant-year average treatment effect on successful applicants on common support. Standard errors are clustered by municipality to account for repeated applications by the same municipality. All control variables predate the award decision, but the specification cannot eliminate selection based on information observed by the Ministry and omitted from the municipal accounts.

5.2 Stacked matched event study

The preferred dynamic specification treats each supported applicant-year as a separate event and stacks a balanced window from three years before through three years after the application. After imposing outcome availability, we re-establish common support within the original CEM cells and re-normalize the ATT weights. For event e, municipality i, and relative year k, we estimate

$$Y_{iek} = \alpha_e + \gamma_{c(e),k} + \sum_{r \in \{-3,-2,0,1,2,3\}} \beta_r G_e \mathbf{1}\{k = r\} + \varepsilon_{iek}, \tag{2}$$

with $k = -1$ omitted. Event fixed effects α_e absorb permanent differences between applicant-events, while CEM-cell-by-relative-time effects $\gamma_{c(e),k}$ allow each matched cell to have an unrestricted common event-time path. Thus, β_r compares successful and rejected applicants in the same matching cells, relative to their difference in the year before the decision. Standard errors are clustered by municipality.

The main specification retains all eligible matched application events. A municipality can therefore contribute more than once, and event windows can overlap. This choice preserves the recurrent nature of the program and makes the main estimand an applicant-event effect rather than a municipality-level effect. First-event, non-overlapping, municipality-equalized, and restricted treatment-path samples are reserved for the appendix.

5.3 Period-pooled entropy balancing

As a broader-sample robustness design, we reweight all rejected applicants with complete covariates using period-pooled entropy balancing. The preferred specification exactly reproduces the successful applicants' application-year distribution

and balances the means and variances of the four fiscal matching variables separately within 1999–2006, 2007–2014, and 2019–2023. It also balances the mean of lagged prior-grant history within each period. This retains 863 successful and 1,444 rejected applications. We then re-estimate Equation (1) using these weights.

For the dynamic analysis, we apply the same weights to stacked applicant-event panels covering the period from $t-3$ through $t+3$. After requiring a complete outcome window, we re-normalize the weights of rejected applicants within application year so that their total weight equals the number of successful applicant-events retained in that year. The entropy-balanced event studies include applicant-event fixed effects and application-year-by-relative-time fixed effects, omit $t-1$, and cluster standard errors by municipality. They therefore provide a broader-sample counterpart to the matched event study, while allowing common event-time patterns to differ across application years.

Entropy balancing complements rather than replaces CEM. It greatly expands the sample and removes imbalance in the targeted moments, but it relies more heavily on reweighting and cannot address unobserved selection. Agreement between the common-support CEM estimates and the period-pooled estimates is therefore more informative than either design in isolation.

5.4 Identification and interpretation

A causal interpretation requires that, conditional on application year and the matched fiscal history, successful and rejected applicants would have followed parallel outcome paths absent the award. The main threat is residual selection: the Ministry observes application details and local circumstances that are not fully captured by the accounting variables, and these factors may also predict subsequent adjustment. The pre-period event-study coefficients provide a partial diagnostic but cannot establish this assumption.

The grant-year estimates also combine behavioral responses with the direct accounting effect of receiving the transfer. They are therefore best interpreted as the immediate fiscal effect of an award, not as evidence of structural adjustment. Finally, repeated applications complicate the post-award estimand. The main event study follows the observed treatment path: recipients may receive additional grants, while initially rejected applicants may later receive one. Post-period coefficients consequently measure the effect of the initial award under these subsequent program histories and may understate the contrast between permanently treated and never-treated municipalities. The grant-year coefficient is not affected by later treatment switching.

Table 16: Grant-year effects among applicants

	CEM ATT		Period-pooled EB ATT	
Outcome (EUR per resident)	Estimate	N	Estimate	N
Awarded discretionary grant	80.6***	660	94.8***	2,307
	(4.0)		(4.4)	
Annual margin	89.1***	660	104.8***	2,306
	(20.6)		(16.4)	
Financial-year surplus	70.7***	659	59.4***	2,305
	(23.3)		(22.8)	
Tax revenue	8.0	659	-20.9*	2,306
	(8.6)		(11.4)	
Operating expenditure	-16.6	659	-46.2*	2,306
	(22.2)		(23.9)	
Total liabilities	-35.9	659	-84.0	2,306
	(76.2)		(57.2)	
Cash and bank deposits	4.7	582	27.4	1,910
	(41.7)		(23.0)	

Notes: Entries are outcome-specific lag-adjusted grant-year estimates. Regressions control for the outcome in the two years preceding the application and include application-year fixed effects. Standard errors clustered by municipality are in parentheses. CEM uses the frozen common-support ATT weights; entropy balancing uses the preferred period-pooled mean-and-variance weights. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

6 Results

6.1 Immediate fiscal relief

Table 16 reports the grant-year estimates. The successful-versus-rejected award contrast is EUR 80.6 per resident in the CEM sample and EUR 94.8 under period-pooled entropy balancing. The corresponding annual-margin effects are EUR 89.1 and EUR 104.8 per resident. Financial-year surplus increases by EUR 70.7 under CEM and EUR 59.4 under entropy balancing. The award contrasts and all four headline balance estimates are precisely estimated. The close agreement across designs is the central result: successful applicants experience a large but contemporaneous improvement in their headline fiscal balances.

The magnitude of the annual-margin improvement is of the same order as the awarded transfer, consistent with substantial direct pass-through into the current-year accounts. The smaller surplus response suggests that part of the relief is absorbed elsewhere before reaching the final financial-year result. These estimates should not be interpreted as a durable improvement in fiscal capacity.

The component outcomes provide limited evidence of immediate structural ad-

justment. Neither design shows a robust contemporaneous increase in tax revenue. The CEM estimate is EUR 8.0 per resident and imprecise, while the entropy-balanced estimate is EUR −20.9 and significant only at the 10 percent level. Operating expenditure falls in both designs, by EUR 16.6 under CEM and EUR 46.2 under entropy balancing; only the latter is marginally significant. Total liabilities also decline in both samples, but the estimates, EUR 35.9 and EUR 84.0 per resident, are imprecise. Cash and bank deposits rise modestly and imprecisely. The aggregate grant-year improvement is therefore not accompanied by a clear contemporaneous tax increase, debt reduction, or cash accumulation, although the broader entropy-balanced sample is consistent with some expenditure restraint.

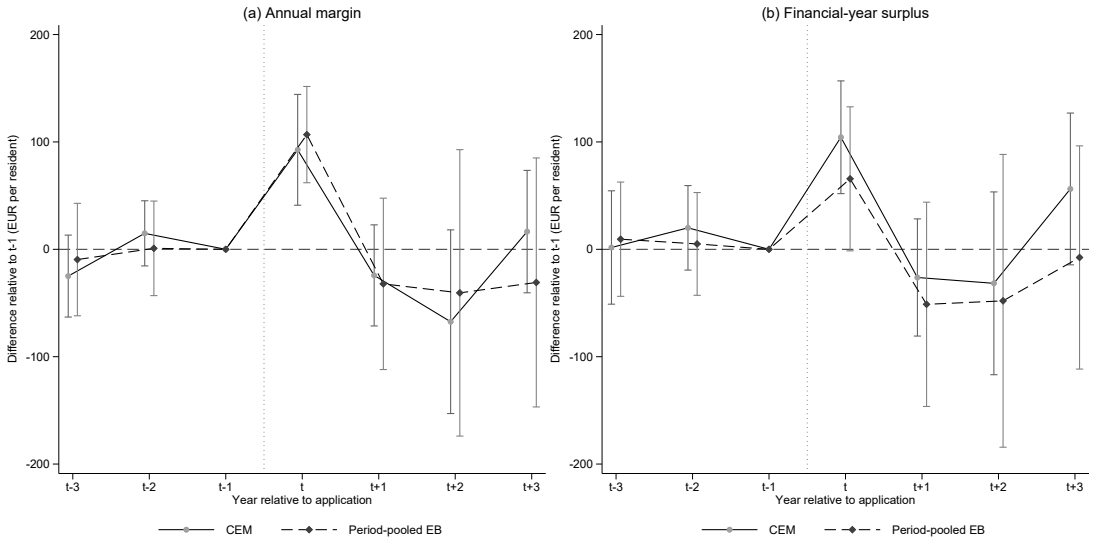
6.2 No persistent improvement relative to rejected applicants

Figure 13 compares the preferred stacked CEM estimates with the corresponding period-pooled entropy-balancing estimates. The two independently constructed designs yield closely similar annual-margin dynamics. The estimated grant-year improvement is EUR 92.6 per resident under CEM and EUR 106.8 under entropy balancing, followed by no detectable recipient advantage in the subsequent three years. For financial-year surplus, the corresponding grant-year estimates are EUR 104.4 and EUR 65.6 per resident. The entropy-balanced estimate is less precise, but the subsequent coefficients are again statistically indistinguishable from zero.

The pre-period diagnostics are generally supportive, although not uniformly perfect. Under CEM, the pre-period coefficients are jointly insignificant for financial-year surplus ($p = 0.502$) and marginally significant at the ten-percent level for annual margin ($p = 0.085$). Under period-pooled entropy balancing, the corresponding p-values are 0.941 and 0.863. The coefficients after the grant year are jointly insignificant under both CEM ($p = 0.209$ for annual margin and $p = 0.179$ for surplus) and entropy balancing ($p = 0.852$ and $p = 0.352$, respectively). The broad agreement between the common-support CEM design and the larger entropy-balanced sample strengthens the distinction between immediate accounting relief and durable fiscal recovery, while the marginal CEM annual-margin pre-trend warrants some caution.

The results therefore distinguish immediate relief from lasting recovery. Conditional on the observed pre-application fiscal path, successful applicants receive a sharp grant-year improvement but do not subsequently outperform rejected applicants. Treatment switching and repeated awards make the later coefficients effects of the observed program path rather than of a single isolated transfer. Even with that qualification, the evidence does not support a persistent improvement after the initial accounting relief.

Figure 13: Fiscal dynamics under CEM and period-pooled entropy balancing



Notes: Points are successful-minus-rejected applicant differences relative to $t-1$; bars are 95 percent confidence intervals. The CEM estimates use the preferred all-events matched stack with applicant-event and CEM-cell-by-relative-time fixed effects. The entropy-balancing estimates use the preferred period-pooled mean-and-variance weights, applicant-event fixed effects, and application-year-by-relative-time fixed effects. Standard errors are clustered by municipality. Outcomes are measured in euros per resident.

Appendix Figure 14 reports covariate balance under both empirical designs and documents CEM common-support retention. Appendix Figures 15–18 extend the comparison between CEM and period-pooled entropy balancing to additional fiscal outcomes. Appendix Table 19 shows that the distinction between grant-year relief and limited persistence is generally robust to restrictions on repeated events and alternative grant histories, although the annual-margin estimate is less precise when only the first eligible event per municipality is retained.

7 Conclusion

This paper studies how Finland allocates and conditions discretionary fiscal support to municipalities in distress. The program is designed for exceptional or temporary financial difficulties, yet repeated applications and awards are common. This creates a central policy tension: support may prevent disruptive adjustment, but recurrent assistance may also preserve underlying imbalances and weaken local budget constraints.

Using administrative records, municipal accounts, and a new corpus of application documents, we separate application, award receipt, and award size. Observ-

able fiscal need is the dominant correlate of allocation. Among applicants, weaker annual margins and higher liabilities predict both receipt and larger awards. Municipal size does not predict receipt, although larger municipalities receive less aid per resident. Broader recovery plans are also associated with award receipt, but no single reform category consistently determines the decision.

The applications show that fiscal distress is rarely purely temporary. Municipalities typically cite combinations of weak revenues, accumulated deficits, debt and liquidity pressure, demographic decline, service costs, and capital needs. During the pandemic, COVID-specific shocks were layered on top of these pre-existing vulnerabilities. The program therefore appears to serve both as short-run insurance and as support for municipalities facing persistent structural pressures.

Stated commitments contain some forward-looking information. Income-tax and property-tax measures predict subsequent increases in the corresponding revenues, while larger planned adjustment packages predict stronger short-run improvements in annual margins. These relationships weaken over longer horizons, and other commitments are less precisely connected to available accounting outcomes. The evidence is therefore consistent with partial implementation of measurable commitments rather than broad fiscal transformation.

A separate descriptive analysis of post-award outcomes and repeat applications points to persistent fiscal stress after an award. Recipients show an immediate accounting rebound, but no clearly stronger one- or two-year fiscal trajectory than rejected applicants in the conditional comparisons, and they are more likely to apply again. These associations are not causal because recipients enter the process in more severe financial condition. They nevertheless indicate that receiving short-run relief does not necessarily eliminate the conditions that bring municipalities back to the program.

The paper's preferred matched applicant analysis provides a more credible assessment of the fiscal effects of receiving support. Relative to rejected applicants with similar pre-application fiscal histories, successful applicants experience a large grant-year improvement in annual margin and financial-year surplus. Similar estimates emerge under the common-support CEM design and the broader period-pooled entropy-balancing design, both in the grant-year regressions and in their stacked event-study counterparts. The relative improvement disappears after the award year, while the estimates for tax revenue, operating expenditure, liabilities, and cash provide no robust evidence of broad contemporaneous or subsequent fiscal restructuring. These estimates should still be interpreted cautiously because award receipt remains discretionary and repeated applications and subsequent grants complicate the longer-run comparison. Taken together, the evidence indicates that the program provides clear short-run fiscal relief without producing a detectable and persistent improvement relative to otherwise comparable rejected

applicants.

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A Definitions and Supplementary Descriptive Evidence

Table 17: Financial Variable Definitions

Variable	Definition
Income statement	
Annual margin	Income cash flow remaining after current expenditures. Used for investments and loan repayments.
Operating margin	Indicates how much of operational economy expenses remain to be covered by tax income and central government transfers.
Profit/loss for financial period	Difference between income and expenses scheduled for the period, increasing or decreasing free reserves or equity.
Cash flow from operations and investments	Positive amount indicates cash available for net lending or loan repayments; negative amount indicates need to draw on cash assets or new loans.
Operating income	
Sales income	Income from goods and services priced to cover production costs.
Fee income	Customer fees where pricing does not fully cover production costs or is based on capacity to pay.
Reimbursements and subsidies	Grants, financial support and transfers from the State, EU or other organisations.
Other operating income	Other regularly accumulated operating income, such as rental income and parking infraction fees.
Operating expenses	
Personnel costs	Salaries, wages, pension costs, social security contributions and insurance premiums.
Purchased services	Services purchased directly for municipal residents and for the municipality's own service production.
Materials, supplies and goods	Office and school supplies, literature, medication, treatment supplies and electricity acquisition costs.
Grants	Financial support and subsidies paid to households, organisations and communities.
Other operating expenses	Rent expenses, damages and direct taxes paid by the municipality.
Depreciations and impairments	Planned depreciations from acquisition costs of intangible and tangible non-current assets.
Balance sheet & financing	
Investment costs	Total asset acquisition costs activated in non-current assets.
Investment cost contributions	Contributions from the State, municipalities, EU and other parties to cover investment costs.
Divestment income	Income from the sale of property.
Loan portfolio	Long- or short-term interest-bearing borrowed capital, net of advances, trade payables and accrued liabilities.
Central government transfer	Statutory payments by central government to municipalities covering calculated costs of certain municipal services.
Tax income	Municipal tax, corporation tax portion, property tax and dog tax.

Table 18: Municipalities Ranked: 15 Highest vs. 22 Lowest Grants

Year	Municipality	Decided (1000EUR)	Per Capita	Requested (1000EUR)	Grants Received	Rank
2004	Vantaa	4,200.00	22.82	9,000.00	2	1
2001	Lahti	3,363.76	34.65	3,363.76	2	2
2020	Lappeenranta	3,300.00	45.43	16,000.00	1	3
2020	Kouvola	3,300.00	40.19	4,000.00	3	3
2000	Rovaniemi	3,111.48	87.12	3,700.13	3	5
1998	Vantaa	3,027.38	17.41		2	6
2012	Salo	3,000.00	54.00	7,000.00	3	7
2020	Seinäjoki	2,800.00	43.90	3,000.00	1	8
2003	Raahe	2,800.00	168.99	3,300.00	8	8
2020	Hämeenlinna	2,600.00	38.44	4,500.00	1	10
2000	Savonlinna	2,522.82	89.81	3,363.76	7	11
1999	Kajaani	2,522.82	68.96	3,363.76	1	11
2002	Kemijärvi	2,520.00	248.57	4,000.00	8	13
2003	Savonlinna	2,500.00	90.57	2,500.00	7	14
2004	Tornio	2,440.00	109.92	3,300.00	7	15
1991	Velkua	16.82	69.79		4	16
1989	Pukkila	8.41	4.77		6	17
1990	Tervola	8.41	1.98		8	17
1990	Tervo	8.41	3.80		3	17
1989	Längelmäki	8.41	4.08		8	17
1990	Konnevesi	8.41	2.42		6	17
1989	Lohtaja	8.41	2.76		8	17
1990	Mouhijärvi	8.41	2.93		8	17
1990	Längelmäki	8.41	4.11		8	17
1990	Kittilä	8.41	1.37		9	17
1990	Kyyjärvi	8.41	4.25		15	17
1989	Kontiolahti	8.41	0.84		1	17
1989	Ii	8.41	1.49		8	17
1989	Eno	8.41	1.09		5	17
1990	Toholampi	8.41	2.05		9	17
1990	Korpilahti	8.41	1.67		13	17
1989	Haukipudas	8.41	0.63		7	17
1990	Saari	8.41	4.41		4	17
1989	Tervo	8.41	3.79		3	17
1989	Lieksa	8.41	0.47		8	17
1989	Pyhtää	8.41	1.56		6	17
1990	Pukkila	8.41	4.73		6	17

B Construction of the Application-Text Measures

The application corpus combines administrative summaries, structured annual workbooks, and raw municipal applications. The coding unit is a municipality-year application. Main application forms provide the primary source for fiscal-stress reasons and proposed corrective actions; decision extracts are used mainly for metadata; and longer recovery-program attachments are used to validate and enrich the action coding.

The codebook separates the stated source of fiscal pressure from the municipality's proposed response. Core distress categories include accumulated deficits, weak annual margins, revenue shortfalls, state-transfer problems, social and healthcare cost pressure, demographic decline, debt and liquidity pressure, building-related costs, mandatory investments, and local economic shocks. Corrective-action categories include income- and property-tax measures, fee increases, personnel reductions, hiring restrictions, service-network restructuring, school or daycare closures, asset sales, investment postponement, cooperation, outsourcing, administrative reorganization, and formal recovery programs.

Later-year applications are coded using the same core taxonomy together with period-specific modules for COVID-related costs and revenue losses, inflation, energy prices, wage settlements, interest rates, and institutional transition costs. Each coded category is retained together with the source type, document type, confidence assessment, and a supporting excerpt from the original Finnish text.

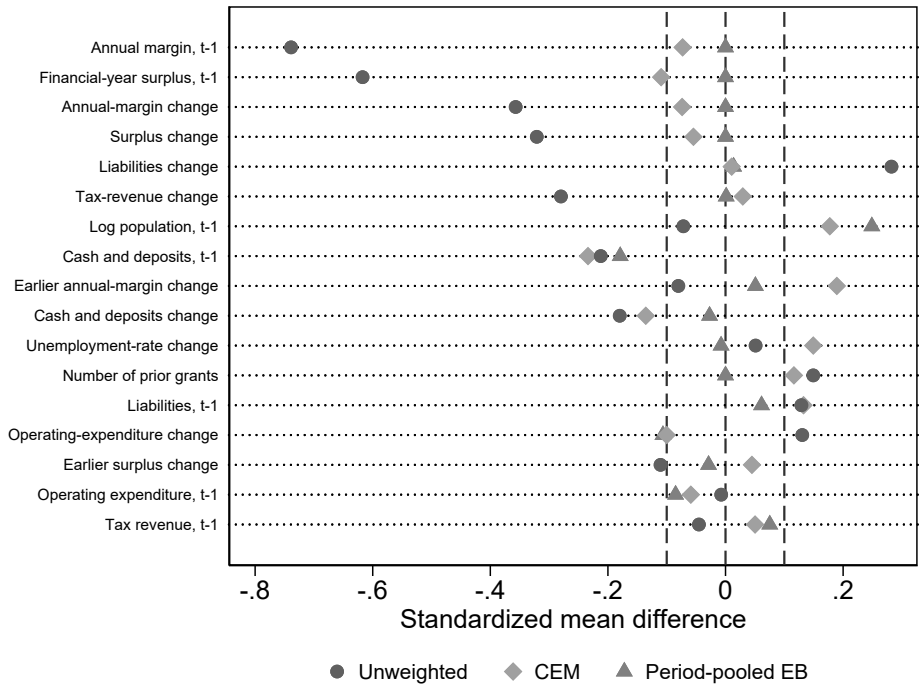
Source coverage and document detail vary across years, and the 2007 source is especially sparse. We therefore interpret category prevalence within source regimes rather than as a continuous time series, distinguish the historical administrative summaries from the richer structured matrices, and flag the limitations of the low-detail 2007 source throughout the analysis.

C Additional Empirical Results and Robustness

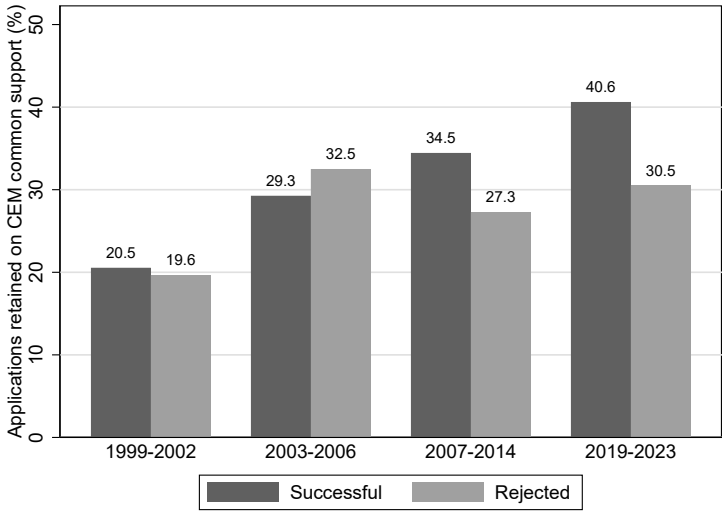
C.1 Covariate Balance and Common Support

Figure 14 compares covariate balance under the two empirical designs and reports the share of applicants retained on CEM common support. Both approaches substantially reduce the large pre-weighting differences between successful and rejected applicants. CEM achieves balance by restricting the analysis to applicants with overlapping coarsened fiscal histories, while period-pooled entropy balancing retains the broader complete-covariate sample and balances the targeted moments through reweighting. The CEM estimates should therefore be interpreted as effects for successful applicants on common support, whereas the entropy-balanced estimates apply to the broader population of successful applicants with complete covariates.

Figure 14: Covariate balance and common support



(a) Covariate balance across empirical designs



(b) Applications retained on CEM common support

Notes: Panel (a) reports signed standardized mean differences between successful and rejected applicants in the unweighted sample, after applying the frozen CEM ATT weights, and after applying the preferred period-pooled entropy-balancing weights. The vertical reference lines mark absolute standardized differences of 0.10. Panel (b) reports the share of complete-covariate successful and rejected applications retained on CEM common support in each institutional period. Entropy balancing retains the complete-covariate sample and therefore has no corresponding common-support-retention measure.

C.2 Dynamic Effects on Additional Fiscal Outcomes

Figures 15–18 extend the dynamic analysis to tax revenue, operating expenditure, total liabilities, and cash and bank deposits. Each figure compares the preferred stacked CEM estimates with estimates obtained using the preferred period-pooled entropy-balancing weights. The CEM estimates are based on successful applicants with rejected applicants in the same matching cells, whereas entropy balancing retains the broader complete-covariate applicant sample. For both designs, the samples are reconstructed outcome by outcome after requiring a complete $[-3, +3]$ event window.

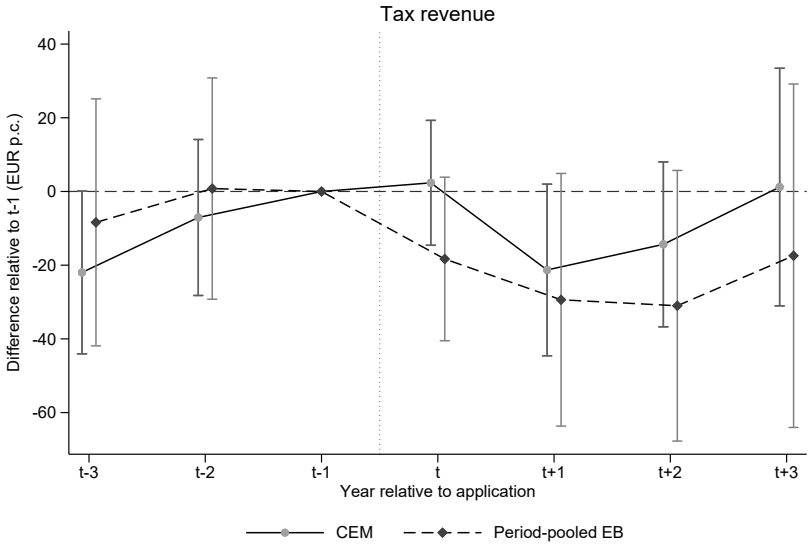
Tax revenue shows no evidence of a positive grant-year response under either design. The CEM estimate is close to zero, while the entropy-balanced estimate is negative but statistically imprecise. Both designs produce negative coefficients in the first two post-award years, but the estimates have wide confidence intervals. Under entropy balancing, the post-award coefficients are jointly insignificant ($p = 0.154$). The results therefore do not indicate a robust increase in tax collection following receipt of the grant.

Operating expenditure declines around the award year under both designs. The entropy-balanced grant-year estimate is approximately EUR 48 per resident and is marginally significant, while the CEM estimate is smaller. The estimates remain negative at $t + 1$, but subsequently move back toward zero and the post-award entropy-balanced coefficients are jointly insignificant ($p = 0.262$). This pattern is consistent with some short-run expenditure restraint, but not with a persistent reduction in operating expenditure.

Total liabilities decline relative to rejected applicants after the award under both designs. Under entropy balancing, the estimated difference reaches approximately EUR 217 per resident by $t + 3$, and the post-award coefficients are jointly significant at the five-percent level. This pattern should nevertheless be interpreted cautiously. The entropy-balanced pre-period coefficients are jointly significant ($p = 0.001$), and both designs already show negative differences before the award year. The subsequent decline may therefore reflect differential pre-existing liability trajectories rather than an effect of the grant.

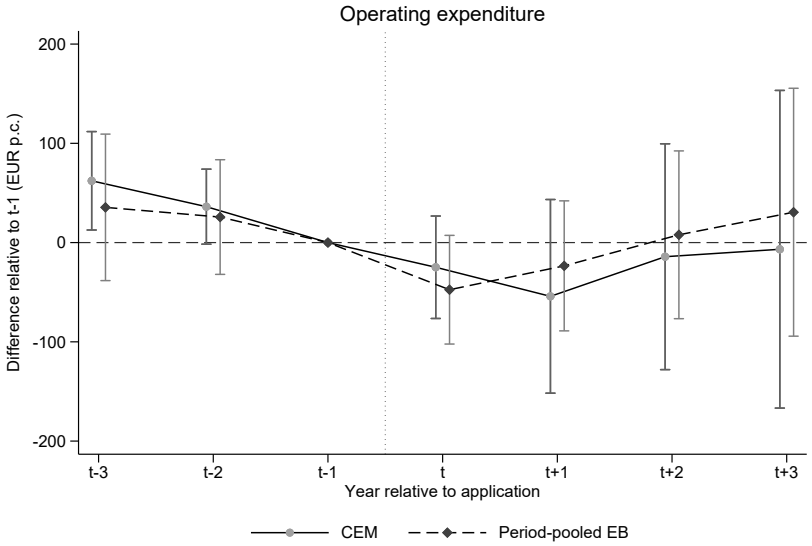
Finally, neither design shows a systematic response in cash and bank deposits. The point estimates change sign across post-award years and are imprecisely estimated. The entropy-balanced post-award coefficients are jointly insignificant ($p = 0.523$). Taken together, the additional outcomes provide limited evidence of a broad fiscal restructuring beyond the immediate improvement in annual margin and financial-year surplus. The most suggestive component response is a temporary reduction in operating expenditure, while the liability results are compromised by differential pre-trends.

Figure 15: Dynamic effects on tax revenue



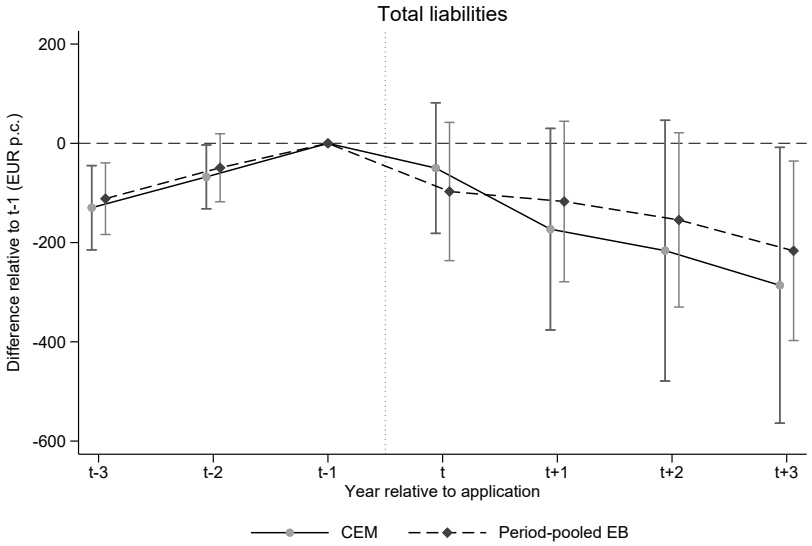
Notes: Points are successful-minus-rejected applicant differences relative to $t-1$; bars are 95 percent confidence intervals. CEM uses the preferred all-events matched stack, applicant-event fixed effects, and CEM-cell-by-relative-time fixed effects. Period-pooled entropy balancing uses the preferred mean-and-variance weights, applicant-event fixed effects, and application-year-by-relative-time fixed effects. In each design, the weights are re-normalized after imposing a complete $[-3,+3]$ outcome window. Standard errors are clustered by municipality. The outcome is measured in euros per resident.

Figure 16: Dynamic effects on operating expenditure



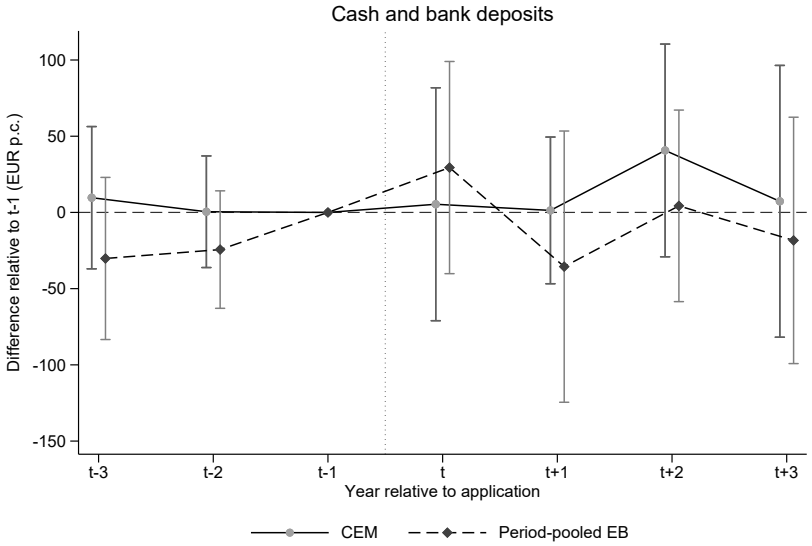
Notes: Points are successful-minus-rejected applicant differences relative to $t-1$; bars are 95 percent confidence intervals. CEM uses the preferred all-events matched stack, applicant-event fixed effects, and CEM-cell-by-relative-time fixed effects. Period-pooled entropy balancing uses the preferred mean-and-variance weights, applicant-event fixed effects, and application-year-by-relative-time fixed effects. In each design, the weights are re-normalized after imposing a complete $[-3,+3]$ outcome window. Standard errors are clustered by municipality. The outcome is measured in euros per resident.

Figure 17: Dynamic effects on total liabilities



Notes: Points are successful-minus-rejected applicant differences relative to $t-1$; bars are 95 percent confidence intervals. CEM uses the preferred all-events matched stack, applicant-event fixed effects, and CEM-cell-by-relative-time fixed effects. Period-pooled entropy balancing uses the preferred mean-and-variance weights, applicant-event fixed effects, and application-year-by-relative-time fixed effects. In each design, the weights are re-normalized after imposing a complete $[-3,+3]$ outcome window. Standard errors are clustered by municipality. The outcome is measured in euros per resident.

Figure 18: Dynamic effects on cash and bank deposits



Notes: Points are successful-minus-rejected applicant differences relative to $t-1$; bars are 95 percent confidence intervals. CEM uses the preferred all-events matched stack, applicant-event fixed effects, and CEM-cell-by-relative-time fixed effects. Period-pooled entropy balancing uses the preferred mean-and-variance weights, applicant-event fixed effects, and application-year-by-relative-time fixed effects. In each design, the weights are re-normalized after imposing a complete $[-3,+3]$ outcome window. Standard errors are clustered by municipality. The outcome is measured in euros per resident. Because cash data are less complete, this figure uses a smaller outcome-specific sample than the other figures.

C.3 Robustness to Repeated Applications and Grant Histories

The preferred stacked event study treats each supported applicant-year as a separate event and therefore preserves the recurrent nature of the program. Table 19 examines whether the results are driven by municipalities contributing repeatedly or by grants received before or after the focal application. The grant-year improvement in financial-year surplus is positive across all restrictions. The annual-margin estimate is also positive in every specification, although it is smaller and imprecise when only the first eligible event per municipality is retained. None of the specifications shows a persistent positive improvement after the grant year. In the first-event annual-margin specification, the post-award coefficients are jointly significant because they are negative rather than because the initial improvement persists. Because excluding municipalities that later receive another grant conditions on the realized post-award treatment path, we treat that restriction only as a sensitivity exercise.

Table 19: Stacked event-study sensitivity to repeated applications and grant histories

Sample or weighting	Events	t	$t+1$	$t+2$	$t+3$	Joint post p
Panel A: Annual margin						
All matched events	582	92.6*** (26.3)	-24.3 (24.0)	-67.4 (43.6)	16.5 (29.1)	0.209
First eligible event per municipality	156	40.6 (25.1)	-57.2* (33.7)	-120.2*** (39.3)	-59.6 (39.8)	0.024
Municipality-equalized event weights	582	106.8*** (27.2)	-33.1 (24.2)	-71.5 (44.2)	-0.7 (30.3)	0.238
No grant in $t-3$ to $t-1$	139	172.1*** (61.9)	-43.9 (53.4)	-197.4* (109.3)	11.7 (60.5)	0.334
No grant in $t+1$ to $t+3$	189	141.0*** (44.3)	-42.8 (38.5)	-136.0 (84.9)	-12.2 (44.6)	0.412
No other matched event within ±3 years	118	101.5** (50.8)	-66.7 (55.1)	-211.6** (90.6)	-39.5 (68.5)	0.145
Panel B: Financial-year surplus						
All matched events	579	104.4*** (26.8)	-26.2 (27.8)	-31.7 (43.4)	56.2 (36.1)	0.179
First eligible event per municipality	156	108.0** (46.6)	13.7 (49.4)	-75.3 (46.1)	-31.9 (45.0)	0.190
Municipality-equalized event weights	579	126.4*** (32.3)	-18.3 (32.0)	-33.2 (44.6)	38.1 (35.9)	0.408
No grant in $t-3$ to $t-1$	139	225.4*** (72.5)	-59.3 (66.1)	-141.7 (117.1)	89.1 (63.5)	0.304
No grant in $t+1$ to $t+3$	189	151.5*** (47.7)	-64.5 (43.1)	-97.3 (88.9)	16.2 (39.0)	0.394
No other matched event within ±3 years	118	142.7** (56.3)	-76.9 (51.1)	-190.2** (95.5)	-5.3 (76.4)	0.221

Notes: Entries are successful-minus-rejected applicant differences in euros per resident relative to $t-1$; municipality-clustered standard errors are in parentheses. All specifications use the original CEM cells, re-establish common support after the stated sample restriction, and include applicant-event and CEM-cell-by-relative-time fixed effects. The joint post p-value tests the null that the coefficients at $t+1$, $t+2$, and $t+3$ are jointly zero. The no-later-grant specification conditions on the realized post-award treatment path and is therefore a sensitivity exercise rather than a preferred causal estimand. $^{*}p<0.10$, $^{**}p<0.05$, $^{***}p<0.01$.