Intergovernmental Transfers as Magnets for Low-Income People

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Abstract

We demonstrate that intergovernmental transfers affect migration decisions. If local governments with large distributive allocations offer greater government employment, public works projects, and assistance to (small) businesses, they attract low-skilled or unemployed residents to move or stay in. We find that more allocations increase not only the share of low-income residents but also the economic disparity in the city. We exploit the major electoral reform in Japan as an instrumental variable.

Keywords: Intergovernmental transfers; distributive politics; migration; welfare magnet.
JEL codes: H77; O15; R23.

1 Introduction

Numerous studies have considered whether and why particular groups of voters, such as co-partisan and co-ethnic voters, receive more intergovernmental transfers. However, research on socioeconomic groups receiving greater distributive benefits is relatively scarce (Golden and Min, 2013). Bardhan and Mookherjee (2000) and Brollo et al. (2013) suggested that local elites receive more goods and services by using their political resources. This implies that wealthier people enjoy more allocations than the less wealthy, which may increase the economic disparity among residents. By contrast, recent evidence has indicated that intergovernmental transfers act as redistribution to low-income residents by improving education (Litschig and Morrison, 2013) and economic outcomes (Harada and Smith, 2022). Thus, the less wealthy enjoy the transfers, which may shrink economic disparity within the locality.

This study tests a novel hypothesis regarding redistributive consequences of intergovernmental transfers. We argue that transfers affect the migration decisions of low-income citizens. If local governments receiving larger transfers offer greater government employment, public works projects, and assistance to (small) businesses, these policies attract low-skilled or unemployed residents to move or stay in. By contrast, if local governments with smaller transfers have limited abilities to do so, this motivates low-skilled or unemployed residents to move out. Taken together, we hypothesize that more transfers increase the size of low-income residents, thus increasing the economic disparity in the locality.

An empirical test for our hypotheses is challenging due to potential simultaneity; the larger number of low-income residents induces a central government to allocate more money to the locality as financial assistance. We address this problem by using an instrumental variable drawn from the major electoral system reform in 1994 in Japan. Using panel data from 691 cities in the 1990s, our IV estimation shows that more transfers increased the share of low-income residents while decreasing the share of high-income residents. Moreover, the larger transfers increased economic inequality among the residents.

This study contributes to the literature in two ways. First, it offers new evidence for the redistributive consequences of intergovernmental transfers. Past research might have underestimated the positive outcomes of transfers for low-income residents because more transfers attract them, which can deteriorate economic indicators even when some low-income residents enjoy better economic outcomes. Additionally, transfers can enlarge economic disparity among residents, even when the low-income group receives benefits. Second, this study is linked to the welfare magnet hypothesis suggesting that localities with generous welfare benefits attract welfare recipients and low-skilled immigrants (Agersnap, Jensen and Kleven, 2020; Fiva, 2009). We show that fiscal transfers from the central to local governments act like magnets for low-income people.

2 Materials and Methods

We developed panel data for 691 Japanese cities between 1993 and 1998. This period was chosen because our outcome variables were obtained from the Housing and Land Survey for these two years. Additionally, this period also includes the major electoral system reform that occurred in 1994, which was used as an exogenous shock. We focus on cities among approximately 3,200 municipalities (including cities, towns, and villages) because cities offer a broader range of administrative services than towns and villages.

The outcome variables are the proportion of households in different income groups and city's Gini coefficient. The Housing and Land Survey provides the number of households in each of the several income brackets, the definitions of which vary slightly from year to year. We standardized the definition across the years and generated three categories: low-income with an annual household income of fewer than 4 million yen, middle-income with 4 to 7 million yen, and high-income with 7 million yen or more. We calculated the percentage of households in each income group in the city. We further calculated the logarithm of the Gini coefficient as a measure of economic disparity using the standardized seven income brackets.

The endogenous explanatory variable is the logarithm of the local allocation tax grant (henceforth, LAT) per capita. The LAT is a block grant from the national government to municipalities, primarily comprising of ordinary and special allocation tax grants. The former is programmatically determined, whereas the latter addresses fiscal demand not considered by the former and is subject to political discretion. The allocations of these two grants were not determined independently and should be combined. We excluded categorical subsidies—including social security expenditures, solely financed by national treasury disbursements.

As LAT per capita is endogenous to the overall income of residents within the city, we use an instrumental variable approach inspired by Harada and Smith (2022). We focus on the well-known relationship between seat per capita and transfer per capita (Ansolabehere, Gerber and Snyder, 2002; Horiuchi and Saito, 2003). Each legislator holds the same power; thus, legislators elected from districts with fewer voters can deliver greater benefits per capita. Malapportionment and the uneven allocation of legislative seats across the districts have been major political issues in Japan. However, the electoral system reform in 1994 that replaced multi-member districts with single-member districts for the Lower House elections resulted in the major reallocation of legislative seats, thereby changing seat per capita across Japan between the two elections in 1993 (before the reform) and 1996 (after the reform). We use this change in (the logarithm of) the allocation of legislative seats per capita as an exogenous shock and, thus, an instrumental variable for the LAT per capita. The data were obtained from Horiuchi and Saito (2003).

We include several control variables, such as logged population, the percentage of population under age 15 and over age 65, population growth rate (relative to five years ago), and year and city fixed effects. City fixed effects are vital to control for all time-invariant political and economic characteristics of cities between 1993 and 1998. Data were obtained from the census. We interpolated the variables for years when the data were unavailable. Our identification assumptions are twofold. First, seat per capita was strongly correlated with LAT per capita. Second, after controlling for the covariates, the change in seat per capita was independent of both the change in the outcome variables and unobservable confounders. The second assumption is plausible because the reform was mechanically implemented without political or partisan manipulation (Narita, 1997).

3 Results

Table 1 reports the first-stage results for the relationship between the log of seat per capita as the instrumental variable and log of LAT per capita. Column (1) focuses on 1988 and 1993 without the electoral reform, which serves as a placebo check. Column (2) focuses on the 1993-1998 period, when the electoral reform precipitated a major change in seat per capita. As anticipated, a 1% increase in seat per capita is associated with a 0.58% increase in LAT per capita in column (2). This relationship is strong only from the 1993-1998 period.

Table 2 reports the OLS and IV estimation results with the percentages of three income groups and the Gini coefficient as the outcome variables. We use the predicted logged LAT from the the first-stage regression in columns (5)–(8). The coefficients in the IV estimation are larger than those in the OLS estimation. Column (5) reveals that a 1% increase in LAT per capita increases the percentage of low-income residents by approximately 0.14%. Column (6) reports no statistically significant coefficient for the percentage of middle-income residents. Notably, column (7) indicates that a 1% increase in LAT per capita reduces the percentage of high-income residents by approximately 0.15%. We interpret that the high-income residents moved out of the city receiving more transfers because the increasing size of low-income residents negatively affected the utility of high-income residents.

Finally, columns (4) and (8) of Table 2 use the Gini coefficient as the outcome variable. Both the OLS and IV coefficients are positive and significant, but the IV coefficient is larger. A 1% increase in LAT per capita increases the Gini coefficient by approximately 0.028%.

4 Conclusion

This study demonstrates that more transfers attract low-income residents to move or stay in, whereas high-income residents to move out. Furthermore, more transfers increase the Gini coefficient within a city. Our findings imply that distributive intergovernmental transfers affect the lives of low-income residents in an unanticipated manner in the literature.

Table 1: First stage results for seat per capita and LAT per capita

Pre-post years	(1) 1988-93	(2) 1993-98
ln seat per capita	0.8059	0.5751***
	(0.5249)	(0.1145)
Control variables	✓	✓
City fixed effects	✓	✓
Year fixed effects	✓	✓
First-Stage F Statistics	5.322	50.271
Within R-squared	0.5156	0.3862
Observations	1350	1,382

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses are clustered by single-member district and year. First-Stage F statistics are computed using `tF` in Stata (Lee et al., 2022).

Table 2: Estimated effects of Local Allocation Tax (LAT) per capita on the percentage of three income groups and the Gini coefficient

	(1)	(2)	(3)	(4)
Estimation Method	OLS	OLS	OLS	OLS
Pre-post years	1993-98	1993-98	1993-98	1993-98
Outcome variable:	% Annual household income in JPY (log)			ln(Gini
	fewer than 4 mil.	4–7 mil.	over 7 mil.	coefficient)
ln LAT per capita	0.0394^{***}	-0.0020	-0.0516^{***}	0.0081^{***}
	(0.0042)	(0.0028)	(0.0052)	(0.0015)
Control variables	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓
Mean of non-logged outcome in 1993	0.4186	0.3211	0.2603	0.3401
Within R-sq	0.3094	0.3947	0.2250	0.4161
Observations	1,382	1,382	1,382	1,382

	(5)	(6)	(7)	(8)
Estimation Method	IV	IV	IV	IV
Pre-post years	1993-98	1993-98	1993-98	1993-98
Outcome variable:	% Annual household income in JPY (log)			ln(Gini
	fewer than 4 mil.	4–7 mil.	over 7 mil.	coefficient)
ln LAT per capita	0.1364^{***}	-0.0136	-0.1512^{***}	0.0279^{***}
	(0.0211)	(0.0119)	(0.0256)	(0.0064)
Control variables	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓
Mean of non-logged outcome in 1993	0.4186	0.3211	0.2603	0.3401
First-Stage F Statistics	50.271	50.271	50.271	50.271
tF adjusted 95% CI	[.091, .182]	[-.039, .012]	[-.206, -.096]	[.014, .042]
Observations	1,382	1,382	1,382	1,382

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses are clustered by single-member district and year. First-Stage F statistics and tF adjusted 95% confidence intervals are computed using Stata's ado program `tF` (Lee et al., 2022).

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Appendix Table

Table .1: Descriptive statistics by year

	N	Mean	SD	Min	Max
1988					
% Annual household income: fewer than 4 mil. JPY (log)	675	-0.660	0.237	-1.358	-0.129
% Annual household income: 4 – 7 mil. JPY (log)	675	-1.184	0.253	-2.364	-0.756
% Annual household income: over 7 mil. JPY (log)	675	-1.983	0.493	-3.629	-0.930
Gini Coefficient	675	-1.071	0.088	-1.328	-0.859
Local allocation tax per capita (log)	675	-3.918	1.686	-9.521	-1.430
Legislative seats per capita (log)	675	1.451	0.336	0.822	1.944
Population (log)	675	11.312	0.898	9.135	14.954
% population aged 15 and younger	675	0.199	0.021	0.114	0.291
% population aged 65 and older	675	0.120	0.033	0.045	0.212
Population growth (t / t-5)	675	1.003	0.014	0.884	1.085
1993					
% Annual household income: fewer than 4 mil. JPY (log)	691	-0.912	0.288	-1.796	-0.243
% Annual household income: 4 – 7 mil. JPY (log)	691	-1.148	0.161	-1.846	-0.824
% Annual household income: over 7 mil. JPY (log)	691	-1.424	0.420	-2.981	-0.625
Gini Coefficient	691	-1.083	0.095	-1.351	-0.842
Local allocation tax per capita (log)	691	-3.559	1.742	-9.244	-0.908
Legislative seats per capita (log)	691	1.428	0.361	0.759	2.005
Population (log)	691	11.313	0.905	8.966	14.994
% population aged 15 and younger	691	0.173	0.020	0.094	0.257
% population aged 65 and older	691	0.143	0.039	0.053	0.253
Population growth (t / t-5)	691	1.003	0.011	0.963	1.081
1998					
% Annual household income: fewer than 4 mil. JPY (log)	691	-0.868	0.242	-1.638	-0.261
% Annual household income: 4 – 7 mil. JPY (log)	691	-1.202	0.146	-1.925	-0.907
% Annual household income: over 7 mil. JPY (log)	691	-1.387	0.352	-2.720	-0.682
Gini Coefficient	691	-1.054	0.085	-1.356	-0.829
Local allocation tax per capita (log)	691	-3.154	1.421	-8.467	-0.660
Legislative seats per capita (log)	691	0.898	0.199	0.541	1.417
Population (log)	691	11.323	0.916	8.774	15.017
% population aged 15 and younger	691	0.154	0.018	0.089	0.229
% population aged 65 and older	691	0.172	0.044	0.071	0.304
Population growth (t / t-5)	691	1.001	0.008	0.967	1.033