

METHODOLOGY AND DATA COMPANION

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Where does a dollar given to a Jewish federation end up?

Methodology and data companion to the working paper

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A full working paper, with the complete introduction, literature review, data and design, results, discussion, limitations, conclusion and references, accompanies this companion.

© 2026 Heshbon and the author. This companion explains how the working paper was built and how to read its results. It can be shared and cited with attribution.

At a glance	
Research question	How many organizations does a charitable dollar pass through before it reaches one that runs a program, what is taken from it at each transfer, and does the answer differ by the size of the community that gave it?
Data	A panel of 2,335 IRS Form 990 returns filed by 265 federation-system entities for tax years 2014 to 2024, yielding 176,718 grant lines and 26,430 distinct recipients, combined with the Form 990 filings of the receiving organizations themselves.
Unit of analysis	The dollar, traced through a sequence of organizations. Community results are reported for 165 metropolitan areas formed by clustering filing entities within 25 miles of one another.
Statistical method	An absorbing Markov chain with six transient states and three absorbing states, solved in closed form. Transition probabilities are read from each intermediary’s own return rather than assumed.
Headline finding	Of every \$100, \$86.97 reaches an organization that runs a program, \$12.16 is absorbed by management and fundraising, and \$0.88 is lost to unusable addresses. The average delivered dollar crosses 1.39 intermediaries.
What it shows	Transit is cheap and concentrated in the first organization. The cost of additional intermediaries is informational rather than monetary, and it falls hardest on the smallest communities, whose returns record as domestic a transfer that is bound abroad.

The question behind the paper

A person who gives to a Jewish federation is told the money supports the community, and in most American cities the federation is the body that decides what that means. It runs one campaign and a committee divides the proceeds. The tax return records the outcome of that decision as a list of organizations that received money.

For a large share of the total those organizations are not schools, food programs or care homes. They are other charities whose own main activity is giving money away again. Each return is accurate about its own leg of the journey and

silent about every leg after it, so a federation in Wisconsin discloses a grant to an organization in New York, the New York organization discloses a grant to a body operating in Jerusalem, and no filing discloses the trip.

The paper asks three questions of that structure. How many organizations does a dollar pass through before it reaches one that runs a program? What is taken from it at each transfer? And does the answer differ by the size of the community that gave it?

Where the data come from

The federation panel. A database of 2,335 IRS Form 990 returns filed by 265 federation-system entities for tax years 2014 to 2025, parsed to the grant, expense, compensation, endowment and related-organization level. Analysis is restricted to 2014 through 2024, because 2025 holds only 17 returns. Every table filters on the current version of a return; 51 filings supersede an earlier one for the same period, and counting both would double roughly 2.6 percent of all dollars.

The grant file. 176,718 Schedule I lines from those returns, carrying recipient name, employer identification number, address, amount and purpose. Aggregated to the recipient level they resolve to 26,430 distinct organizations and \$27.62bn.

The receiving organizations' own returns. The distinguishing feature of this study is that it does not stop at the federation. Total expenses, officer compensation and salaries for the largest recipients come from the ProPublica Nonprofit Explorer extract of Form 990 filings. These supply the second and third legs of the journey.

The national body's own grant file. The Jewish Federations of North America files Form 990 like any other charity. Its Schedule I, its Part IX spending page and its compensation schedule are read directly, which converts the largest single unobserved transfer in the system into a measured one.

Community geography. Each filing entity is placed by the city and state on its return and geocoded to the median ZIP centroid of that city from the United States Postal Service list. 99.3 percent of grant dollars resolve to a point on the map. Community institution counts come from the Heshbon Community Database of July 2026, 2,033 institutions across 319 communities, used to size communities and never to value a grant.

The statistical method, named and explained

The paper does not run a hypothesis test as its main analysis. Its engine is an absorbing Markov chain, with a classification stage in front of it and a sensitivity stage behind it.

A Markov chain is a model of a system that moves between a finite set of states in discrete steps, in which the probability of the next state

depends only on the current state and not on the path taken to reach it. A state is absorbing if, once entered, it cannot be left. Here the transient states are kinds of intermediary and the absorbing states are delivery to an operating charity, absorption by management and fundraising, and loss to an unusable address. The assumption that makes this legitimate is that intermediaries do not condition on provenance: the United Israel Appeal disburses to the Jewish Agency in the same proportion regardless of which federation supplied the funds.

First, filing entities whose head offices sit within 25 miles of one another are merged into one metropolitan unit by single-linkage clustering, because a metro routinely files two or three returns and reading any one alone misstates the place. The 265 entities collapse into 165 areas.

Second, every recipient is classified once, on dollars rather than on any single spelling of its name, as an intermediary or an endpoint. A recipient is an intermediary if it is itself a federation-system filer, if the plurality of its money falls in a grantmaking or donor-advised category, if it is a community foundation or united way, or if it carries an American Friends style name and at least half of its money is coded as overseas. That last conjunction matters: a name test alone misclassifies operating charities such as the Joint Distribution Committee and the American Technion Society, moving about \$1.4bn to the wrong side. On a dollar basis 63.7 percent of grants reach endpoints and 35.2 percent reach intermediaries.

Third, the chain is solved. Writing the transient block as Q and the absorbing block as R , the fundamental matrix $N = (I - Q)^{-1}$ gives the expected number of visits to each intermediary and $B = NR$ gives the probability of ending in each absorbing state. Solution is by direct inversion; an iterative expansion carried to six transfers reproduces it to the cent and is reported as an internal check rather than a second method.

Fourth, transfers to the national body are re-attributed by look-through. Federations sent it \$2.56bn, filed as domestic grants. Its own returns show that 77.1 cents of every dollar it spends leaves as a grant to Israel and overseas and 14.6 cents stays inside the organization. Those rates are applied year by year rather than as a period average. Sensitivity is reported rather than asserted: the radius separating a local grant from

a distant one is set at 50 miles and re-run at 25 and 100, and no ordering changes.

Key results from the paper

Table 1. Where \$100 given to a federation comes to rest, by transfer.

Transfer	State	Arrives carrying	Delivered here	Absorbed here	Leaves with
Transfer 1	The local federation	\$100.00	\$62.15	\$10.36	\$26.74
Transfer 2	Second intermediary, five kinds	\$26.74	\$16.81	\$1.41	\$8.42
Transfer 3	Third, chiefly the United Israel Appeal	\$8.42	\$6.91	\$0.33	\$1.17
Transfer 4	Fourth, the Jewish Agency channel	\$1.17	\$0.95	\$0.05	\$0.17
Transfer 5	Fifth	\$0.17	\$0.14	\$0.01	\$0.02
Transfer 6	Sixth and beyond	\$0.02	\$0.02	\$0.00	\$0.00

Note. Dollars of the original \$100. Delivered includes both grants reaching an operating charity and programs the intermediary runs itself. Columns sum to \$100.00 net of \$0.88 lost to unusable addresses.

Table 2. Destination of grant dollars by community size, tax years 2014 to 2024.

Community size band	Areas	Outward base	Local	Distant US	Overseas filed	Overseas look-through	Via national body
1. Major hub (100+)	2	\$11.08bn	38.3%	21.5%	40.1%	45.7%	7.2%
2. Large (30-99)	10	\$8.41bn	53.7%	36.3%	9.4%	20.2%	13.9%
3. Mid-size (12-29)	19	\$4.35bn	59.5%	29.8%	9.9%	16.7%	8.8%
4. Small (5-11)	18	\$1.19bn	61.4%	28.2%	5.4%	12.4%	9.1%
5. Very small (1-4)	34	\$0.27bn	61.8%	28.4%	4.3%	18.2%	18.1%
6. No listed institutions	82	\$0.25bn	53.9%	38.6%	6.3%	22.7%	21.4%
All areas	165	\$25.56bn	48.5%	28.3%	22.6%	30.3%	10.0%

Note. Bands count listed institutions in the area. Outward base is total grants less transfers between entities inside the same metropolitan area, which are a wash. Shares are dollar-weighted.

Table 3. What one dollar arriving at each kind of intermediary does next.

Intermediary	Onward	Own programs	Management and fundraising	Principal onward destination
The national body	85.4%	11.0%	3.6%	United Israel Appeal, 78.0% of its grants

Intermediary	Onward	Own programs	Management and fundraising	Principal onward destination
United Israel Appeal	97.3%	0.0%	2.7%	The Jewish Agency for Israel
Another federation	75.9%	13.8%	10.4%	A charity that runs programs
US fundraising arm	88.0%	0.0%	12.0%	The organization abroad it funds
Grantmaker or DAF sponsor	97.0%	0.0%	3.0%	Not disclosed

Note. Cents of one dollar arriving; rows sum to 100. Only the last two rows are modeled rather than read directly. The donor-advised row is the weakest: sponsors report expenses and payroll, but no filing records where the money finally goes, or when.

How to read the results

Table 1 is the core of the paper. Reading down the final column gives the money still in motion after each transfer: \$26.74 of the original \$100 after the first organization, \$8.42 after the second, \$1.17 after the third. Reading across the middle gives the cost of that motion: the first organization absorbs \$10.36 and every organization after it absorbs \$1.80 in total. The marginal cost of an additional transfer is on the order of a cent, because the intermediaries in the middle of the sequence hold almost no fixed capacity. The United Israel Appeal disbursed \$166m in its most recent filing with no reported salaries, and Fidelity Charitable disbursed \$10.5bn with none.

Table 2 carries the distributional result, and it runs against the expectation that small communities are drained by outside obligation. Export share falls almost monotonically as communities get smaller, from 61.6 percent in the largest band to 32.7 percent in the smallest. The exception is the band with no listed institutions at 44.8 percent, where there is little on the ground to receive a local grant.

The last two columns of Table 2 are where the filed record misleads. Small communities do not run their own operations abroad, so they buy into a shared one, and the national body takes 18.1 percent of the smallest band's outward giving against 7.2 percent of the largest band's. Because that transfer is filed as a domestic grant, the smallest band's overseas share reads 4.3 percent and is 18.2 percent once followed. Allentown reports no overseas giving at all and is at 35.2 percent looked through.

Table 3 explains why the cost of distance is so low and the disclosure so thin. Two of the five

intermediaries have no employees at all. An organization with no payroll is cheap to pass through and has almost nothing to report about what it did.

What the numbers do not claim

This is a model of the average dollar, not a trace of a particular one. It gives the expected journey of a dollar drawn at random from federation grantmaking and cannot say where any individual gift went.

It stops at the American border. The Jewish Agency's costs in Israel and the Joint Distribution Committee's costs in the field are outside the American filing system, so \$86.97 is what reaches an operating charity, not what reaches a person.

An endpoint has its own management and fundraising costs. Those are real and are excluded from the \$12.16, because they are the price of the service rather than the price of the trip. Counting them would raise the total and answer a different question. The method also cannot see time: money in a donor-advised fund has arrived at an intermediary and may sit for years, since there is no legal minimum payout.

Two classifications are arguable and their direction is known. Treating the American Technion Society or the Birthright Israel Foundation as an intermediary rather than an endpoint is defensible either way and moves cents rather than dollars. Treating the Joint Distribution Committee as an endpoint understates the count, because it regrants to local partners we do not follow.

One measurement problem deserves more attention than the headline. The share of grant

dollars with no usable recipient address is 5.0 and 5.6 percent in the two smallest community bands, against 0.1 to 1.2 percent everywhere else. Small federations itemize Schedule I far less completely, so the estimates for exactly the communities the paper is most interested in carry the widest uncertainty, in both directions.

Reproducing the analysis

The federation panel rebuilds from IRS Form 990 electronic filings for the 265 roster entities, filtered to current returns and to tax years 2014 through 2024. Returns for 2014 to 2017 are not served by the IRS, which publishes archives back to 2018 only, and must come from the GivingTuesday mirror; 2018 onward comes from the IRS monthly archives, which can be read over HTTP range requests by pulling the zip central directory and fetching only the wanted members. Some of those archives use Deflate64, which the Python standard library cannot read.

The recipient classification, the clustering radius, the local radius and the transition matrix are each a small number of parameters, all reported in the working paper's appendix, and the chain is solved with a single matrix inversion. Aggregate grant dollars reconcile exactly to the source database at \$27,622,712,806 across tax years 2014 to 2024, with no residual.