

METHODOLOGY AND DATA COMPANION

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Scale Over Sticker Price

Methodology and data companion to the working paper

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A full white paper, with the complete introduction, related literature, data and design, results, discussion, limitations, conclusion, and references, is available on request.

© 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	What predicts head-of-school pay in U.S. Jewish day schools, and how has posted tuition actually moved from 2017 to 2026?
Data	Three independent sources: a compensation file built from IRS Form 990 filings, a national independent-school benchmarking roster, and an annual panel of posted tuition.
Unit of analysis	The individual head of school for the compensation models (134 heads), and the school-year for the tuition panel (165 schools).
Statistical method	A log-linear ordinary least squares regression, with correlation analysis and a within-school tuition-change panel.
Headline finding	Total school revenue predicts head pay far more strongly ($r = 0.60$) than the tuition a school charges ($r = 0.15$); real posted tuition was roughly flat over the decade.
What it shows	Pay tracks the overall scale of the institution rather than its price; credentials carry a premium while career track does not.

The question behind the paper

Boards setting a head of school's pay often reach for tuition as the reference point, on the intuition that a school charging more should pay more. This paper shows that intuition runs close to backwards. It asks two linked questions: what actually determines head-of-school compensation, and how has posted tuition moved across the sector over roughly a decade.

The answers come from three separate datasets, which lets each finding be checked against an independent source rather than resting on a single annual survey.

Where the data come from

The compensation file. Head-of-school biography and pay fields were built from IRS Form 990 filings. An audit before modeling proved decisive: the fields turned out to be a single latest-known snapshot per person, back-filled across historical filing rows rather than a

true year-by-year series, so the raw records collapse to 134 uniquely identified heads, each represented by a most-recent snapshot.

The benchmarking roster. A national independent-school benchmarking dataset, drawn from the National Association of Independent Schools, Prizmah, and SAIS, covers 923 schools with tuition, enrollment, giving, and executive-pay metrics. Twenty-five schools were confidently matched to the compensation file after manual verification, of which 15 to 17 carry complete tuition and giving data.

The tuition panel. An annual panel of posted tuition covers 165 Jewish day schools from 2017-18 to 2025-26, drawn from association benchmarking records and independently verified. Because a price is recorded for every year a school reported, growth can be measured within each school rather than across differently composed samples.

The statistical method, named and explained

Compensation is modeled with a log-linear ordinary least squares regression: the natural log of a head's total pay is regressed on credentials, career track, denomination, school-size tier, and institutional revenue, so each coefficient reads as an approximate percentage difference in pay relative to a reference group, holding the other controls fixed. The scale relationship is summarized separately by a log-log elasticity of pay on revenue, and the tuition-versus-pay

comparison uses simple correlations. On the tuition side, growth is measured within each school against its own earlier price and then deflated by local June CPI-U, and a Wilcoxon signed-rank test compares elementary and high-school growth for schools reporting both levels. Significance is read at conventional thresholds, with results between 0.05 and 0.15 flagged as marginal. The compensation-file audit shapes every claim that follows, because the frozen-snapshot structure means all compensation results are cross-sectional and no trend in pay can be drawn from that file.

Key results from the paper

Table 1. Revenue predicts head pay far better than sticker tuition (matched subset).

Predictor	Correlation with log pay	p-value	n
Log total revenue	$r = 0.60$	0.017	15
Log tuition (weighted average)	$r = 0.15$	0.60	15

Note. Within the matched subset with complete data. Total revenue captures endowment income, philanthropy, and enrollment scale that the tuition rate alone does not.

Table 2. The credential premium in head-of-school pay.

Credential	Effect vs. no advanced degree	p-value
One advanced degree (n = 86)	+17.5%	0.010
Two advanced degrees (n = 34)	+35.2%	< 0.001

Note. Controlling for school-size tier. Reference group: no advanced degree (n = 14). The two-degree premium remains significant in a fuller specification adding career track and denomination.

Table 3. Tuition growth by denominational affiliation, 2017 to 2026.

Affiliation	Median nominal growth	Median real growth	Annualized nominal	n
Non-Orthodox	+29.2%	+1.1%	3.81%	50
Orthodox	+21.1%	-4.4%	3.19%	11

Note. Within-school change from each school's first to last observed year, deflated by June CPI-U. The 11-school Orthodox cell supports direction rather than a precise magnitude.

How to read the results

Table 1 carries the paper's title finding. Heads are paid in proportion to the overall scale of the institution they run, not to what the school charges families. The elasticity of pay on revenue is 0.29 (p below 0.001, R-squared of 0.37), which means a school with ten times another's revenue pays its head about 2.9 times as much, so pay scales with size but well below one-for-one.

Table 2 shows that advanced degrees carry a real premium that survives holding school size fixed, whereas career track does not: once size tier is controlled, internally promoted, lateral, founding, and outside-education heads are not statistically distinguishable, so the raw gaps by path mostly

reflect which size of school each path tends to serve. A denominational gap persists in pay, with Orthodox and Chareidi heads earning about 11.5 percent less after size controls (p = 0.019), narrowing at the largest schools. Table 3 shows the same divide on the tuition side, and it reframes the sector's affordability narrative: measured against consumer prices, the typical school held its real price about constant, and nearly half ended the period lower in real terms than they began.

What the numbers do not claim

The findings are associational and, on the compensation side, cross-sectional, because the frozen-snapshot file cannot support any within-

person or year-over-year pay trend. The cross-referenced institutional results rest on only 15 to 17 schools and should be read as exploratory hypotheses rather than settled population patterns. Denominational classification is inferred rather than authoritative and could be matched for a subset of the panel, so the 11-school Orthodox cell establishes direction, not magnitude. The tuition figures are published sticker prices, which do not reflect financial aid or discounting, and the parallel denominational patterns in pay and tuition draw on different, only partly overlapping samples, so they merit a dedicated matched follow-up rather than a causal reading.

Reproducing the analysis

The compensation file is built from IRS Form 990 filings, which are public. The benchmarking metrics come from the national independent-school roster assembled from association data, and the tuition series is an independently verified export of posted prices. Matching schools across files required manual screening because institutions appear only as free-text names, and fuzzy matching produced false positives between similarly named schools in different states. Rebuilding a genuine compensation time series would require reconstructing the per-filing pay field rather than the back-filled snapshot, which was outside this paper's scope. Replication materials are available from the author.