Even Top Investors Take Diversification Too Far and Leave Returns on the Table

From Star to Founder

EastRock

Diversification Ad Absurdum

Adam Shapiro

January 22, 2025

LET'S HEAR IT FOR the Michigan State University (MSU) endowment, which topped Pension & Investments (P&I)'s list of endowment returns with a 15.1% gain in fiscal year 2024. Importantly, 2024 was not just a short-term blip. MSU achieved 2nd place in P&I's ranking of five-year trailing performance—only Brown University did better—and in the ten-year category MSU is in 6th place—just behind Yale and just ahead of Princeton.

Since 2016, MSU has been run by Chief Investment Officer Philip Zecher. Dr Zecher is a nuclear physicist who was a partner in a hedge fund and co-founded Investor Analytics, a risk assessment firm. Publications like Bloomberg have noticed his work and results:

As a public institution, MSU has been portrayed as David to the Ivy League Goliaths. But there is another important contrast: unlike their private counterparts, many public universities like MSU disclose essentially every investment they hold. For observers like me, that's a gift, and I dialed up MSU's list of investments eager to learn.

What I found was quite different than I expected.

The public side of the portfolio checks the basic boxes. It consists of five long-only funds and 17 hedge funds. It's not especially differentiated—I don't think it tries to be—but it's an efficient way to get the job done. Zecher told Bloomberg that MSU favors domestic (U.S.) markets, which has been a great choice over the last 5-10 years and likely explains a lot of MSU's outperformance.

But then there's the private side.

MSU's private investment portfolio left me really scratching my head. It has a very high level of diversification that strikes me as suffocating alpha while delivering immaterial downside protection relative to a more concentrated portfolio.

Could it be that one of the best performing endowments of the last 5-10 years is actually leaving a lot on the table by spreading its capital too thinly across too many funds? Assuming MSU has some skill at manager selection, which I think it does[1], the answer is almost certainly yes.

Here is a basic rundown of MSU's portfolio:

MICHIGAN STATE UNIVERSITY ENDOWMENT – ASSET ALLOCATION

Asset Class	% of Portfolio	# of Funds
Equities	35%	5
Fixed Income	5%	1
Hedge Funds	22%	17
Private Equity	33%	82*
Private Real Assets & Real Estate	5%	16*

** excludes funds with $5mm or less of net asset value invested*

Zooming in on the private side (Private Equity, Real Assets, and Real Estate), we see that 38.1% of the portfolio is invested in 98 private funds, excluding funds in which MSU has $5mm or less invested. If these funds hold 20 underlying investments each[2], MSU would be exposed to 1,960 underlying investments (i.e., a lot).

With 1,960 underlying private investments, average position size (relative to the overall portfolio) would be 0.02% (i.e., tiny). Imagine getting the good news that one of your managers achieved a "ten-bagger" (a 10x return) and finding that it only added 0.2% return to your portfolio!

No doubt some underlying positions are larger than 0.02%, but it's still hard to see how MSU can consistently achieve above-average private investing returns with its capital spread so widely. Unfortunately, MSU doesn't disclose asset class returns, so we don't know what its PE performance has been. I suspect that MSU's relatively heavy allocation to growth equity and venture capital has helped it outperform general PE benchmarks over the last 5-10 years. But if that boost doesn't persist going forward, it is statistically unlikely for MSU to perform much above the private equity median in the years to come (more on this below).

To be clear, median private equity performance is not necessarily bad, it's just not what you'd expect from a top endowment. At median performance, it might be worth investing in private equity, but then again, it might not. The best endowments strive for PE performance well above the median where returns substantially outperform public markets and IRRs on an absolute basis can be mid-teens or higher, even into the 20's.

***

In that context, why has MSU (and to be fair, many of its peers) allocated its private portfolio with such a high level of diversification?

The intuitive answer would be safety. But a bit of analysis shows that a portfolio with fewer funds would be nearly as insulated from underperformance and preserve significantly more upside.

To analyze this tradeoff, I consulted a dataset with performance from 4,387 private equity and venture capital funds that began investing between 1998 and 2018. The average multiple of invested capital (MOIC) achieved by these funds was 1.77x and the median IRR was 12.8%[3].

Based on a Monte Carlo simulation, if an investor built a portfolio by choosing randomly from this universe of funds, the following are downside case probabilities with 82 funds in the portfolio (MSU's current number of PE funds) versus a portfolio with half as many funds:

DOWNSIDE CASE PROBABILITIES WITH VARYING DIVERSIFICATION

Probability of worse than...	Portfolio of 82 Funds	Portfolio of 41 Funds
1.45 MOIC (roughly 8% IRR)	0.1%	1.0%
1.50 MOIC (roughly 9% IRR)	0.4%	3.0%
1.55 MOIC (roughly 10% IRR)	1.9%	7.1%

Does reducing the number of funds add risk? Perhaps by a small amount.

But that's before MSU adds value by narrowing its aperture for allowing funds into its portfolio[4]. If MSU can add 0.1x of expected MOIC (about 130bps more IRR) by investing twice as selectively, the picture changes quite a lot. A portfolio of 41 funds in that case would be **safer** than the 82 fund portfolio at every level in the table above.

And the upside?

The Monte Carlo simulation showed that a portfolio of 82 funds selected at random has a 9.7% chance of achieving a 1.95x MOIC (roughly 15% IRR) or better. With 41 funds and 0.1x higher expected MOIC, that probability rises to 27.4%. If greater selectivity can add 0.2x expected MOIC to a 41 fund portfolio, the probability rises to 49.7%.

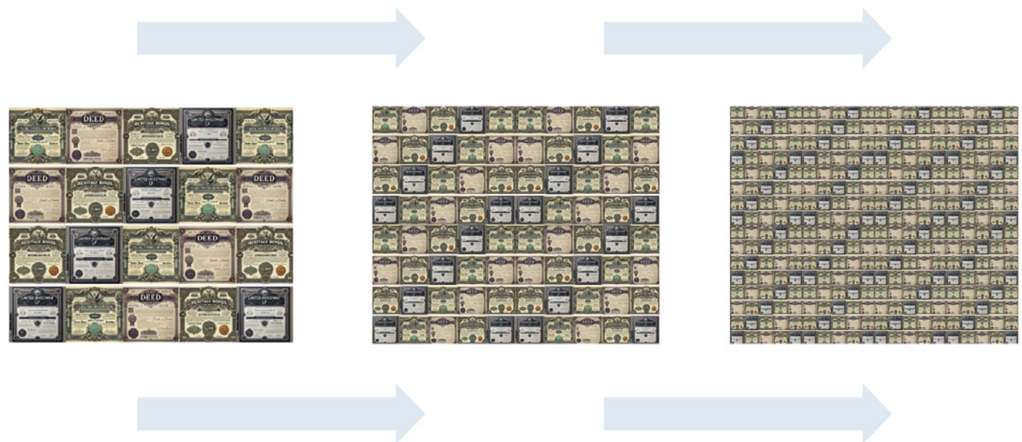
Can MSU increase its expected MOIC by 0.1-0.2x by investing more selectively? Obviously we can't know for sure. But there is a consistency to elite endowments—those on top tend to stay on top—indicating that manager selection is a skill that persists[5]. If MSU is one of those endowments, then the answer is likely yes.

***

Is a much more concentrated portfolio feasible as a practical matter? I believe it is, but let's acknowledge that there are stubborn obstacles to overcome. The thing about portfolios is that—similar to the process of viral cell replication—they "want" to become more fragmented over time. That's where the natural forces point.

Here is how I picture it:

THE INEXORABLE MARCH TOWARDS GREATER DIVERSIFICATION



What forces create this effect?

One of the forces is quite simple: Private equity is easy to add but hard to shed. Funds typically last 10–15 years, and while some investors use secondary markets to exit early, this can be complex or costly. Inertia sets in, and older funds remain on the books while new commitments are layered on top. Over time, this natural tendency to add (and not subtract) accumulates into a heavily diversified, and sometimes unwieldy, portfolio.

A second set of forces conspires to push investors into smaller private equity fund commitments that preclude meaningful deal-level concentration. To be clear, these "proliferation forces" are real and investors bend to them for perfectly rational reasons:

PROLIFERATION FORCE #1: Private equity funds themselves tend to be quite diversified. Intuitively, investors might be encouraged by this diversification to size their fund commitments larger. In most cases, however, investors “max out” based on how much exposure they want to the manager and/or the manager’s latest fund.

To see why, consider a PE fund that is expected to make 20 investments. If MSU wants to size underlying investments at an average of 0.2% of its portfolio—up from 0.02% described earlier as “tiny” but still quite a bit smaller than we target at East Rock in our family portfolios—it would need to commit $176mm, or 4% of its $4.4bn endowment. Even for aggressive allocators this would be a high level of fund concentration, and after several fund commitments of this size to the same investment firm, manager concentration would go through the roof.

This math makes diversification at the PE fund level a bug, not a feature.

PROLIFERATION FORCE #2: There is significant institutional and relationship pressure to “re-up” into the newest fund offered by existing managers in the portfolio. Investors place great emphasis on building and maintaining reputations as reliable partners, in part to secure access to top-performing funds in the future. To some, “being a good partner” means re-upping to reward good performance—or just effort—even if re-upping is not optimal from a portfolio-construction perspective. Sometimes the idea of "vintage diversification" justifies investing in multiple funds offered by the same manager. Over time, repeated commitments proliferate, leading to a steady increase in the number of funds in the portfolio.

PROLIFERATION FORCE #3: Many investors lack confidence in their ability to select top-performing managers. Rather than place a big bet on any one manager, they hedge by making smaller commitments to more funds, leading to a ballooning number of manager relationships and, by extension, an excessive number of underlying investments.

PROLIFERATION FORCE #4: The uncertain timing of capital calls is a liquidity challenge for many investors. Initially, PE fund commitments go unfunded; general partners call down capital over several years as they identify deals. Larger, "chunkier" commitments can produce unwelcome surprises if capital is called when liquidity is needed elsewhere or market conditions shift. As a result, many institutions size their commitments more conservatively and spread them out across numerous funds, further diversifying their portfolio.

***

So, what might MSU—and its myriad peers who face the same overdiversification forces—do differently?

It's easy to say that they should say "no" to more managers and size larger when they say "yes." I suspect that they should do that, but I also understand why they don't. The Ivy League endowments have advantages over MSU—they are larger, which gives them more financial resources and market clout, and it seems that their strong alumni networks give them a leg up in manager selection. Despite MSU's asset base of $4.4bn, its staff is quite small. MSU's caution may simply be enlightened self-awareness.

Still, there is a change in mindset worth considering—I call it a mindset of "killing the filler"—which puts investment teams on guard against overdiversification. This mindset may produce subtle changes, such as raising the bar on re-upping for the next fund. But it may also produce more profound changes. It may drive investors to smaller managers, which have higher returns, lower risk, and make fewer investments per fund. It may even drive investors to consider strategies that require a deeper dive into the weeds of private investing. These strategies, including direct private equity, private equity co-investments, PE secondaries, and other innovative structures, offer potential relief from unfunded commitments and greater ease of concentration.

Personally, I'd welcome more widespread adoption of innovative approaches. Greater investor demand for tailored structures would spark a corresponding increase in supply from managers—potentially to everyone's benefit. But that does not mean the playing field will be even. P&I will keep publishing its rankings. If I were betting on who will be at the top going forward, I'd place my money on endowments that create greater concentration by truly mastering the tools that kill the filler.

[1] I'm inferring that MSU likely adds value in its manager selection based on a scan of its top holdings, which contains some successful choices, as well as MSU's size of over $4bn, which allows for manager selection resources, and MSU's overall strong performance in the last ten years.

[2] 20 investments per fund is a guesstimate that is likely on the low side considering that MSU has about 30 venture fund positions and quite a lot of large cap buyout positions. Venture funds typically make 20-60 investments per fund and large cap buyout funds make an average of 21 investments per fund.

[3] IRR was reported for 4,387 funds; MOIC was reported for 2,398 funds.

[4] I am setting aside, for this exercise, the fact that MSU adds value via manager selection at the prior step, i.e. in choosing 82 funds from the PE universe. The exercise remains consistent because that value is set aside both before and after the reduction to 41 funds. The key question here is whether value can be added in moving from 82 to 41 funds.

[5] More on this in a future post.

East Rock Capital

NEWSLETTER
From Star to Founder
Insights from partnering with exceptional investment managers as they launch and build new firms

Published by **Adam Shapiro**
Managing Partner @ East Rock Capital, LLC | Generational Wealth Manager

EastRock

65 East 55th St, 33 Fl
New York NY 10022

T 212 630 5000
F 212 624 0231
info@eastrockcap.com