

A NEW YEAR'S RESOLUTION: NEW YEAR, NEW DATA & TECHNOLOGY!

Griff Norville, Principal

The arrival of a new year presents each of us with an opportunity to consider change. On the personal level, individuals commit themselves to any number of New Year's resolutions. Exercise more? Check. Eat healthier? On it. Identifying areas in need of change or improvement certainly has its place within organizations as well. And so, with the books closed on 2018 and a new year just underway, we humbly suggest that this may be an opportune time to make some changes that will positively impact your organization in 2019 and beyond. After all, now is as good a time as any to take stock and commit to getting your corporate house in order. Indeed, we know that many firms keep a (long) list of "Should-do" and "Could-do" initiatives aimed at making them more efficient, competitive and better positioned for growth. The biggest question, then, is where to start?

Glad you asked. For us, the answer is simple: We would encourage our LP clients and friends to consider the power of embracing data and technology in their businesses. Truth be told, the train has already left the station on this front; the industry has evolved over the last few years to the point where data and technology are no longer nice to haves, they are must haves. Moreover, when it comes to using data effectively, the gap between the winners, those who have committed to a data and technology initiative, and the losers, those who have not, has already widened to a chasm. The reality is that any LPs that are still reluctant to commit to this change are putting themselves in danger of being left behind.

The Ground Has Shifted

Despite the evolution that has already occurred in many areas of the private markets, some things remain the same – and we, too, remain certain of their staying power. Experienced LP investment teams and strong GP relationships lead to superior investment opportunities and better decision making. That is as true today as it has ever been. A move to embrace data and technology does not presume the weakening of that relationship. However, it is worth taking a moment to look around

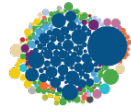
at how the ground beneath you has shifted: what may be making it harder to find, build and nurture those important general partner relationships?

First, the private markets are increasingly complex. Consider this stat: in 2018, Hamilton Lane reviewed a record number of more than 900 PPMs. LPs truly have more choice than ever before, and we explored this and the related trends in depth in our annual [Market Overview](#).

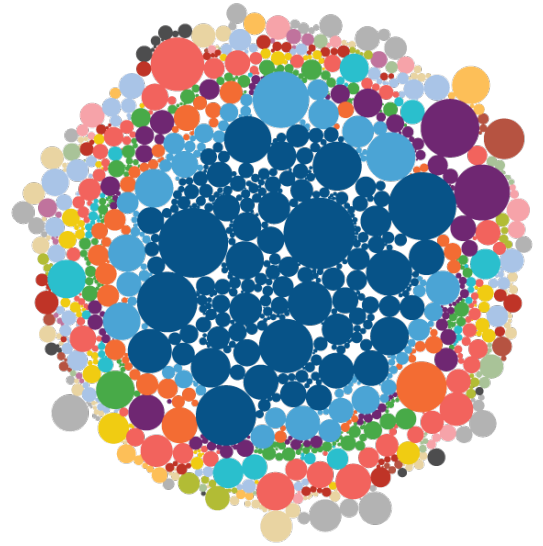
The count of private companies is increasing at a significantly faster rate than the count of public companies¹, and fundraising in the private markets is attempting to keep up with this larger opportunity set. For those worried this means the sky is falling, we offer a friendly reminder that, despite this tremendous growth, annual private market fundraising still only amounts to less than 2% of the MSCI ACWI market capitalization². With that said, we are riding the hockey stick, up and to the right, of new fund offerings. More general partner teams, new fund strategies being raised, spin-off groups and unique fund structures, expanding opportunities in emerging economies. The reasons behind the proliferation of choices are numerous and so are the bubbles in our favorite visualization of this phenomenon.

Complex Asset Class

Managers in existence in 1997
502 Funds | (312 GPs)



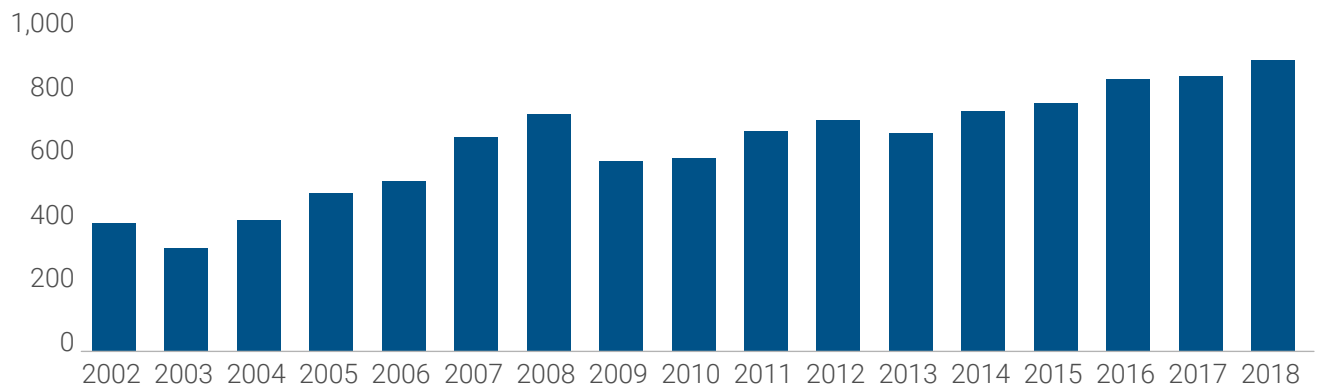
Managers in existence in 2017
2,690 Funds | (1,055 GPs)



Source: Hamilton Lane Data (June 2018)

Note: Each circle represents a manager and is categorized by strategy as defined by Hamilton Lane

PPMs Received by Hamilton Lane



Source: Hamilton Lane (January 2019)

Geez, Hamilton Lane, when you show it that way, it's even more daunting! One thing we hear over and over from investors is that internal budgets are not expanding as fast as this ocean of choice. LPs increasingly find themselves squaring off against this deluge using smart, sophisticated, experienced and nimble investment teams. Of course, "nimble" is often a euphemism for a team stretched thin and perhaps approaching its breaking point.

So, how are the leading firms solving for this? You probably saw this coming, but we think it's in the use of data and (most importantly) technology platforms to collect, organize and process said data for direct contribution to decision making. Collecting data for data's sake is not our suggestion. A massive flood of data has the potential to create its own problems, and so should be accompanied by a complementary and thoughtful strategy for how best to utilize it. Considering what technology to integrate into workflows and decision-making processes should go hand-in-hand with the decisions around what data to subscribe to and collect.

Decisions Matter

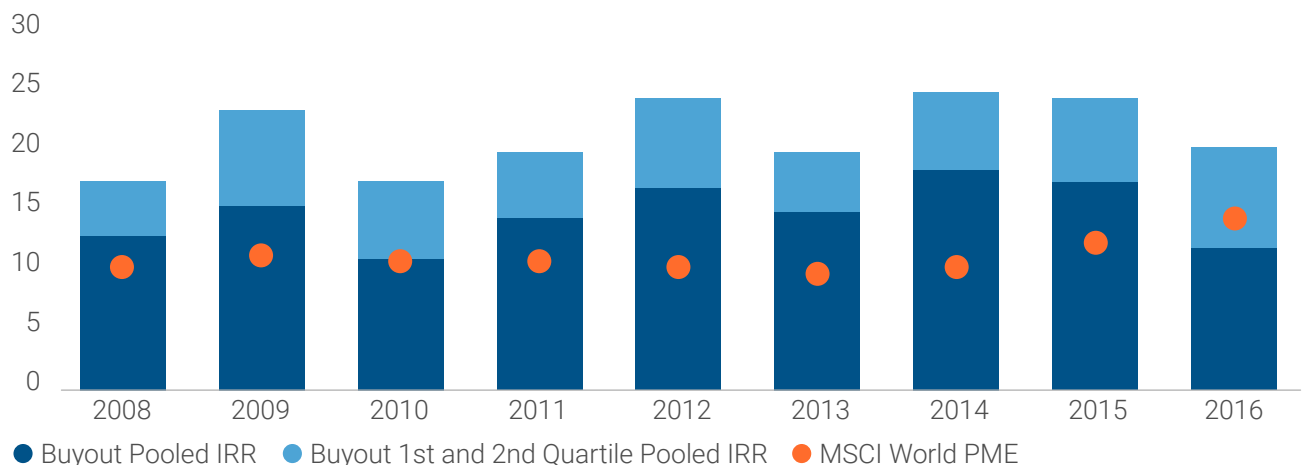
Speak to any peer that you admire in this asset class. For the industry leaders, one trend is crystal clear: data powers their decision making. To those that would argue that they've done just fine over the past twenty years relying on gut instinct and the aforementioned deep relationship building...we offer a gentle nudge to once again consider the shifting ground beneath your feet.

A couple of things:

First, and this may be controversial, but we think it's time that all of us acknowledge that we believe the outperformance of this asset class, compared to the public markets, is shrinking. Gasp! (Please notice we did not say "disappearing" – feel free to ask us for the data that demonstrates this.) Second, we are now living in a world of greater transparency in performance not just among GPs, but *among and between LP programs*. As the margin for error in investment selection shrinks and portfolio construction decisions are examined through this comparative light, it's clearer now than ever before that your tactical choices will either drive outperformance or lead to some uncomfortable post-mortem analysis should your portfolio fall behind.

If you are like us, you may invest in less than 8 percent of investment opportunities that come through your door. It's not even about selecting top quartile anymore! It's about identifying the drivers of return in GP portfolios and then digging deep to understand the repeatability of that performance in order to make distinctions between two managers that have both excelled in terms of surface-level metrics. GPs are increasingly armed with technology, which they use to understand how best to position their performance. If you are not keeping up, then the landscape is dramatically tilted in their favor. Today's investors should have streamlined, automated methods to cut up a track record and bring to the surface important insights that will affect decision making. Even improving marginally in investment selection decisions can translate into hundreds of extra basis points in performance.

Impact of Top & Bottom Quartile Funds: Buyout



Source: Hamilton Lane Data, Bloomberg (July 2018)
Please see endnotes.

And, let's not forget about portfolio construction. That oft-underappreciated aspect of this job is proving to be the most challenging area in our new world of choice. Take a look at our Periodic Table of Returns. Based on this chart alone, can anyone find a rule of thumb prescribing how best to tilt your portfolio by strategy or geography on a consistent basis? Portfolio construction shouldn't be a set-it-and-forget-it decision. The industry's strongest

LPs follow market trends closely and dive deeply into the individual return, volatility, liquidity and duration risks (among others) that characterize these different investment pools. Today, it's important to think and act tactically when it comes to designing a portfolio for both the near- and longer-term. Doing so gets a whole lot easier if you have comprehensive data and the ability to run sophisticated what-if models.

Pooled IRR by Vintage Year

1999	2000	2001	2002	2003	2004	2005	2006
EU Buyout 14.5%	Real Estate 25.4%	EU Buyout 36.5%	EU Buyout 32.7%	EU Buyout 21.4%	Natural Resources 22.9%	Growth Equity 20.0%	Distressed Debt 9.6%
Real Estate 13.7%	EU Buyout 20.7%	Real Estate 22.3%	Real Estate 23.5%	Distressed Debt 16.5%	EU Buyout 19.8%	Seed/Early VC 14.3%	Growth Equity 8.6%
ROW 10.5%	U.S. Mega/ Large 16.7%	Mezzanine 22.2%	Distressed Debt 22.1%	U.S. SMID 15.7%	Real Estate 17.6%	U.S. SMID 9.6%	Mezzanine 7.8%
Mezzanine 9.7%	U.S. SMID 12.8%	Distressed Debt 21.4%	All PM 21.8%	All PM 15.5%	U.S. Mega/ Large 12.7%	U.S. Mega/ Large 9.1%	Multi-Stage VC 7.4%
U.S. SMID 8.2%	ROW 11.6%	All PM 18.9%	U.S. SMID 18.3%	Mezzanine 9.9%	All PM 12.3%	EU Buyout 8.6%	U.S. SMID 7.3%
U.S. Mega/ Large 6.9%	All PM 11.1%	ROW 18.1%	Late-Stage VC 17.2%	Real Estate 8.5%	ROW 11.0%	Distressed Debt 8.2%	U.S. Mega/ Large 7.1%
All PM 6.0%	Growth Equity 10.6%	Growth Equity 17.7%	Multi-Stage VC 6.2%	Seed/Early VC 0.6%	Seed/Early VC 10.4%	ROW 8.1%	EU Buyout 6.5%
Late-Stage VC -0.2%	Mezzanine 10.4%	U.S. SMID 17.3%	Seed/Early VC -2.4%		U.S. SMID 10.4%	All PM 7.4%	All PM 5.7%
Multi-Stage VC -4.3%	Multi-Stage VC 2.9%	U.S. Mega/ Large 12.8%			Multi-Stage VC 8.1%	Mezzanine 7.0%	Seed/Early VC 5.3%
Seed/Early VC -6.9%	Late-Stage VC 0.9%	Multi-Stage VC 3.0%			Distressed Debt 3.8%	Multi-Stage VC 6.0%	Infrastructure 4.6%
	Seed/Early VC -2.7%	Seed/Early VC 1.5%				Infrastructure 5.8%	ROW 4.2%
		Late-Stage VC -3.3%				Real Estate -0.5%	Real Estate -0.2%
							Natural Resources -4.9%

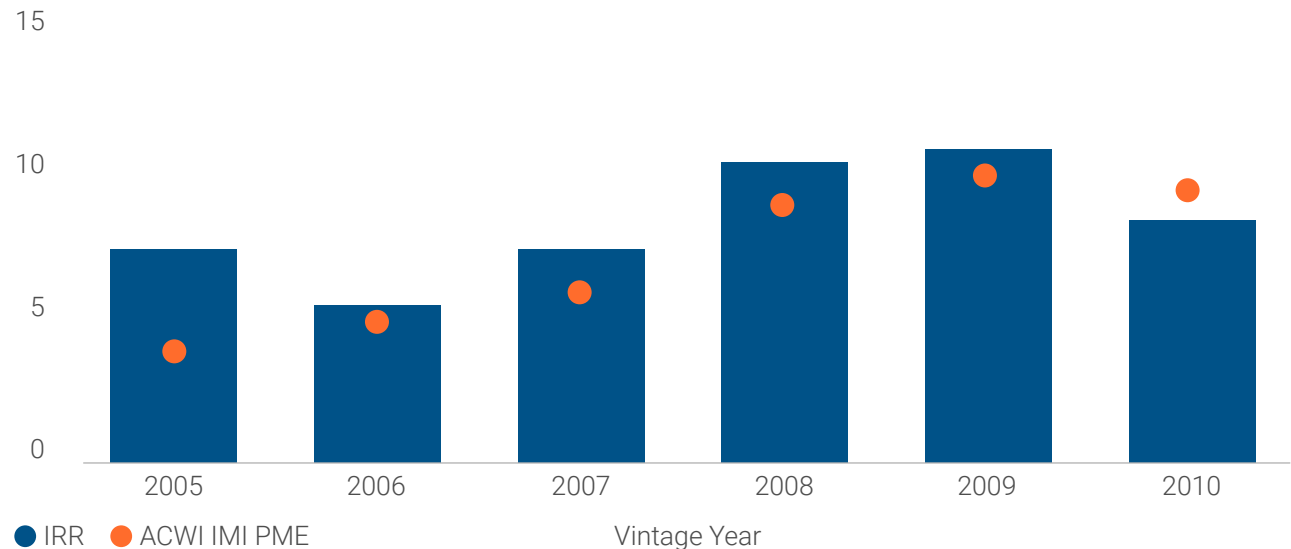
□ Negative returning strategy

Source: Hamilton Lane Data (October 2018)

Finally, a note on portfolio planning. This is a big one. We worry about the collective amnesia that seems to have set in related to the industry's commitment pacing choices that occurred prior to and during the

last recession. Take a look at the chart below, and try to figure out to which vintage years you'd hope to have overweight exposure (this is not a trick question).

PME by Vintage Year



Please see endnotes.

Vintage years 2008 and 2009 look highly attractive in retrospect. Sadly, what we saw with many LPs that came to us for advice post-crisis was a ramp-up in their commitments in 2006 and 2007, as they rode the wave of increasing asset values, and then a reduction or elimination of commitments in 2008 and 2009 as they waited out the correction. Here, there is an easy rule of thumb in theory, albeit one that proves much trickier in execution, we'll admit. Let's all say it together: consistent commitment pacing. To really test and refine their future plans, LPs need cash flow and NAV projection models, based on robust data and sophisticated scenario analysis. Running a program without that resource is dangerous, and we wouldn't wish a repeat of last cycle's mistakes on anyone.

A Way Forward

In review, what we know to be true in today's environment is that investment choice is increasing and investment teams are stretched thin. Daunting? You bet. But not impossible to overcome. The decisions we make

around investment selection, portfolio construction and portfolio planning are crucial; so too are the ways in which we leverage data to stay informed and use technology as a force multiplier to tackle these challenges.

Consider the poor LP organization in the chart below. They store their program's cash flows, underlying positions and diligence data in many separate unconnected files on a central drive. They may receive performance figures from a custodian or central plan system that doesn't specialize in important private market investment concepts. They may rely on one-off spreadsheets and email for important analysis and communication. They struggle to get by with free or low-cost industry data resources. Relying on the collective memory of the current team is widely acknowledged as a risk.

Data Organization in Private Markets



Don't let this be you! This chart is meant to scare you, and it's why we encourage you to make 2019 the year you choose to get your house in order. There are many private market platforms available to help organize your diligence process, evaluate your portfolio and plan for future commitments. There are others that provide deep industry data intelligence. In fact, we found a few to invest in and utilize here at Hamilton Lane, and (brief commercial alert) we even built one, alongside a cutting-edge technology partner, called [Cobalt for Limited Partners](#).

We use these technologies to provide transparency into information across our organization. The efficiency gains are tangible, and have allowed us to exponentially grow our work product without needing to blow our budget. Perhaps most interestingly, this technology

has allowed us to democratize the use of analytics around our firm. Our employees, as a group, are better informed and can pursue interesting questions. This leads to superior decision-making for ourselves and on behalf of our clients.

It's pretty obvious that this is a topic that's near and dear to our hearts and one that is truly integral to our plans for growth and success. The good news is that investors don't need to be the size of Hamilton Lane to take on this initiative within their own organizations. Throughout the industry, we're seeing LPs big and small pursuing the same goals and we're hopeful that 2019 will really be the Year of Data and Technology in the private markets.

Endnotes

¹ Source: <https://www.forbes.com/sites/greatspeculations/2018/08/13/the-pool-of-publicly-traded-stocks-is-shrinking-heres-what-investors-can-do/#41fd63992078>

² Source: Bison Data via Cobalt, Preqin, Bain, Hamilton Lane Estimates (October 2018)

Impact of Top and Bottom Quartile Funds: Buyout

Corporate Finance/Buyout – Any PE fund that generally takes a control position by buying a company.

IRR – Internal Rate of Return (IRR) is a dollar-weighted return measure that accounts for the timing and sizing of interim cash flows.

PME (Public Market Equivalent) – Calculated by taking the fund cash flows and investing them in a relevant index. The fund cash flows are pooled such that capital calls are simulated as index share purchases and distributions as index share sales. Contributions are scaled by a factor such that the ending portfolio balance is equal to the private equity net asset value (equal ending exposures for both portfolios). This seeks to prevent shorting of the public market equivalent portfolio. Distributions are not scaled by this factor. The IRR is calculated based off of these adjusted cash flows.

Metrics PME by Vintage Year

IRR – Internal Rate of Return (IRR) is a dollar-weighted return measure that accounts for the timing and sizing of interim cash flows.

The index presented for comparison is the MSCI World ACWI IMI, calculated on a Public Market Equivalent (PME) basis. The PME calculation methodology assumes that capital is being invested in, or withdrawn from, the index on the days the capital was called and distributed from the underlying fund managers. Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value. The scaling factor is found by taking the sum of all shares sold (SS), the sum of all shares purchased (SP) and calculating the number of shares the ending value is worth (SEV). Dividing SEV + SS by SP solves for the PME scaling factor. The scaling of contributions prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Realized and unrealized amounts were not scaled by this factor. The MSCI World ACWI IMI tracks large, mid and small cap listed equity performance in developed and emerging markets.

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