# Morgan Stanley

INVESTMENT MANAGEMENT

# Private Markets Asset Allocation Framework

**INVESTMENT INSIGHT** | PORTFOLIO SOLUTIONS GROUP | 2023

This paper introduces our proprietary Private Markets Asset Allocation Framework (PMAAF), designed to help investors think about how to allocate their dry powder across private markets and cycles. PMAAF is a process built on three pillars, outlined below:

1. **Cycle Indicators:** We look at key indicators to assess the attractiveness of private markets and the point in the cycle.

2. **Scoring and Thematic Matrixes:** Our Scoring Matrix is a bottom-up, data-driven framework that provides objective, evidence-based, repeatable and consistent scoring across asset classes and sectors. The framework is complemented by our top-down Thematic Matrix.

3. **Monitoring:** We monitor progress and assess risk for the life of our investments.

## Executive Summary

What was our thinking when we developed the PMAAF? The private markets ecosystem has a wide variety of strategies, participants, assets and dynamics. We favor this space given the large alpha potential beyond the illiquidity premium, the long-term earnings growth potential and certain diversification benefits relative to traditional public markets. However, the lack of public information, limited availability of private data, delayed valuations, illiquidity, wide dispersion of returns and behavioral biases all combine to create a challenge for an investor to determine:

AUTHORS

**PORTFOLIO SOLUTIONS GROUP**

*Specialists in designing and managing custom multi-asset, multi-manager investment solutions that span from broadly diversified to focused portfolios. The team's expertise lies in partnering with institutional and high net worth investors to understand their unique needs and crafting solutions to help them achieve their overall investment objectives.*

1. Asset allocation decisions and relative attractiveness across time periods.

2. Portfolio construction decisions and relative attractiveness across asset classes and strategies.

3. A consistent way to monitor the health and risks of private markets.

In our three recent thought pieces on private markets, we illuminated aspects of these questions in specific contexts. For example, in both "Post-Crisis Private Markets Investing" and "Market Timing in Private Investments," we provided a relatively broad answer to the first question by analyzing attractiveness and timing characteristics during cycles. Similarly, in "A Standout in the Crowd?," which addressed attractiveness of size cohorts, we provided a partial answer to the second question. Building on this earlier work, we provide a more general and complete approach to all three questions in this paper, by introducing the PMAAF.

## Introduction

Decision-making on asset allocation and portfolio construction in public markets is widely supported by a large set of public databases, recurring data and portfolio optimization tools, as well as straightforward rebalancing. This gives investors the possibility to make quick, informed decisions based on their framework. Investors and allocators in private markets oftentimes do not have a similarly well-established framework that mirrors those of public markets. This is in part due to factors such as delayed valuations, heterogeneity in the underlying asset classes, and the obvious difficulties and frictions that limit effectively rebalancing.
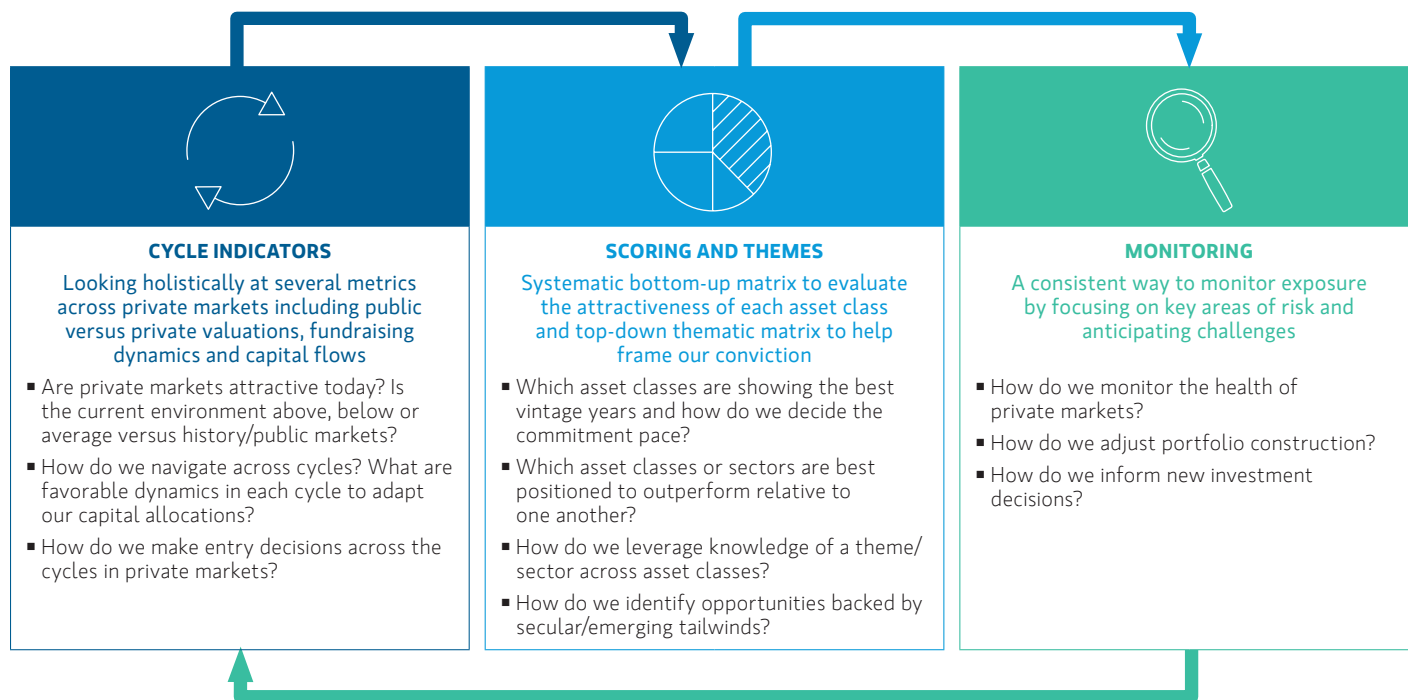
In many cases private markets views rely on top-down, qualitative inputs given the difficulty of finding quality recurring data and the complexity of organizing a more quantitative-driven view. In particular, we believe that one of the most important questions facing multi-private market allocators, and perhaps one of the least well-tackled aspects of their investment process, is how to commit and allocate dry powder. We approached this problem by creating a framework that builds from the systematic, objective and data-driven methodologies many investors use to determine allocations in public markets and complementing it with inputs dedicated to private markets.[1]

Our framework consists of three pillars that interact with one another and drive a self-informing investment loop, helping our decision-making process (*Display 1*). It also answers a series of important questions included in the display below:

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**DISPLAY 1**
**Our Private Markets Asset Allocation Framework (PMAAF)**



### CYCLE INDICATORS
Looking holistically at several metrics across private markets including public versus private valuations, fundraising dynamics and capital flows

- Are private markets attractive today? Is the current environment above, below or average versus history/public markets?
- How do we navigate across cycles? What are favorable dynamics in each cycle to adapt our capital allocations?
- How do we make entry decisions across the cycles in private markets?

### SCORING AND THEMES
Systematic bottom-up matrix to evaluate the attractiveness of each asset class and top-down thematic matrix to help frame our conviction

- Which asset classes are showing the best vintage years and how do we decide the commitment pace?
- Which asset classes or sectors are best positioned to outperform relative to one another?
- How do we leverage knowledge of a theme/sector across asset classes?
- How do we identify opportunities backed by secular/emerging tailwinds?

### MONITORING
A consistent way to monitor exposure by focusing on key areas of risk and anticipating challenges

- How do we monitor the health of private markets?
- How do we adjust portfolio construction?
- How do we inform new investment decisions?

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[1] One of the cornerstones of our approach is robust data, which we recognize can be difficult to replicate and/or source. In our case, for example, we are able to draw heavily on proprietary data sources and insights from a combination of open-architecture relationships; deep internal resources across direct Private Equity, Credit and Real Assets; and research/activity across our Investment Banking Division and Private Wealth Management.

## Pillar 1: Cycle Indicators

In previous papers we did a "deep dive" on specific aspects of private markets investing. In "A Standout in the Crowd?" we looked at small-mid cap versus large cap in private equity and how to best uncover an alpha opportunity, while in "Post-Crisis Private Markets Investing" we explored the post-crisis point in the cycle and why we believe it is attractive for private markets. Finally, in "Market Timing in Private Investments" we analyzed whether the general partners (GPs) could time the market to take advantage of favorable vintage years.

In this paper we explore how to holistically build and integrate these cycle indicators into our framework. We look at these indicators to 1) understand how attractive private markets are in the current period and determine where we are in the current economic cycle, 2) inform our allocation decisions, and 3) inform our implementation method. We look for several types of indicators, from traditional economic and macro-related signals to others used in public markets asset allocation decisions such as valuations and style, and others relating to the private markets universe such as capital raising dynamics.

1. There are different viewpoints from which to determine attractiveness. For example, *from an absolute perspective do we consider the current vintage year to be attractive versus its own history, or from a relative perspective do we think private markets are better positioned than public markets*? We track several metrics at any given time to help investors answer these questions, namely GDP/earnings growth and expectations, dry powder levels, funds average sizes, time to raise capital, fundraising flows into small-mid cap versus large cap, emerging markets ("EM") versus developed markets ("DM"), public versus private valuations, and equity versus debt premiums. The strength or weakness of every indicator helps to determine in which phase of the cycle we might be, although in certain cases a signal could be appropriate for more than just one phase.

We also find that simply looking at single indicators alone is generally not informative. However, when looking at the whole picture, the strengths/weaknesses of these signals and their directionality, investors can form a view on when they are approaching the end of one cycle or the beginning of a new one, and proactively get ready and position for the next cycle (or existing one). As we highlighted above, detecting and interpreting cycle indicators might be subject to the availability of data and more importantly, how up-to-date that data is. We try to mitigate these problems by complementing private data with a limited lag with real-time public data, as well as by leveraging our deep industry network so that we build timely and informative data. *Display 2* outlines a non-exhaustive list of the cycle indicators used in the framework.

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**DISPLAY 2**
**Illustrative Cycle Indicators**

| INDICATORS | LATE CYCLE | CRISIS | POST-CRISIS |
|---|---|---|---|
| Capital flows:<br>■ Time to raise capital<br>■ Small/Mid vs Large Cap fundraising<br>■ EM vs DM fundraising<br>■ LP terms<br>■ Dry Powder<br>■ Fund average sizes<br><br>Valuations:<br>■ Private vs public valuations<br>■ Value vs Quality vs Growth sectors<br>■ Equity/Debt premium<br><br>Fundamentals:<br>■ GDP/Earnings growth<br>■ Asset class defensive characteristics<br>■ Legacy portfolio leverage and quality<br><br>Strategy:<br>■ Core/+ vs Value-Add/Opportunistic<br>■ Expected alpha dispersion | Focus on:<br>■ Time to raise capital<br>■ Small/Mid vs Large Cap raising<br>■ LP terms<br>■ Private vs public valuations<br>■ Equity vs Debt | Focus on:<br>■ Asset class defensive characteristics<br>■ Core/+ vs Value add/Opportunistic<br>■ Legacy portfolio leverage and quality | Focus on<br>■ Expected alpha dispersion<br>■ EM vs DM raising<br>■ Value vs Quality vs Growth sectors<br>■ Capital flows |

**2.** The strength and directionality of certain indicators help allocators *make investment decisions regarding the quantum and timing of commitments to private markets*. For example, during 2020-21, following the outbreak of COVID-19, the framework suggested to increase the private market commitments in anticipation of strong vintage years due to the fundamental backdrop of high revenue growth, high margins, low financing costs, pockets of improved entry valuations and a very accommodating environment for active managers to implement transformative business plans such as buy-and-build or platform investing. Another example was during the 2016 energy dislocation, during which time many private funds were raised to take advantage of the opportunity, but several indicators suggested a liquid buy-and-hold strategy to capture the market recovery would be more appropriate.

**3.** These indicators also suggest how to *choose the right implementation method. Depending on which part of the economic cycle we think we are in, there are clear distinctions and considerations in allocating to primaries, co-investments or*

*secondaries*. For example, in an environment where the indicators are pointing to an approaching crisis, but valuations are still reflecting a late-cycle scenario, the framework would then prefer the advantages of a primary blind pool of capital with a strong, prior-relationship manager that has an opportunistic/value-add strategy, rather than a core+ co-investment. The primary commitment will be deploying capital in what is likely to be an environment rich with dislocation/stresses, whereas the co-investment might not have enough discount at entry, given valuations are not fully pricing the crisis scenario and will have to fully absorb the recession and go through a recovery phase. Or it could be the opposite; for example, at the onset of COVID-19 many opportunities emerged in real estate, among which were stressed/distressed opportunities in New York hotels. In this case, timing was critical and a traditional primary fund allocation would have lost all the early-stage opportunities while spending time fundraising, and most likely ended up with significant dry powder for an opportunity that was no longer available. For this reason, a co-investment sidecar that could act

quickly on multiple opportunities was the preferred implementation method.

*These indicators also help investors take a relative value approach with equity versus debt.* For example, during 2021-22 the framework favoured equity and debt strategies that offer flexible capital solutions to develop a sourcing advantage with targets that are facing unconventional capital needs post-COVID. In 2020 and 2022 it focused on debt-first, post-public equity correction and then suggested to add to equity in private markets as equity caught up in terms of deal activity.

## Pillar 2: Scoring and Thematic Matrixes

Having determined the attractiveness of private markets at any specific point in time, allocators have to make several decisions including *1) where to allocate across private markets, 2) the relative sizing of the commitment versus the budgeted pace, and 3) the most attractive sectors/opportunities within each asset class*. These decisions are particularly relevant as private markets performance has significantly varied in the past both in terms of quantum and relative attractiveness *(Display 3)*.

**DISPLAY 3**
**Vintage Year Performance Across Asset Classes**



Legend: Venture Capital, Growth Equity, Private Equity Buyout, Private Debt, Natural Resources, Real Estate, Infrastructure
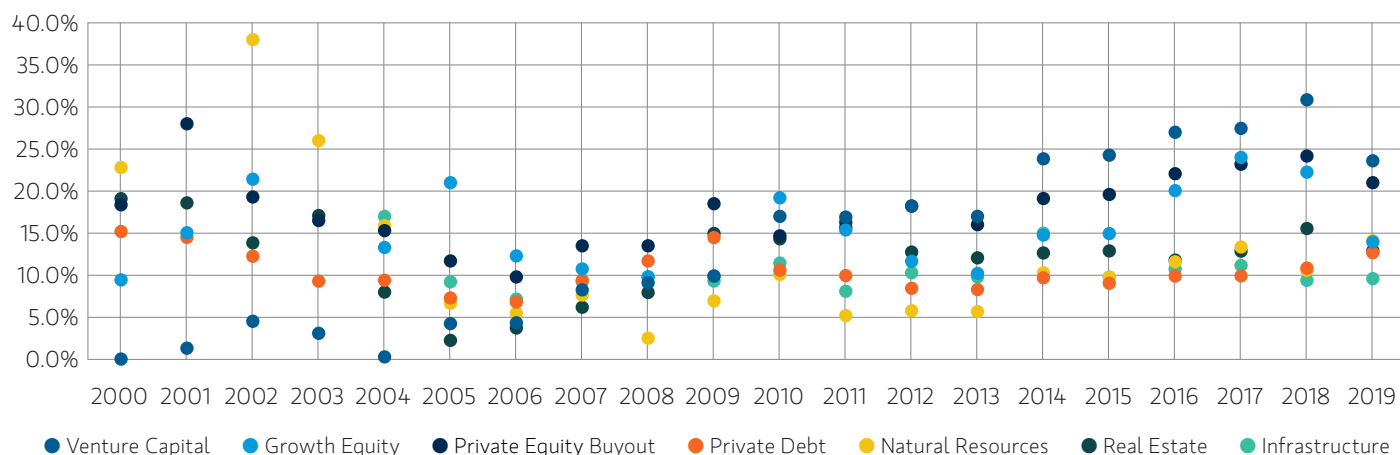
Source: Preqin as of December 31, 2022.

## Asset Classes and Sectors in Our Scoring Matrix

| PRIVATE EQUITY | PRIVATE CREDIT | NATURAL RESOURCES | REAL ESTATE | INFRASTRUCTURE |
|---|---|---|---|---|
| ▪ Buyout<br>▪ Growth Equity<br>▪ Venture Capital | ▪ Direct Lending<br>▪ Real Estate Debt<br>▪ Distressed Debt<br>▪ Special Situations<br>▪ Asset Lease & Trade Finance<br>▪ CLO<br>▪ ABS<br>▪ Insurance<br>▪ Peer-to-Peer<br>▪ Bank Reg Cap<br>▪ Royalties<br>▪ Litigation Finance<br>▪ Transportation | ▪ Farmland<br>▪ Timberland | ▪ Office<br>▪ Logistic/Industrial<br>▪ Retail<br>▪ Multifamily/Residential | ▪ Transportation<br>▪ Telecom<br>▪ Renewables<br>▪ Power Generation |

This decision-making process for many investors has been based on a qualitative assessment of the opportunity set and is not built to be objective and repeatable over time with any consistency. Our goal was to create a strong and reliable bottom-up framework that is systematic, objective and repeatable, ultimately united with a broader, comprehensive thematic top-down matrix. These tools complement one another and have to be jointly considered when making decisions:

▪ On the one hand, the systematic bottom-up approach gives an allocator consistency and impartiality over time, *helping to quantitatively assess the absolute and relative attractiveness of each asset class and sector.* It fails however to capture certain idiosyncrasies specific to each opportunity (e.g., quality of a particular building/asset/company, price at entry, micro-location/end market, management team, etc.) or external factors e.g., macro, regulatory framework, consumer behaviour, emerging themes, etc).

▪ On the other hand, the thematic top-down matrix makes sure an allocator keeps its *highest conviction ideas top of mind and leverages the knowledge of a theme across asset classes,* avoiding a fall into a potential "value trap" by simply following the fundamental and technical approach of the bottom-up framework. It does not, though, answer how attractive an asset class or sector is relative to another and the degree of this conviction.

The methodology and process for each matrix is outlined in the next section:

### SCORING MATRIX

The primary objective of our Private Markets Scoring Matrix is to *have a repeatable and objective output each quarter that informs investment decisions* while producing as ancillary product an extensive amount of data that could be used for different purposes. The output is organized at the asset class level with a further breakdown of different sectors (*Display 4*). We currently analyse five asset classes (Private Equity, Private Credit, Natural Resources, Real Estate and Infrastructure) and several sectors/strategies listed above. The asset class scores are derived from a bottom-up aggregation of the different sectors/strategies, which are weighed depending on a mix of opportunity set transaction volume and long-term top-down strategic allocation.

**The Process for Our Private Markets Scoring Matrix**

| STEP 1 | STEP 2 | STEP 3 | STEP 4 | STEP 5 |
|---|---|---|---|---|
| | | UPDATED ON A QUARTERLY BASIS | | |
| Identify key return drivers that are common across all types of private market strategies | Source data for each return driver to overcome availability issues inherent in private markets | Assess each return driver using both quantitative and qualitative calibration techniques | Derive an overall view of each market segment | Use the output to determine relative attractiveness across private market strategies |
| Opportunities assessed at multiple levels: underlying, manager universe and ESG factors | For each driver we seek data from four different sources in order to triangulate the most meaningful data set from what is available | Each driver is assessed vs. historic levels (allowing for adjustments) and scored 1 to 10 | A weighted-average score for each market segment is calculated (the weight of each driver is dependent on asset class) | Scores >5 indicate that we believe we are in a better than average vintage year for a market segment. We seek to commit capital to these areas |

This matrix has three main areas: 1) fundamentals and technical (supply/demand, market dynamics, valuation and leverage), which help us determine the attractiveness of a particular sector and asset class over time; 2) fund level (liquidity, deployment and fees/terms), which guides us on how attractive the fund universe is; and 3) ESG, which considers the opportunity set and manager's policies/frameworks. The five-step process is illustrated in *Display 5.*

**STEP 1:** For each fundamental and technical indicator we identify several return drivers specific to the asset class or sector, trying to get the most comprehensive view of what is driving that indicator. We also use the same approach for the fund level and ESG categories. We provide some examples in *Display 6.*

**STEP 2:** We try to triangulate public and private market data from many different sources, and in cases where little to no information is available, we use our network of managers and data points from our investment underwriting to build the framework's database. We believe that for certain asset classes and strategies where there is little public or private data (certain private credit sectors particularly) our surveys and anecdotal information that we get from GPs, conferences and broader industry network are key to complementing the database.

**STEP 3:** We score each return driver according to the nature of the data and the historic levels over the last 15-20 years (more where data is available). For mean reverting or cyclical data such as vacancies, valuations, loan-to-value (LTV), etc., we use percentiles to ensure our scoring is consistent. A 50% percentile would equate to a neutral score of 5, a 60% percentile a positive score of 6 and so on. For growing data such as development pipeline, fundraising, dry powder, etc., we use growth rates, trends and standard deviations. For example, if the historic long-term compound

**Potential Drivers of Returns**

| INDICATORS: | Real Estate Return Drivers | Infrastructure Return Drivers | Natural Resources Return Drivers | Private Credit Return Drivers | Private Equity Return Drivers |
|---|---|---|---|---|---|
| **SUPPLY** | Development pipeline, completions | Funding gap, infra quality | Arable/forest land per capita, food/timberland production | PE dry powder, PE transaction volume | VC: High propensity to new businesses<br>Growth: VC exit value<br>Buyout: Deal value |
| **DEMAND** | Absorption rates, vacancy, rental growth | Air/sea/railroad transport volume, electricity production, net GW[4] capacity, LCOE,[5] Capex, fiber/5G subscriptions | Food consumption/ prices, market pulp and paper consumption/ prices, housing starts | PC dry powder | Dry powder |
| **MARKET DYNAMICS** | CMBS[2] issuance, dry powder, transactions, fundraising | Municipal Bond Issuance, dry powder, transactions, fundraising | Profit margin, inflation, dry powder, fundraising | Trailing 12m default rate, distress ratio, % of positions in PD portfolios on "watch" | CCI,[9] BCI, PMI;<br>EBITDA/EPS growth, EBITDA margin |
| **VALUATION** | Cap rates, cap rates spread | EV/EBITDA | Land/forest values, EV/ EBITDA, dividend yield | OID,[8] LIBOR, margin, # of restrictive covenants, # of maintenance covenants | VC: Pre-money valuations<br>Growth: EV/Revenue<br>Buyout: EV/EBITDA |
| **LEVERAGE** | LTV, debt yield, YTM[3] | Net debt/EBITDA, YTW[6] | Net/Debt EBITDA, USDA[7] interest rates | Debt/EBITDA, interest coverage | VC: N/A<br>GE/BO: debt/EBITDA, interest coverage, equity contribution, LBO[10] spreads |
| **LIQUIDITY** | Fund life, investment period, exit volumes | Fund life, investment period, exit volumes | Fund life, investment period, exit volumes | Fund life, investment period, exit volumes | Fund life, investment period, exit volumes |
| **DEPLOYMENT** | Called capital speed, deal competition, manager feedback | Called capital speed, deal competition, manager feedback | Called capital speed, deal competition, manager feedback | Called capital speed, deal competition, manager feedback | Called capital speed, deal competition, manager feedback |
| **FEES AND TERMS** | Management fee, carried interest, hurdle rate, catch-up, LP rights | Management fee, carried interest, hurdle rate, catch-up, LP rights | Management fee, carried interest, hurdle rate, catch-up, LP rights | Management fee, carried interest, hurdle rate, catch-up, LP rights | Management fee, carried interest, hurdle rate, catch-up, LP rights |
| **ESG** | GRESB score, ad hoc indicators, manager survey, manager ESG framework | GRESB score, ad hoc indicators, manager survey, manager ESG framework | GRESB score, ad hoc indicators, manager survey, manager ESG framework | GRESB score, ad hoc indicators, manager survey, manager ESG framework | GRESB score, ad hoc indicators, manager survey, manager ESG framework |

annual growth rate (CAGR) is 2%, that would represent our neutral score, and then we use positive/negative 2 and 3 standard deviations (95% and 99.7% of data observed under the assumption of a normal distribution) as boundaries for top/bottom range of our scoring.[11]

**STEP 4:** We assign weights to each indicator and sub-weights to each return driver. Within an asset class the sub-weights for return drivers across sectors are identical to allow for comparability, while across asset classes the weight for each indicator varies in order to accommodate the specific characteristics of each asset class. For example, supply and demand will carry a higher weight in real assets than private equity while the opposite is true for valuation.

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[2] Commercial Mortgages Backed Securities
[3] Yield to Maturity
[4] Gigawatt
[5] Levelized Cost of Energy
[6] Yield to Worst

[7] USDA: US Department for Agriculture
[8] Original Issue Discount
[9] Consumer Confidence Index, Business Confidence Index, Purchasing Manager Index
[10] Leveraged Buyout Spreads

[11] It is important to balance the quantitative inputs with some practicality given the data and the models are not perfect when dealing with private markets, so our framework allows for manual adjustments based on qualitative factors when necessary

**Example Output of Our Private Markets Scoring Matrix**

| 06/30/2022 | OVERALL | | FUNDAMENTALS & TECHNICALS | | | | | FUND LEVEL | | | ESG |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Previous | Current | Supply | Demand | Market dyn | Valuation | Leverage | Liquidity | Deployment | Fees & Terms | ESG |
| Real Estate | Neutral | Neutral | | | | | | | | | |
| Infrastructure | Neutral | Neutral | | | | | | | | | |
| Natural Resources | Positive | Positive | | | | | | | | | |
| Private Equity | Neutral | Neutral | | | | | | | | | |
| Private Credit | Neutral/Positive | Positive | | | | | | | | | |

As of June 30, 2022

This information reflects the views of the portfolio manager as of the date hereof and these views are subject to change without notice in response to changing circumstances and market conditions. Views expressed relative to the independent historic ranges for each metric of each asset class. Green = more attractive, White = neutral, Blue = less attractive.

**STEP 5:** Steps 1-4 give us a score for each sector and asset class. In Step 5 we interpret the output (*Display 7*) and use it to make our investment decision, something that helps us on three dimensions:

1. **ABSOLUTE ATTRACTIVENESS SCORING:** A score between 5.0 and 5.5 is **Neutral**. *We would expect to be in an average vintage relative to history, so we would focus to deploy capital where there are also some thematic tailwinds and/or abundance of idiosyncratic opportunities.*

A score between 5.5 and 6.0 reflects we are **Moderately Positive** *on the asset class or sector, comfortably investing based on our budgeted commitment.*

Similarly, a score between 4.5 and 5.0 means *we would be* **Cautious on Deploying Capital**, *potentially reducing the size and number of our commitments and focusing just on our highest conviction strategies/sectors.*

A score above 6.0 means we would be actively looking to **Deploy More Capital** *than our budgeted commitment as the fundamentals are strong and we expect to be in a better-than-average vintage year.*

Finally, a score below 4.5 means **We Would Hold From Investing** *in that sector or asset class unless we find deep quality/idiosyncratic opportunities or until the score has improved again.*

2. **RELATIVE ATTRACTIVENESS:** *These scores also help us assessing relative value across asset classes and in any particular vintage year can give us helpful indications on whether to over/underweight a particular asset class/sector relative to its target strategic asset allocation.*

3. **ENTRY TIMING:** In our previous paper "Market Timing in Private Investments" we observed how private market asset managers have historically not taken advantage of market timing and thus concluded investors should increase and time their commitments in order to obtain the desired exposure to investments at favorable valuations.

The scope of our paper was limited to a specific point in the cycle, the post-crisis period, and did not offer specific asset class/sector considerations on what tools to use to make entry decisions. *We believe this scoring matrix gives allocators a comprehensive way to time market entry across cycles, asset classes and sectors.*

As an example we consider how this framework would aid decisions in two periods with a great deal of uncertainty and volatility: 2020 and 2022. Within private credit two main areas were sharply highlighted: first, the framework promoted investing in uncorrelated income sources due to elevated uncertainty and second, it also supported adding to markets where dislocations were signalling potentially strong tactical entry points, such as direct lending where there were windows of better pricing, stronger lender terms and better company-level risk metrics (e.g., lower leverage); trade finance that benefited from a combination of disruptions to the global supply chain at the

**Example Output of Our Private Markets Thematic Matrix**

| | NEW LIVING | DIGITIZATION/ AUTOMATION | DECARBONIZATION | SUSTAINABILITY |
|---|---|---|---|---|
| **PRIVATE EQUITY** | ▪ Fintech<br>▪ E-commerce enablers<br>▪ OTC/Specialty pharma<br>▪ Life science | ▪ Industry 4.0<br>▪ SaaS<br>▪ IOT<br>▪ Robotics | ▪ Smart homes<br>▪ Smart mobility | ▪ Plant-based food<br>▪ Specialty care<br>▪ Impact investing<br>▪ Circular economy |
| **INFRASTRUCTURE** | ▪ Supply-chain transportation<br>▪ Future transportation | ▪ Rural Fibre<br>▪ 5G | ▪ Energy transition<br>▪ Electrification<br>▪ Renewable power | ▪ Water infrastructure<br>▪ Recycling & waste management |
| **REAL ESTATE** | ▪ Creative office<br>▪ Life science<br>▪ New multifamily<br>▪ Co-warehousing | ▪ Data centers | ▪ Green buildings | ▪ Affordable housing<br>▪ Student housing<br>▪ Senior housing<br>▪ Medical office |
| **PRIVATE CREDIT** | ▪ Peer-to-Peer lending | ▪ Private ABS | ▪ Debt to decarbonization themes | ▪ Debt to sustainability themes |
| **NATURAL RESOURCES** | ▪ Premium food | ▪ Rare earth minerals | ▪ Afforestation/ reforestation<br>▪ Electrification minerals | ▪ Regenerative farming<br>▪ Controlled environment farming |

As of December 31, 2022.

underlying level and from exits by large finance providers at the transaction level (e.g., Greensill); and lastly aviation finance strategies targeting regional jets that disproportionately benefitted from the recovery and passenger-to-freight conversions to capitalize on favorable aircraft purchase prices and lease rates.

**THEMATIC MATRIX**

Given the investment horizon for private markets spans across several years, we focus on structural megatrends, either current or emerging, expected to shape the long-term trajectory of the economy including new adaptations to living, demographic shifts, technological innovations, climate change, sustainability, etc. (*Display 8*). We do not focus on what we consider to be short-term, transitory themes, even if we recognize their attractiveness, as we think those are better suited for certain public investments where implementation can be more responsive. *We believe these structural megatrends, combined with a deep due diligence and the right sponsor, can provide a differentiated source of alpha* alongside traditional idiosyncratic bottom-up alpha, which we refer to as "strategy alpha."

There are multiple benefits for combining this thematic top-down approach with a more structured bottom-up approach, which include:

▪ Leverage knowledge of a theme/ sector across asset classes: For example, when working on an energy transition fund search for the infrastructure allocation, *the* *knowledge acquired in studying the market across the entire supply chain*, from the pure upstream (understanding the minerals and metals required in the grid for battery storage, solar panels, wind turbines, the suppliers landscape, EPCs, price mechanism, etc.) to the midstream (grid efficiency, interconnection, utilities) to the downstream (distribution network, energy retailers, rooftop solar, heat pumps), *can be levered in other asset classes* such as natural resources mining, private equity smart homes or real estate green buildings.

▪ Control the emphasis on value in our bottom-up matrix: For example, a year and a half after the COVID-19 outbreak our bottom-up score for retail real estate was slightly positive

as new supply was low, demand was stable and valuations were significantly better than in other sectors and with low leverage. However, we understand the traditional retail model is challenged, and under the "New Living" theme we expect these challenges to persist. *This top-down overlay, although in this instance is quite straightforward, helps investors to avoid falling into "value traps".*

- Identify alpha opportunities in niche areas supported by external macro/ regulatory/consumer behaviour tailwinds: *There are certain aspects that we cannot capture quantitatively or do not have a consistent data set over time, such as regulatory regimes, consumer sentiment, preferences and behaviour. Other quantitative aspects such as demographics would impact a theme more so than a particular asset class, or certain macro factors would impact the entire economy rather than a particular asset class. Identifying how these aspects interact with themes allows us to exploit the associated tailwinds that would not be captured by a pure fundamental approach.* For example, one of the trends in our private equity allocation has been to focus on European small/mid-cap health care where long-term structural and resilient growth in products/services, pockets of high fragmentation, and complexity driven by regulation and cross-border differences have created attractive opportunities for the few European specialist managers with a focus in a stronger technical product/service. Post-2020, the matrix favoured U.S. versus Europe infrastructure due to supportive policies (American Jobs Plan, Clean Energy for America Act and, more recently, the Inflation Reduction Act) regarding renewables and rural telecoms expansion. Finally,

toward the end of 2021, we started re-entering the farmland/sustainable food space given the attractiveness of long-term fundamentals including declining arable land per capita, growing demand to support rising population and middle-class protein/ premium food needs, inflation sensitivity, and stronger sustainability trends and carbon sinkage opportunities.

## Pillar 3: Monitoring

Monitoring in private markets presents different challenges compared to public markets: the transparency and availability of data, the long J-Curve before a better estimate of potential performance, the illiquidity that makes an exit at times impossible or only feasible at a significant discount, if available. We think that by following Pillars 1 and 2 of the process we get to a better, more informed monitoring process.

- We consider this whole process as part of a larger, fully integrated, front-line risk management framework, where we start by *understanding the current attractiveness of private markets and how much to allocate, and act proactively if a reduction for new commitments is needed. We then identify the most attractive opportunities across asset classes,* as well as areas where indicators are showing that fundamentals and technicals are deteriorating and might pose a future challenge. *The aim is to respond proactively, by potentially pausing or reducing an allocation, as well as reactively, by focusing and prioritizing monitoring activities.* For example, if the framework highlights that return drivers like leverage and fundamentals from Pillar 2 are deteriorating, that would help allocators prioritize monitoring in

those troubled sectors/asset classes and the managers that might be under increased pressure. For example, during 2015-19 the framework supported increasing uncorrelated income sources in private credit (litigation finance, bank recapitalization, royalties (which performed very strongly during COVID-19)) at the expense of direct lending, initially reflecting deteriorating pricing and terms, and then later reflecting late-cycle concerns.

- Moreover, *this process supports investors in reconsidering the overall portfolio construction and tactical allocation among private markets. Specifically, it looks at the portfolio concentration in certain sectors/asset classes and helps decide whether to reduce exposure to the current vintage year or not allocate at all, change a strategic target sub-weight in an asset class, or consider a secondary exit.* For example, while monitoring overall private markets valuations post-COVID-19, different indicators were weakening for late-stage venture capital, such as increasing in valuations due to elevated dry powder levels, strong fundraising/investor appetite and slightly deteriorating fundamentals. This has made us favor early-stage versus late-stage venture capital.

- *Finally, this whole process of monitoring and reconsidering portfolio construction will eventually, and seamlessly, blend into the start of a new cycle and inform new investment decisions* where cycle indicators and asset classes attractiveness are re-evaluated once again. When committing to a private investment, the upfront underwriting informs also the key monitoring points for the asset class/strategy. These key performance indicators (KPIs) are included in the framework

so that investors can continue to monitor and measure success much more granularly than watching and benchmarking returns, and, equally important, inform new investment decisions. For instance, in 2019 indicators of the GDP sensitivity to global traffic volume were increasing, supporting a reduction in the transportation sector exposure. As such, we redeemed investments in one of our core infrastructure funds and rejected certain new investments to reduce GDP sensitivity in the late cycle. The framework highlighted sub-asset class choices where GDP sensitivity was acceptable; for example, in 2019 we allocated to aviation finance through regional jets that have lower cyclicality in demand.

These steps are essentially happening almost simultaneously and in parallel with our day-to-day activity, although in terms of a pure decision-making process it is important to distinguish them and make informed decisions at each step. We strongly believe in the importance of doing this on a regular and continual basis, not just during the quarterly update of the Scoring Matrix, helping allocators capture trends/risks as soon as there are changing signals.

## Conclusion

Many allocators and investors are still relying on subjective and qualitative frameworks when making decisions on asset allocation, portfolio construction and timing in private markets. We believe that today a larger and more diverse allocation, with more asset classes now accepted as "core" alternatives, as well as an increasing number of new investors in private markets, requires a well-established, repeatable, objective and data-driven framework to support investment decisions. Our three-pillar framework, combining cycle indicators, quantitative fundamental scoring and qualitative thematic overlay, reinforced with an independent monitoring oversight process, could help investors navigate the challenges intrinsic to private markets.

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