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# Navigating Secondaries:
## A Guide to Changing Currents

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## Introduction

For many decades, investors have owned secondary investments to enhance the diversification of their investment portfolios. **Secondaries as an asset class provide a suite of potential benefits that can be difficult to find elsewhere in the private markets.** These benefits include:

- J-curve mitigation
- Cash flow predictability
- Shorter ***durations****
- Enhanced downside protection.

These benefits can be powerful for investors who seek to access the returns of private assets while increasing predictability, optionality and healthy diversification. Additionally, not only have secondaries historically produced the same returns as ***primary*** investments (as shown in Figure 2 on page 3), but they also provide an additional set of tools to create ***alpha***.

For much of its history, the secondary market has focused on purchases of diversified portfolios of funds, often at auction, from limited partners ("LPs") seeking liquidity. However, over the past decade or so, several innovations have occurred which enable secondaries to offer an array of further benefits to investors. These innovations have also led to the creation of multiple distinct secondaries sub-strategies with their own properties. These sub-strategies can mitigate different types of risks and provide access to investment types or return profiles that are distinct from each other.

With Landmark's experience of over 30 years as a leading player in the secondary market, we have frequently been at the forefront of new developments in secondaries. These developments have included the introduction of new transaction types and new asset classes, such as real estate and infrastructure secondaries. Our goal for this paper is for readers to better understand the distinctions between the different secondaries transaction types and how to best evaluate secondaries as a potential component in their portfolios to meet their objectives.

With the variety of transaction types and asset classes now represented in the secondary market, **even investors with mature, diversified private markets portfolios may expect benefits from the addition of secondaries**. Since different transaction types and asset classes provide different risks and rewards, **investors may benefit from constructing a portfolio containing multiple types of secondaries investments and seeking out and diligencing investment advisors that meet their objectives and capitalize on the particular characteristics of specific secondaries sub-strategies.**

This whitepaper seeks to address the most relevant elements for investing in secondary funds. To accomplish this, our paper focuses on three key sections - (1) why invest in Secondaries – understanding the basic merits of the asset class, (2) evolution and subtypes of the asset class and (3) what we believe are the most important factors in selecting a manager and successfully achieving the desired potential benefits of investing in the asset class.

*Words in bold and italics are defined in the glossary which can be found on page 11.
Note: References to "downside protection", "diversification" or similar language are not guarantees against loss of investment capital or value.


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## Why Invest in Secondaries?

Secondaries can benefit from a differentiated (and distinct) set of investment opportunities that are not typically available through primary funds. These distinctions have meaningful implications for how secondaries investors can access the potential for attractive returns, mitigate risks and achieve broader portfolio goals.

Private markets are inherently illiquid. This illiquidity can be an issue for some investors in private markets who need to budget for capital calls and distributions of uncertain timing and sizing; the secondary market emerged to meet this need. In serving the needs of investors looking for liquidity, these transactions also provide advantages to the buyers who offer this liquidity. Below are several important points on why investors may choose secondaries.

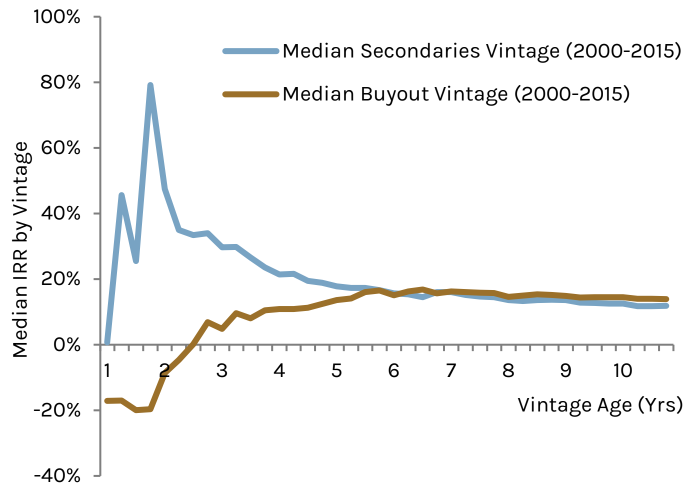
### I. Secondaries Can Offer the Opportunity to Acquire Assets at Discounted Values

- **Favorable Entry Opportunities:** Given that secondaries provide liquidity in an otherwise illiquid market, secondaries fund managers have the opportunity to purchase funds or assets below net asset value ("NAV") and potentially with a higher expected annualized return than that achieved by primary investors.
- **J-Curve Mitigation:** Acquisitions at a discount to NAV typically lead to write-ups of new investments, resulting in strong interim performance. This strong interim performance is the *"n-curve"* or "j-curve mitigation"" that secondaries are well known for, as described in more detail in the breakout section of Figure 1 below. Please see associated note as well.
- **Differentiated Source of Alpha:** Ultimately, secondaries investors do not just want to purchase assets at a discount to NAV, but at a discount to *intrinsic value* ("IV"). **Identifying attractive prices on private assets held by primary funds allows secondaries investors access to a differentiated source of return separate from the performance of the underlying assets.** Creative *structuring* and financing are further sources of differentiated alpha available to secondaries investors.

### II. Secondaries Can Offer Benefits of Buying Later & Shortening Duration

- **Reduced Fee Burden on Underlying Primary Funds:** Private market funds typically charge their management fees on committed capital rather than invested capital. Early in a primary fund's life, invested capital tends to be only a small percentage of committed capital, which leads to a high effective fee scrape and the "j-curve" of early negative performance. Since secondaries investors come into the underlying primary fund later in its life, they avoid these early fees. While secondaries funds do charge fees, avoiding early primary fees leads the combined fee burden of secondaries funds and their underlying primary funds to end up smaller than we believe most investors think; even the average secondaries fund manager recoups it through alpha. This fee structure is also one of the drivers of the "n-curve" mentioned earlier and shown in Figure 1.

### Figure 1: J-Curve Mitigation




Source: Burgiss

Note: J-curve mitigation as shown above may result from an initial write-up of an investment which is reflected in interim returns. However, it is not an assurance of a positive return.

**Avoiding the J-Curve**

Primary fund returns are often characterized by the "j-Curve", which is a visual depiction of the investor experience of having negative returns driven by fees and expenses until capital has been deployed and investments have begun to appreciate. In contrast, secondaries funds commit capital after the primary fund has aged, so they do not incur as much of a fee drag on early performance. Additionally, the potential for a secondaries fund to purchase assets at a discount can result in positive interim IRRs. As a result, secondaries fund investors often experience an "n-Curve" instead of the "j-Curve," as depicted in Figure 1.

- **Secondaries Often Offer More Stable Cash Flows:** By investing later in the life of underlying funds, secondaries funds often provide preferable cashflow characteristics. The first several years of a primary fund typically have meaningful capital contributions



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into new investments with little capital returning. In contrast, secondaries funds often delay capital calls (through purchase price deferrals or the potential use of subscription lines) and typically acquire funds that are already in their distribution phase. Combined, these features tend to result in a low maximum drawdown (i.e., net capital called, or contributions minus distributions) for secondaries compared to other private markets strategies. **This low maximum drawdown can enable investors to get more value out of their called dollars and can lead to higher multiples on maximum drawn capital (Griffiths 2016).**

- **Secondaries Provide A Greater Ability to React to Market Conditions:** In addition to efficiency of capital deployed, earlier and more predictable distributions from secondaries funds assist investors with their capital planning. **Investors with secondaries allocations can use these accelerated distributions to meet liquidity needs more easily, while also having a greater opportunity to react to market conditions and adjust their allocations.**

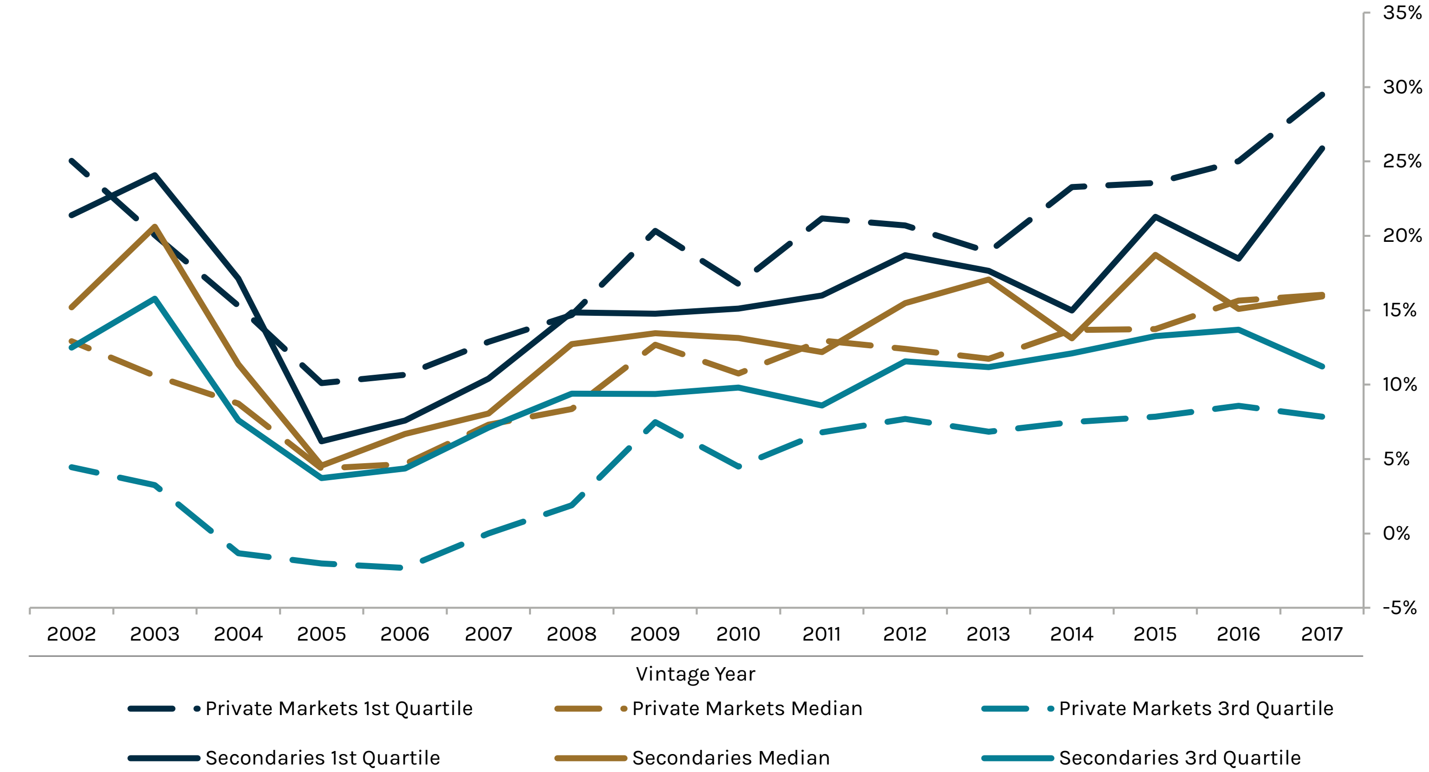
### III. Secondaries Offer Diversification Benefits

- **Multiple Types of Diversification:** Secondaries funds typically contain hundreds to thousands of underlying assets, rather than the ten to twenty in a typical single primary fund. As a result, secondaries funds offer significant underlying diversification. This diversification typically spans vintage years, geographies, strategies, managers, industries and assets.

- **Diversification Supports Return Stability for Secondaries Funds:** This diversification results in more stable returns for investors. Secondaries funds tend to produce returns comparable to primary funds, but with historically more narrow bands of outcomes. **As shown in Figure 2 below, the median secondaries fund has consistently tracked the median primary fund of the same vintage over 15 years, but with a tighter range of outcomes as represented by the 1st and 3rd quartile. In fact, even 3rd quartile secondaries funds have performed close to the median of broad private markets.**

- **Diversification a Positive, But Manager Selection is Key to the Alpha Opportunity:** Diversification and a narrowed return profile does not hamper secondaries funds' ability to produce alpha, however. By reducing risks from factors outside the secondaries manager's control, diversification allows variation in performance to be more heavily driven by the manager's skill (Griffiths & Silva 2016).

## Figure 2: Dispersion of IRR of Secondaries Funds Compared to All Private Markets




Source: Burgiss

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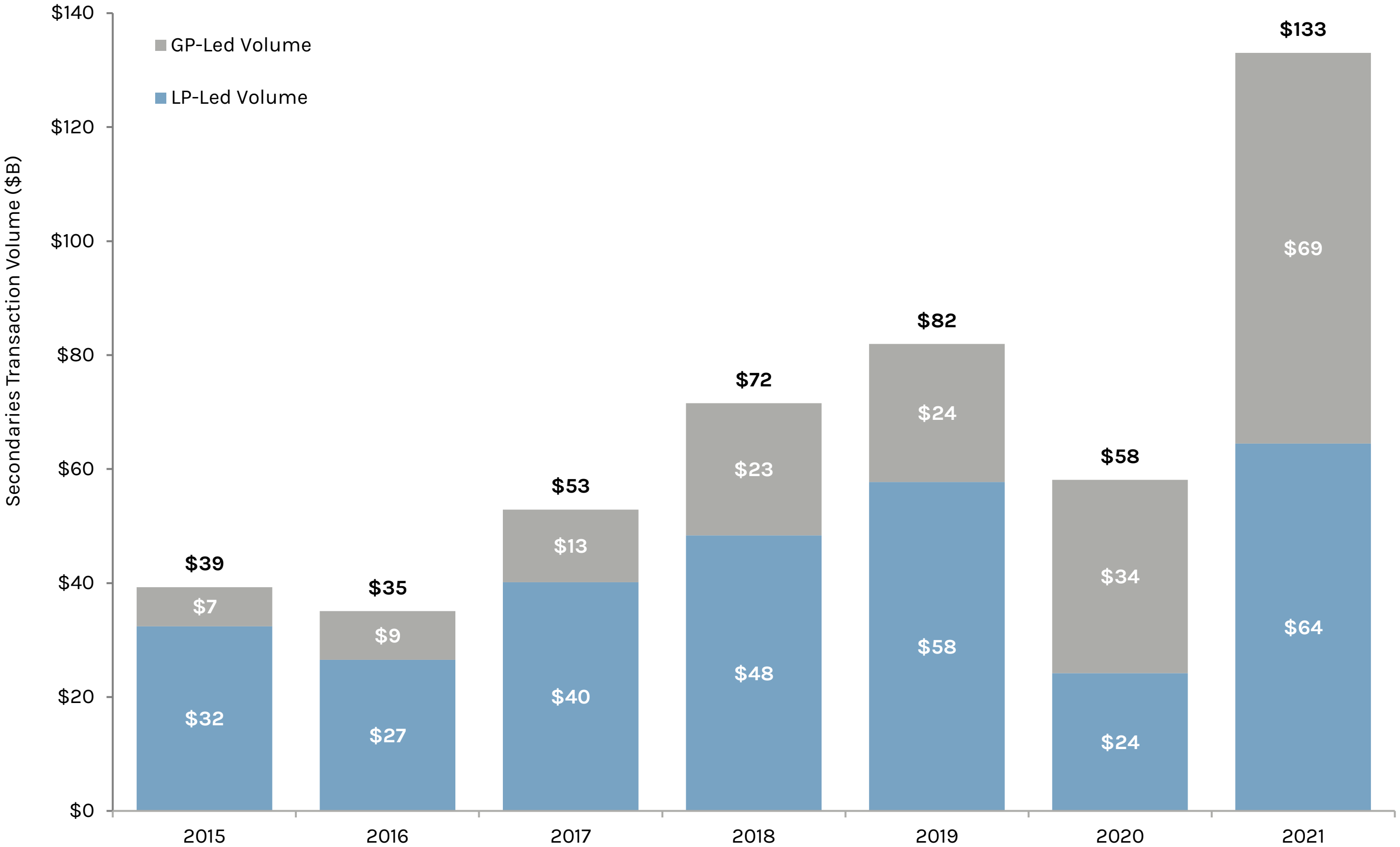
## What are the key differences across strategies?

Since the first secondary trades in private markets began in the 1980s, the market has evolved considerably from a small set of one-off situations to a fully institutional market of over $130 billion annually. This growth in volume reflects (1) the growth in private market NAV held by primary funds, (2) a regular need for liquidity by investors and (3) the benefits to secondaries fund investors from these fund and asset purchases. Increased use of secondary trades in various asset classes and the development of new secondaries strategies have also supported the robust growth.

### Figure 3: Growth of the Secondaries Market




Source: Landmark Partners, Jefferies, Greenhill, Setter, Credit Suisse, Evercore

Initially, the secondary market consisted almost entirely of LP portfolio sales. Investors today have access to a wide variety of transaction types with distinct characteristics, and different secondaries managers and funds may focus on different segments of the market. Including the traditional secondaries structure for LPs, we have identified six types of secondaries transactions in which managers invest today. Understanding these different transaction types can allow an investor in secondaries to select investments with attributes that best meet the needs of their individual portfolios.

Figure 4 lists each of the types of secondaries, as well as how they compare on a number of key dimensions. Investors who are interested in secondaries may have specific priorities, such as diversification, duration, or manager quality. Since different types of secondaries will differ in these characteristics, investors should ensure their managers pursue strategies likely to deliver their objectives. We delve into additional detail about each of these six types of secondaries below.

### Figure 4: Different Types of Secondaries and Respective Attributes

| | Traditional Secondaries | GP-Led Secondaries | Direct Secondaries | GP Permanent Capital | Preferred Equity | Secondary Mezzanine |
|---|---|---|---|---|---|---|
| Asset Diversification | Extremely high | Medium | Low | High | High | High |
| Manager Diversification | Extremely high | Medium | Medium | Low | High | High |
| Access to Quality GPs | Less Access | More Access | More Access | More Access | More Access | More Access |
| Duration | Short | Variable | Variable | Long | Short | Short |
| Return Targets | Equity-like, if levered | Equity-like | Equity-like | Variable | Equity-like | Credit-like |
| Systematic Risk Protection | None | None | None | Often Some | Meaningful | Most |
| Replicability by LPs | Easier to Replicate | Possible to Replicate | Possible to Replicate | Difficult to Replicate | Difficult to Replicate | Difficult to Replicate |

*The classifications in this table are relative to other categories and refer to the typical fund of that type; individual funds and transactions will vary.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I. **Traditional Secondaries** is a term for the initial transactions in the secondary market. These transactions involve buying an individual LP stake or portfolio of later-in-life funds from an LP seller, typically 6-8 years into the fund life and perhaps ~70% funded, generally at a discount to NAV and potentially also intrinsic value.

   These transactions generally have the following key characteristics:

   - Significant diversification as a result of the number of primary fund interests they include and the resulting large number of underlying assets.
   - Financial engineering, which can include strategic use of leverage, contribution deferrals and recycling. This type of engineering takes advantage of the greater diversification of secondaries funds as compared to primaries funds, and their greater cash flow predictability, in order to access tools and terms that might not be available to primary funds. As the traditional secondary market has become more competitive (in private equity particularly, though less so in real estate and infrastructure), we believe that these tools have become more important to secondaries managers who invest in these types of transactions.
   - Less of an ability to select top-performing managers than is possible though other types of secondaries, as buyers at the auctions that dominate this channel are often "takers" of the funds available in the market, and the best private managers may not be frequently sold.

II. **GP-Led Secondaries** involve a private market General Partner ("GP") [i.e., primary manager] leading a process to provide liquidity to investors in one of their funds while retaining ownership of an asset or group of assets. All existing investors are given the option of selling to the secondary buyer at a negotiated price or rolling their interest into a new investment vehicle. This process allows GPs to continue holding assets which they believe have additional growth potential, where they might otherwise be pressured by LPs or forced by contractual fund terms to sell. Because the GP is looking to extend the hold on these investments, the secondary buyer may find these investments to be longer duration than some other secondaries investments. As shown earlier in Figure 3, GP-led secondaries were previously a small share of the market but have recently grown to make up about half of total secondary volume.

   GP-led secondaries often are characterized by the following:

   - **Greater control on the part of the secondaries manager over asset selection than traditional secondaries purchases. Additionally, this type of transaction may provide access to high-quality primary managers whose funds may not be available in the traditional secondary market.**
   - The ability for the secondaries manager to choose not just the primary manager with whom they invest, but also the specific industries and investment types in which they invest. Thus, investors in GP-led secondaries may invest with primary managers in the areas in which they are strongest.
   - Less diversification than traditional secondaries. By definition, a GP-led transaction will offer exposure to only a single GP, often with a relatively small number of assets. Still, a well-crafted portfolio of such transactions is likely to be meaningfully more diversified than a typical primary fund.

III. **Direct Secondaries** typically refer to a strategy of buying out minority equity-holders in individual privately held companies. These investments are similar to GP-led deals, though direct secondaries provide liquidity to external investors in a company rather than to the LPs who invested through a comingled fund.

   Direct secondaries have the following key attributes:

   - By definition, a direct secondary deal almost always involves just a single company or asset, unlike GP-led deals, which often involve a small portfolio of assets. This characteristic can make diversification even more difficult to achieve in direct secondaries.
   - As with GP-led secondaries, a direct secondary transaction is intended to allow some investors to hold an asset longer. Investors in a direct secondary trade may find some of these deals have longer duration than other secondaries strategies.

IV. **GP Permanent Capital** solutions are a relatively newer strategy which involves buying equity in private market GP management companies themselves. Buying exposure to a management company is in some meaningful ways quite different from buying an equity stake in a portfolio of companies, and may not be viewed as a true secondary. Though the management company position may include a small position in the manager's funds, the returns from a permanent capital position are largely from the growth of the management fee stream through long-run fundraising growth.

   In addition to the different main return driver, GP Permanent Capital solutions are different for the following reasons:

   - This strategy in principle allows for asset-level diversification on par with traditional secondaries, though with more concentrated exposure to particular fund managers.


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- Permanent capital funds may also have an easier time accessing higher quality managers than traditional secondaries buyers to the extent that these managers' funds do not often trade through traditional channels.
- However, many permanent capital transactions do not provide a clear exit opportunity. Additionally, because they involve investments in private equity management companies, which are permanent, ongoing businesses, realizations do not take place automatically as funds liquidate. Instead, they rather require some sort of separate exit transaction.

V. **Preferred Equity** secondaries are generally bespoke transactions with either an LP or a GP counterparty, often utilizing a distribution waterfall that accelerates distributions to the secondary buyer in exchange for allowing the seller to retain a greater share of the upside.

Preferred Equity transactions typically offer:

- A great deal of customizability, which can enable a buyer to meet complex seller needs and access portfolios that might not be available through simpler forms of secondaries. This variability also means that the attributes of individual transactions depend on their particular terms.
- One common use of structure to solve difficult transaction challenges relates to the bid/ask spread. At times, a seller will have more conviction in the upside of a portfolio than a prospective buyer will (or will simply be averse to the risk of selling meaningfully below the ultimate exit value of the assets). If this gap is too wide, no transaction will be done. For modest gaps, however, a structure can allow sellers to preserve exposure to potential upside while still providing an acceptably low price from the viewpoint of the buyer. This can enable a transaction to take place in circumstances where other transaction types would not.
- While a secondaries fund that focuses on preferred equity will tend to be less diversified than a traditional secondaries fund, it can still be readily designed to provide a level of diversification sufficient to mitigate most of the idiosyncratic risk in a portfolio.
- Preferred equity transactions generally provide downside protection through the preferred waterfall (e.g., giving the secondaries investor a preference on early distributions). Mitigating these systematic risks is very difficult to do in other types of secondaries.
- Because they are so customizable, **preferred structures allow secondaries fund managers to deliberately target particular risk/return profiles, manage for lower duration and target resilience across market cycles. These fund management tools are often more difficult to achieve in other secondaries strategies, and also make preferred equity a complement to other types of secondaries in many LP portfolios.**

VI. **Secondary Mezzanine** deals are a smaller portion of the market, pursued largely by a few specific managers. In many ways these investments are similar to preferred equity transactions, but are structured in such a way to target a more credit-like risk/return profile. While the underlying funds are generally taking equity positions, these transactions will take a senior claim on cashflows up until a certain, relatively low, return hurdle. As a result, they often are particularly resilient in market downturns, but may not provide investors the desired private equity-like returns in robust return environments.


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## How do GPs create investing advantages?

We believe that four key characteristics of a secondaries manager are key to driving outperformance. They are (1) broad sourcing capabilities, networks and scale (2) deep knowledge of data analytics and quantitative finance tools, (3) domain expertise in the transaction types and asset classes in which the firm focuses and (4) the skill to use structuring, financing and related tools to drive additional value.

### I. Broad Sourcing Capabilities, Networks and Scale

As the secondary market has become more competitive, and as it has expanded into the variety of transaction types and asset classes described throughout this paper, the ability of a manager to source a large volume of opportun ities, and especially off-market opportunities, is critical in our experience.

- We believe that this drive for a sourcing edge has been one of the catalysts of the M&A activity in the secondary market in recent years, in which larger asset managers have acquired many of the world's largest secondaries firms. These combinations allow secondaries providers to access the networks of LP and GP relationships of their larger acquirors, which can be very additive to secondaries firms' ability to source transactions from both sources – LPs for portfolio transactions, and GPs for GP-led transactions.
- Differentiated investment capabilities and investment types are another important driver of this differentiated sourcing. In our experience, secondaries managers who have something singular to offer their counterparties can build an edge in sourcing proprietary opportunities. These capabilities often relate to an ability to help a GP or LP counterparty to achieve a strategic goal other than maximal price for an investment at auction. They can also relate to the ability to use structures to bridge a wide bid-ask spread.
- As discussed above, the growth of the secondary market and the increased prevalence of intermediaries may put additional pressure on returns. **Managers who are able to create proprietary or off-market deal sourcing have opportunities for enhanced returns and more flexibility for creative structuring.**

### II. Deep Knowledge of Data Analytics and Quantitative Finance Tools

For primary managers, whose funds typically include only ten to twenty companies, returns tend to be driven by company-specific performance as much as broad market trends. For this reason, the key skills of primary managers relate to their ability to drive company-specific alpha. In contrast, because secondaries funds can include hundreds or even thousands of companies, portfolio construction and risk management tools from quantitative finance become more important, as does the ability to use data analytics to pick up 'alpha signals.'

- Portfolio construction and risk management tools matter because these high levels of diversification mean that returns can be impacted by off-market bets on industries or geographies that differ from those taken by competitors or reflected in benchmarks, or by unintended concentration risks. Purposeful off-market or concentration bets that pay off may be a useful driver of value, but unintended bets that go wrong (or purposeful bets that go wrong) can lead to underperformance.
- Because secondaries managers build diversified portfolios and generally have wide pipelines of opportunities, they are able to build large proprietary datasets of private company information. In the hands of trained data analysts, these datasets can yield valuable insights into the skill of primary managers, the sectors and geographies in which they are most skilled, their performance during downturns and can potentially help in identifying promising companies for GP-led portfolios.
- These insights become much more valuable at the level of diversified secondaries funds than they are for more concentrated primary funds and can be an important differentiator in the secondary market.
- **Managers who are able to develop quantitative tools can leverage them as a force multiplier for their team.** Such quantitative tools can assist with identification of mispriced portfolios and facilitate deal evaluation and portfolio management.

### III. Domain Expertise in the Transaction Types and Asset Classes in Which the Firm Focuses

As the secondary market has evolved to cover additional asset classes beyond private equity, and as the secondary market has expanded to additional transaction types, it has become increasingly important for secondaries firms to build expertise in the areas in which they want to focus.

- The skills needed to underwrite a diversified LP portfolio are different from the skills needed to underwrite a single-asset GP-led transaction. Similarly, the skills needed to invest in private equity are different than the skills needed to invest in real estate and infrastructure. Just as primary private equity managers can build competitive advantages through industry expertise, secondaries managers can build competitive advantages through their expertise in transaction types or asset classes.
- Having this domain expertise at scale and across a


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broad number of investment types and geographies can be an important competitive differentiator for managers. Some secondaries portfolios contain a mix of investments demanding different skills to price, and sellers may value transacting with a counterparty who can speak for the entire portfolio. Similarly, LPs may prefer partnering with a single manager capable of offering secondaries exposure across asset classes.

### IV. Structuring and Financing Capabilities

Structuring is a tool that secondaries managers can use both to help drive returns in their investments and to mitigate risks. **A well-structured preferred equity transaction may provide a better risk-adjusted return to investors than either a straight LP portfolio purchase or GP investment.** There are a wide variety of structuring tools available to a secondary buyer and some of the most common are:

- Deferred payments (for existing NAV) or deferred contributions (for unfunded capital), through which buyers can increase their IRR by shortening the economic duration of their investment.
- Distribution preferences, through which buyers can both increase their IRR by shortening economic duration and mitigate risk by receiving cash back sooner.
- Performance hurdles for fee calculation and other purposes.
- Creative uses of leverage which, when applied to alpha, can increase an uncorrelated source of return.

There is no one-size-fits-all structure that works for every transaction. A skilled secondaries manager can determine the most likely outcomes for a given secondaries investment based on their diligence into the portfolio; a structure can then be designed around the most likely return profile or cashflow pacing. A manager with deep experience both in their underwriting and in their structuring capabilities can offer meaningful value enhancement to investors.

Though not directly related to a manager's skill as a secondaries provider, we also believe that investors can benefit from partnering with secondaries managers who can provide their investors with access to analytical tools that can make them better investors not just in their secondaries portfolio, but in their broader private markets portfolio as well. For example, some secondaries managers may be able to provide their investors with detailed analytics of primary managers that identify the different sources of primary manager returns and estimate their ability to produce alpha. Some secondaries managers may also be able to provide their investors with broader portfolio analytics capabilities that can help investors to identify strengths and weaknesses within their own portfolios, risks and opportunities and strategies for pacing commitments to achieve allocation goals.

## Conclusion

We believe that all private market investors, regardless of the size or composition of their portfolio or their portfolio objectives, should consider the potential benefits of secondaries outlined in this paper. The opportunity for secondaries funds to purchase assets at a discount to intrinsic value can provide a differentiated and valuable source of uncorrelated returns to an investor's portfolio. Because secondaries funds are usually well diversified, they significantly reduce uncompensated risks. Secondaries funds may also provide benefits that are valuable to the investor's broader portfolio, most prominently mitigating the j-curve effect and reducing the drag of early fees on a portfolio's holding value, as well as providing a source of steady and predictable distributions.

As a result of growth in the secondary market, there are now many types of transactions available to investors, which affords them the ability to select strategies that are best suited for their portfolio or combine strategies to obtain distinct benefits from each. Our research shows LP portfolio sales are likely to provide well-diversified portfolios and stable distribution yield, while GP-led deals are more likely to provide access to alpha-generating managers and top-performing assets. Preferred equity transactions allow for unique portfolio management tools and risk mitigation, which can be difficult for investors to obtain elsewhere.

As a result of these differences, **we believe it is important for investors to understand the spectrum of options available and what transaction types will best achieve their goals.**

Finally, we would caution LPs that even within a given subset of the secondaries market, their experiences are likely to be meaningfully different with secondaries managers. In our experience, there are a few specific competencies that are key distinguishing characteristics of those secondaries managers who are able to deliver for their investors. Access to top managers and exclusive transaction opportunities is extremely valuable, and secondaries managers with experience and scale are more

likely to provide that access. Quantitative tools can help a secondaries manager more effectively capitalize and deliver on the distinct attributes of secondaries, such as the ability to generate differentiated sources of return and identify lesser-known alpha-generating primary managers with whom to partner. Additionally, the ability to deploy preferred structures on portfolios of private assets can achieve distinctive risk/return profiles and create attractive deals which are not available to other secondaries players. Together, **these capabilities can enable secondaries strategies to achieve strong returns in a variety of market environments while maintaining meaningful downside protection and delivering attractive attributes to investors** such as meaningful diversification and shortened duration. Additionally, investors can benefit by working with secondaries managers who are able to provide insights and analytics that can help the investors as they deploy their broader private market portfolios.

Note: References to "downside protection", "diversification" or similar language are not guarantees against loss of investment capital or value.

## Glossary of Terms

***Alpha:*** Return generated by a manager above the return generated by systematic, publicly replicable return factors. Landmark estimates true alpha generation by using the Direct Alpha algorithm to measure outperformance above a public proxy benchmark. See "An ABC of PME" (Griffiths & Charles 2014) for additional information.

***Duration:*** The amount of time an average dollar is invested; the effective holding period of an investment. Typically approximated in private markets using the following relationship:

$$\text{Duration} = \frac{\ln(\text{TVPI})}{\ln(1+\text{IRR})}$$

***Intrinsic Value:*** The price a privately held asset would trade for, if it were publicly listed; the price that would be agreed upon by fair, efficient, arms-length processes by a consensus of buyers and sellers. Intrinsic Value stands in contrast to its book value or NAV, which is a manager-reported appraisal. While intrinsic value and NAV are related, they may differ materially, especially during market dislocations.

***N-Curve:*** The phenomenon where a secondaries fund purchases assets at a discount to NAV, and therefore shows a strongly positive early interim IRR. This discount amortizes over the holding period of the investment, which can lead to a declining IRR as the secondaries fund matures. This results in an IRR-over-time profile distinct from traditional primary funds, where interim IRR tends to start out negative as a result of fee drag and later increases as underlying assets appreciate (sometimes referred to as the j-curve). That secondaries funds purchase primary fund interests after the latter's early high fee scrape period also contributes to the n-curve.

***Primary (Fund):*** An underlying fund, i.e., a traditional buyout, venture capital, real estate, infrastructure, credit, or other private fund which invests directly in companies, properties, or other assets. Used in contrast to a secondaries fund or fund of funds, both of which invest in such primary funds (a fund of fund invests during the primary fund's fundraise, a secondaries fund acquires an interest in the fund later in the primary fund's life).

***Structuring:*** Implementing a contractual arrangement as part of a secondary transaction whereby the "buyer" and "seller" both agree to put the traded assets into a new vehicle, where distributions from the vehicle will be allocated between the buyer and seller in accordance with a pre-determined set of terms.

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Mr. Miller is a Partner in the Ares Secondary Solutions Group, where he focuses on private equity secondaries. He also serves on the Landmark Private Equity and Infrastructure Secondaries Investment Committees. Additionally, Mr. Miller serves on the Ares Diversity, Equity and Inclusion Council. Prior to joining Ares in 2021, he was a Partner in the Landmark Partners Private Equity Group, where he focused on transaction origination, underwriting and negotiation of private equity investments. Previously, Mr. Miller was Head of Private Equity at the New York City Retirement Systems ("NYCRS"), where he served on the LP Advisory Boards of more than 40 private equity funds. In addition, he was a Partner at Pomona Capital ("Pomona"), where he focused on sourcing and executing secondary transactions and was a member of the Pomona Capital Investment Committee. Prior to joining Pomona, he was a Senior Investment Manager at AXA Private Equity, where he was also Head of the New York office and served on the Global Investment Committee of AXA Private Equity. Mr. Miller currently serves on the Board of Directors for the Robert Toigo Foundation, an organization devoted to diversity in the investment management business and is a member of the Tulane School of Liberal Arts Deans' Advisory Council. Mr. Miller previously served as a member of the Sponsors for Educational Opportunity Limited Partner Advisory Council. Mr. Miller holds a B.A. from Tulane University in Economics.

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Mr. Turetsky is a Partner in the Ares Secondary Solutions Quantitative Research Group. Prior to joining Ares in 2021, he was a Partner in the Landmark Partners Quantitative Research Group, where he focused on analyzing investment strategies, risk management, performance measurement and customer-oriented projects. Previously, Mr. Turetsky was COO of the Riverside Company's European private equity business. In addition, he was an Investment Banking Associate at Lehman Brothers and Lazard Middle Market. Mr. Turetsky holds appointments as an Adjunct Professor of Design & Innovation and as an Engaged Management Scholar Research Fellow at the Weatherhead School of Management at Case Western Reserve University. He is a member of the advisory board of the INSEAD Private Equity Initiative. Mr. Turetsky holds a B.S. from Bar-Ilan University in Economics, an M.B.A. from INSEAD and a Ph.D. from the Weatherhead School of Management at Case Western Reserve University.

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