STEPSTONE
inside private markets

Achieving Liquidity In Private Markets For Defined Contribution Plans

In the US, defined benefit (DB) plans have long invested in private markets to earn higher risk-adjusted returns and diversify their portfolios. In fact, private markets continue to grow in DB plans, making up approximately 20% of global portfolios in aggregate.[1] Yet even as pension managers continue to allocate significant amounts of capital to private markets, US defined contribution (DC) plans have remained on the sidelines.

The challenge facing American plan sponsors lies in the fact that the features which enable private markets to generate outsized risk-adjusted returns are also incompatible with how DC plans operate: for institutions that function in a daily pricing environment and support a high volume of participant cash flow activities, it can be difficult to incorporate assets that only provide quarterly valuations and episodic liquidity. However, as private markets have evolved, StepStone believes new investment structures have the potential to overcome these concerns.

[1] Willis Towers Watson, *Global Pension Asset Study*, 2018.

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The Case for Private Markets

Long a staple in institutional investors' portfolios, private markets have been an important contributor to attractive risk-adjusted returns. There are three key reasons why:

1 **The illiquidity premium**—because private markets are typically less liquid than their public counterparts, investors expect to be compensated with higher returns.

2 **Idiosyncratic premia**—by investing in private markets, investors can harvest return drivers that otherwise are not accessible. For example, real assets are often viewed as an inflation hedge.

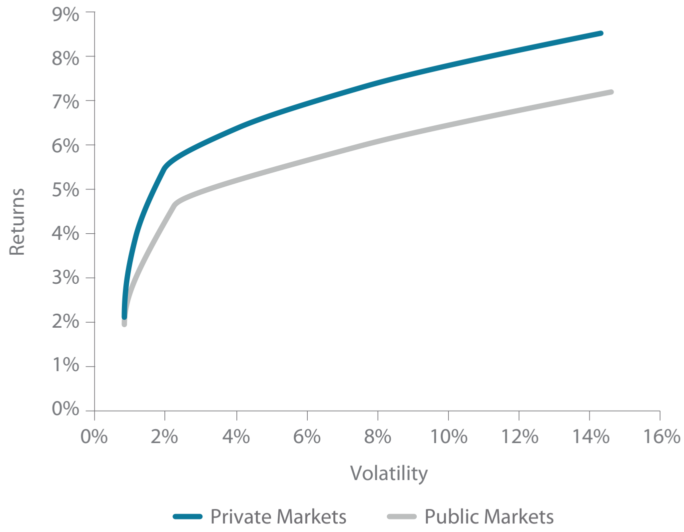
3 **Diversification**—adding private market investments to a traditional portfolio of stocks and bonds can increase overall diversification and mitigate systemic risk since many investments have low correlations to public markets.

As seen in **Figure 1**, the cumulative effects of these return drivers suggest that private markets can generate higher returns at any level of volatility—shifting the efficient frontier up and to the left. To arrive at this result, we replaced 20% of a traditional portfolio with an allocation to private market investments. For greater detail, please refer to the End Notes.

Global demand for alternative strategies continues to increase, with assets under management expected to grow from US$10.1 trillion in 2016 to US$21.1 trillion in 2025.[2] Much of this growth will be driven by high net worth individuals (HNWI) whose allocations to alternative investments represented 9.7% of their financial assets in 2017. This cohort is expected to represent approximately 35% of total global client assets in 2025 (**Figure 2**).[3]

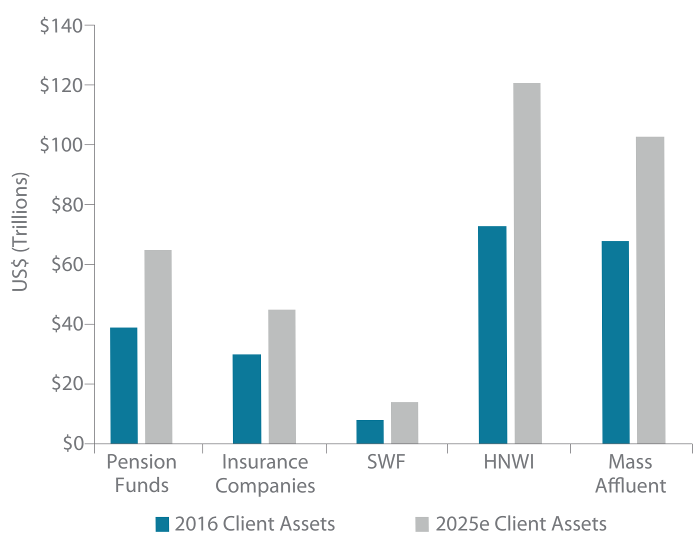
Despite attractive reasons to invest and growing global demand from investors for private markets, American DC plans have not been a significant participant in these assets. Two frequently cited reasons are illiquidity and the lack of daily pricing.

FIGURE 1 | EFFICIENT FRONTIER



Source: StepStone, 2018.

FIGURE 2 | EXPECTED GROWTH OF CLIENT ASSETS



Source: PwC, 2016.

[2] PricewaterhouseCoopers, *Asset & Wealth Management Revolution: Embracing Exponential Change*, 2016.
[3] Supra note 1. See also Capgemini, *World Wealth Report*, 2017.

An Evolution of Illiquidity & Pricing in Private Markets

In the US, institutional investors have generally accessed private markets through closed-end pooled investment vehicles—organized as private funds or as registered investment companies, as defined and regulated by the US Securities and Exchange Commission's (SEC's) Investment Company Act of 1940 (the '40 Act). When the investment and liquidity features of these funds (**Figure 3**) are viewed through the lens of a DC plan, which must transact frequently, it's easy to understand why plan sponsors may be hesitant to include private market investments in their programs.

ALTERNATIVE MUTUAL FUNDS

Early attempts by private markets to solve the challenges of illiquidity and daily pricing through alternative mutual funds (AMFs) have largely limited the strategies that can be offered to hedge funds. Because AMFs are open-end funds regulated by the '40 Act, they must offer daily liquidity and limit investments in illiquid securities to 15% of assets under management. As such, many private market investments are precluded.

REPLICATION STRATEGIES

Though hedge fund replication is largely viewed as a failed experiment, some market participants are trying their hand at replicating other private market asset classes. Like hedge fund replication, these strategies seek to reproduce private markets' performance by investing in listed securities and applying tools such as leverage, options contracts, or derivatives. Replication strategies typically offer daily pricing and monthly liquidity.

In marketing, proponents will often provide backtested data to demonstrate positive performance and a correlation to

FIGURE 3 | TRADITIONAL INVESTMENT STRUCTURES FOR PRIVATE MARKETS[4]

	Single Fund Classic LP	Single Fund Feeder	Private Fund of Funds	Interval Fund (No Tax Election)	Interval Fund (RIC Tax Election)
Capital Calls	Yes	Yes	Yes	No	No
Minimums	Large	Medium	Medium	Small	Small
Tax Reporting	K-1	K-1	K-1	K-1	1099
Typical Investors	Qualified Purchaser	Qualified Purchaser	Qualified Purchaser	Accredited Investor*	Accredited Investor*
Redemption Option/ Liquidity	None	None	None	Quarterly (Self-Tender By Fund)	Quarterly (Self-Tender By Fund)
Valuation/ Pricing	Quarterly	Quarterly	Quarterly	Weekly**	Weekly**

* Funds that make direct investments can be offered to retail investors.

** While some direct investment interval funds calculate daily NAV, Rule 23c-3 requires an interval fund to calculate weekly NAV.

[4] As defined under Section 2(a)(51) of the '40 Act, a qualified purchaser is generally: (i) any natural person (including any person who holds a joint, community property, or other similar shared ownership interest in a Section 3 (c) (7) fund with that person's qualified purchaser spouse) who owns not less than US$5 million in investments; (ii) any family-owned company that own not less than US$5 million in investments; (ii) any trust that is not covered by clause (ii) and was not formed for the specific purpose of acquire the securities, the trustee and settlor of which are qualified purchasers; and (iv) any person, acting for its own account or the accounts of other qualified purchasers, that owns an invests on a discretionary basis not less than US$25 million in investments. Under Rule 501 of Regulation D of the SEC, for an individual to be deemed an "accredited investor," the individual must have a net worth of at least US$1,000,000, excluding the value of one's primary residence, or have income at least US$200,000 each year for the last two years (or US$300,000 combined income if married) and have the expectation to make the same amount in the current year. Other investment entities (e.g., banks, trusts, 501(c)(3), etc.) will have different requirements, as further described at www.sec.gov.

a private market reference index. Thus, investors ought to consider the following:

- » Backtesting can be problematic for several reasons including survivorship bias, sample size considerations, overfitting, and data mining.
- » Private equity replication strategies have short track records that have coincided with strong public markets.

The viability of these strategies will only be proven once market conditions shift. When they do, the current replication tools may be too rigid to be effective.

INTERVAL FUNDS

Adopted in 1993, the SEC's Rule 23c-3 paved the way for closed-end interval funds to enter the market. Interval funds can invest in private markets and provide liquidity to investors by offering to repurchase between 5% and 25% of their shares at net asset value (NAV) at quarterly, semi-annual, or annual intervals. Interval funds must provide notice to shareholders before making an offer to repurchase; they must also prepare filings with the SEC.

Because of the tender requirement, most interval funds in the market today are real estate- or credit-focused due to these assets' ability to generate a portion of the required liquidity through investment income. There are also "interval-like" funds that focus on other private markets assets (e.g., private equity) and generally make quarterly tender offers. However, such vehicles are not "true" interval funds because they are not obligated to hold periodic tenders and may opt not to do so if market conditions present a challenge for them to satisfy the potential demand for liquidity.

Since interval funds can offer broad access to private markets, StepStone finds them to be more attractive than AMFs or replication strategies. However, the periodic tenders at NAV that allow interval funds to deliver greater liquidity also requires them to hold large positions in cash or marketable securities to satisfy repurchase requests. This produces a drag on returns. The additional costs of conducting quarterly tenders to facilitate repurchases are also borne by the funds.

An interval fund's approach to asset valuation follows industry precedents established by Australian superannuation plans, which typically have significant allocations to private equity, infrastructure, and private real estate. This valuation methodology uses the private investments' latest valuation with adjustments for contributions and distributions, foreign currency movements, changes in the price of publicly-listed securities within the portfolio, and any material events. Another valuation approach for calculating a periodic NAV for illiquid assets would be to use a representative index or indices to approximate the changes in the market value of the illiquid assets in question. Both approaches are acceptable means of calculating NAVs in the US. On a monthly, weekly, or even daily basis, interval and interval-like funds tend to couple the valuation approach that is undertaken with a "circuit breaker" that triggers a bottoms-up valuation if public markets move by more than a set percentage.

COLLECTIVE INVESTMENT TRUSTS

Collective Investment Trusts (CITs) represent another type of investment option that is familiar to DC plan sponsors. These pooled investment vehicles are only available to qualified retirement plans such as DC and DB plans. CITs are not regulated by the SEC; rather they are typically sponsored by a bank or a trust company and subject to US banking regulations. CITs can invest in private markets, and like interval funds, if the assets held are illiquid, CITs would have to address a DC plan sponsor's need for liquidity by holding sizable marketable securities and/or cash within the vehicle.

New Approaches to Illiquidity & Pricing

AMFs, replication strategies, interval funds and CITs all seek to address, to varying degrees, the illiquidity and pricing challenges that DC plan sponsors face when looking to offer private markets to their participants. Each has its limitations that can make it hard to achieve broad private markets exposure. With the recent development of auction funds and innovative ways to access private markets through US-listed vehicles, however, StepStone believes there are credible solutions that will enable plan sponsors to include private markets, potentially providing alpha and diversification benefits to their participants.

AUCTION FUNDS

Auction funds recently became available to private market investors. These investment vehicles are closed-end, continuously offered, "interval-like" funds that are registered under the '40 Act. Investments are fully funded from the initial date (i.e., there are no capital calls), and auction funds elect to be taxed as regulated investment companies under

Subchapter M of the Internal Revenue Code of 1986. This election enables investors to receive an IRS Form 1099 for tax reporting purposes and exempts auction funds from Employee Retirement Income Security Act (ERISA) plan asset rules, allowing them to accept an unlimited number of ERISA investors, including DC plans and individual retirement accounts, while blocking unrelated business taxable income (UBTI) for tax-exempt investors.

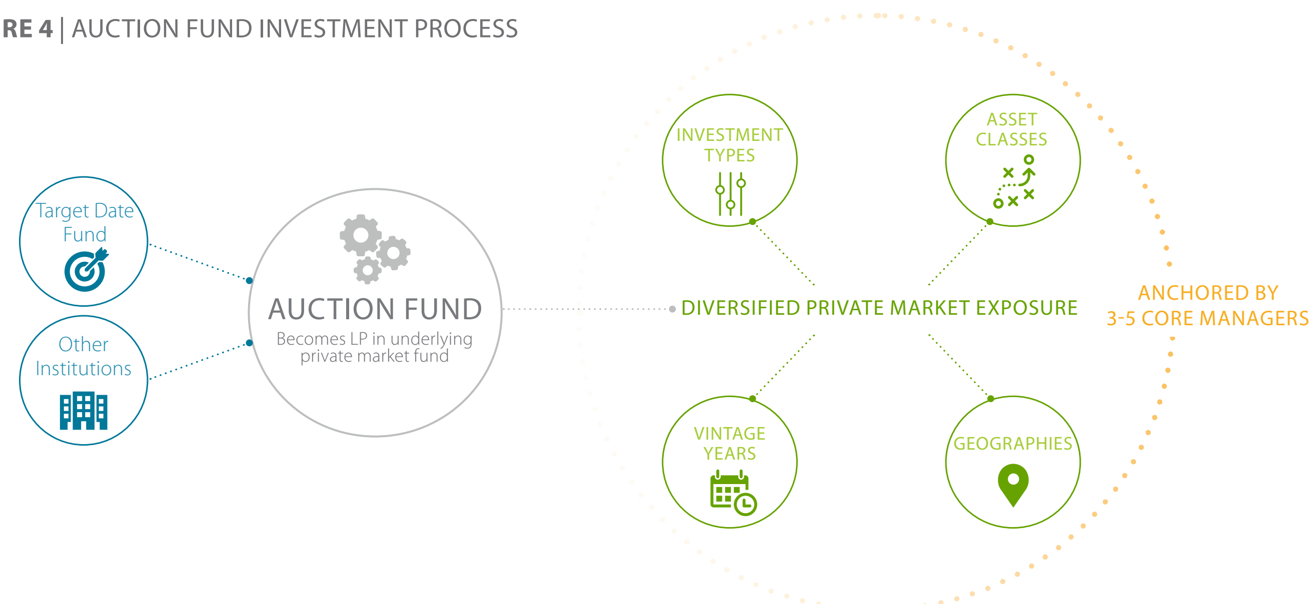
Auction funds possess a distinctive liquidity mechanism that is superior to interval and other interval-like funds: liquidity is available through monthly auctions that are supported by investors subscribing for new interests in the fund and secondary liquidity providers (SLPs), and mediated by Nasdaq Private Markets (NPM). The natural buyers comprise both new and existing investors, which could include, for example, target date funds (TDFs) that invested in the auction fund and are increasing their subscriptions due to additional contributions from plan participants. SLPs comprise three to five institutional investors that are pre-approved by NPM and have committed to bid at each auction. The combination of these buyers at the monthly auction event would foster competitive pricing at/near the auction fund's NAV and provides plan sponsors with the benefit of being able to rely on an independent valuation for effecting transactions. A stable pricing environment is further facilitated by annual tenders that are held by the auction fund at NAV.

StepStone believes this type of liquidity feature would be more attractive to DC plan sponsors than current interval or interval-like funds in the marketplace; liquidity is available more frequently (i.e., monthly) and is achieved through an external auction market that establishes the highest market-clearing price for sellers. Importantly, the existence of monthly auctions provides plan sponsors with the confidence that they will have a readily available exit for their private market investments if a plan's design changes or a corporate event occurs. In contrast, traditional interval or interval-like funds rely on periodic tenders (typically quarterly) at NAV to generate liquidity for investors, which would not offer the same level of liquidity to plan sponsors. As mentioned earlier, these funds must hold sizeable cash positions within the vehicles to meet repurchase requests, resulting in a drag on returns to investors. The additional costs of conducting quarterly tenders (rather than annual tenders in the auction fund context) to facilitate repurchases are also borne by the funds.

Auction Fund Mechanics

- A TDF[5] establishes an allocation to private markets, which it achieves by investing in an auction fund.
- The investment in the auction fund is deployed into a diversified portfolio that consists of fund commitments, secondaries, and co-investments—diversified across asset class, geography, and vintage. This achieves 100% exposure for the TDF (**Figure 4**).

FIGURE 4 | AUCTION FUND INVESTMENT PROCESS



[5] StepStone believes that TDFs are the most realistic DC plan adopters of a robust private markets allocation.

» Later, the TDF seeks to divest a portion of its portfolio in connection with plan-level activity by its participants (e.g., corporate event, rebalancing, withdrawals). The TDF will indicate the auction fund interests that it wishes to sell on the platform operated by NPM.

» NPM holds a monthly auction to aggregate all buy and sell interest for the fund (**Figure 5**). This process would likely include buy and sell orders from other investors, which could include TDFs from other plan sponsors that invested in the same auction fund. SLPs will commit to bidding on the interests. This commitment ensures deeper liquidity and market pricing for investors seeking to sell their interests.

» Aggregating buyers and sellers in the monthly auction creates natural competition and a single clearing price.

» NPM operates and manages the auction, helping to ensure structural integrity and that the proper incentives for SLPs to participate are in place.

» Sellers, including the TDF, receive liquidity at the clearing price and exit their investments via a secondary transfer.

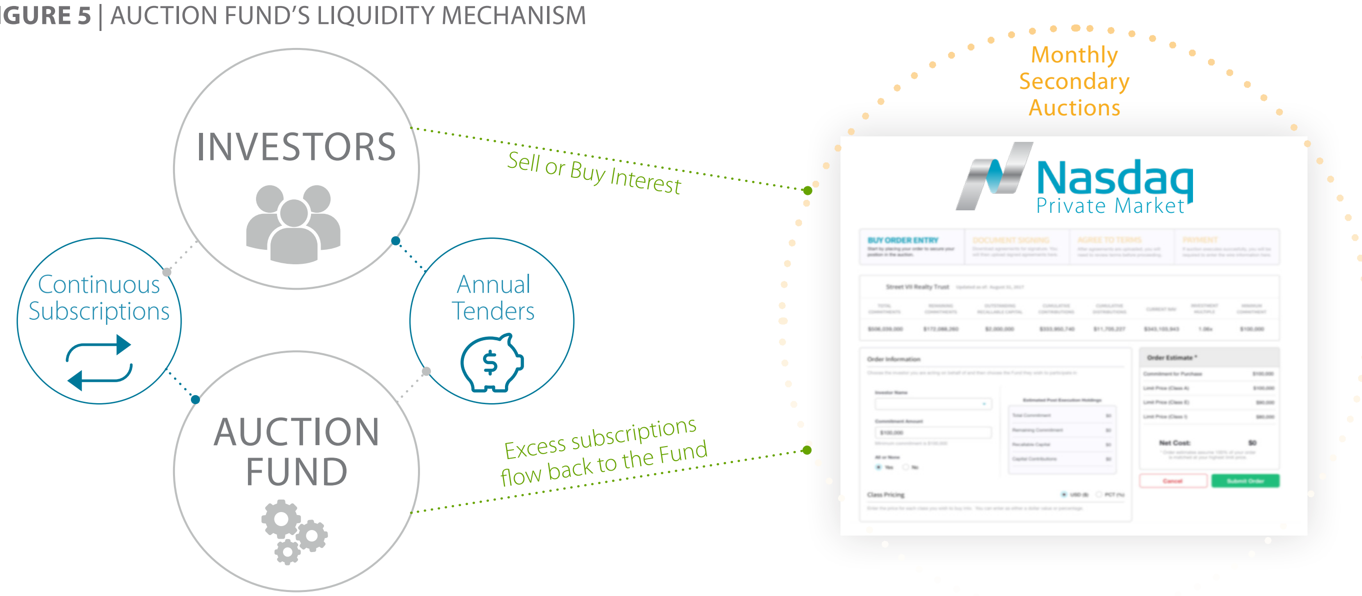
While NPM auctions are held monthly, auction funds can provide more frequent pricing to support subscription and redemption activities in the TDF for plan sponsors. The asset valuation approach would employ the same methods used in calculating NAVs for interval and interval-like funds in the US as discussed earlier.

For DC plans, an auction fund can be an attractive way to offer private markets investments within a TDF format. The relatively modest allocation of an auction fund within a TDF, the auction fund's ability to provide sponsors with more frequent pricing, and its unique access to a market-driven liquidity solution, create flexibility for plan sponsors to construct a diversified portfolio that allows plan participants to benefit from the attractive return and diversification potential of private markets.

LISTED HOLDING COMPANIES

Listed holding companies (LHCs) offer yet another way for DC plan sponsors to access private market strategies. LHCs conduct their businesses primarily through wholly- and majority-owned subsidiaries, neither of which is defined as an investment company under the '40 Act.[6] This exclusion is important since this enables LHCs to avoid the investor qualification requirements and private placement rules that apply to private investment funds governed by the '40 Act.

FIGURE 5 | AUCTION FUND'S LIQUIDITY MECHANISM



[6] Under §3(a)(1)(A) of the '40 Act, a company is considered an investment company if it engages primarily in the business of investing, reinvesting or trading in securities. To not be deemed an investment company, the LHC must ensure that the value of its "investment securities" (excluding cash and government securities) does not exceed 40% of its total assets on an unconsolidated basis (the "40% test"). As long as an LHC primarily engages in non-investment company businesses (e.g., making certain types of loans instead of investing in securities) or engages in a business that qualifies for an exemption from being considered an investment company under the '40 Act (e.g., real estate-related investments), the LHC will not be considered an investment company.

As a result, LHCs can be offered to retail investors through a public offering or listed vehicles, which provide daily pricing on an exchange. Finally, LHCs are exempt from ERISA plan asset rules and are treated as corporations for tax purposes, which results in tax leakage but does not generate UBTI.

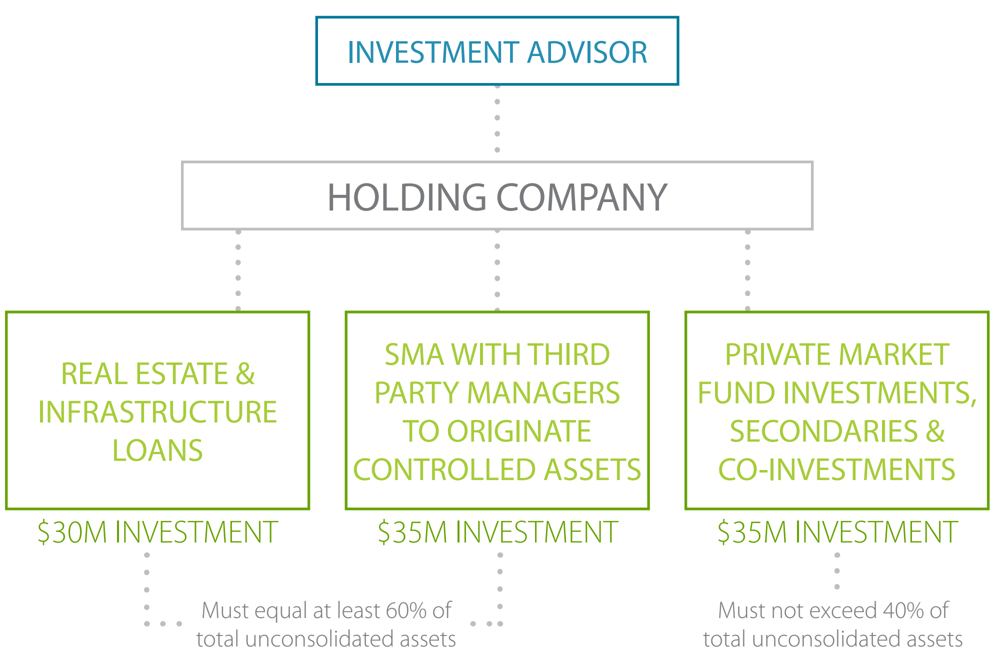
Using an LHC structure, an asset manager can establish a holding company with controlling interests in wholly- and majority-owned subsidiaries that will hold different types of private market investments such that in aggregate, the holding company would pass the "40% test" (**Figure 6**).

Given that an LHC must maintain a limit on investment securities that can be held, this type of structure may not be suitable for all return profiles. StepStone believes it would be most appropriate for plan sponsors who wish to access alternative investments and regard daily pricing and liquidity as the most important plan design objectives. There are two additional considerations with this approach: listed structures that invest in private markets have historically exhibited greater volatility in price movements and have generally traded at a discount to NAV. These dynamics can be attributed to a lower level of transparency with respect to the underlying assets and the perception that LHCs do not benefit from the same level of governance and alignment of interest as private market funds.

Implementation

In 2006, then President Bush enacted the Pension Protection Act (PPA). The new law amended ERISA to provide a safe harbor for DC plan fiduciaries who invest participant assets in certain types of default investment alternatives (qualified default investment alternatives or QDIAs). The safe harbor provides fiduciaries relief from liability for investment outcomes in plan participants' accounts, provided that certain conditions (which include that the assets are invested in a QDIA) are met. TDFs are recognized as QDIAs and can be structured to include an allocation to private market investments. The key is ensuring that the private markets allocation complements the TDF so that the TDF's portfolio is constructed to reflect factors such as years to retirement, diversification profile, risks and return characteristics, and

FIGURE 6 | HOLDING COMPANY STRUCTURE



plan demographics. With a proper plan design and portfolio construction approach, including private markets in a TDF is an effective way to introduce an attractive asset class into DC plans and deliver a successful retirement outcome for plan participants.

Conclusion

Investments in private markets are growing for good reasons—they offer investors the compelling benefits of higher risk-adjusted returns and greater portfolio diversification. For plan sponsors, determining the best way to incorporate private markets into a DC plan can be challenging, but the roadblocks are not insurmountable. StepStone believes the key to introducing private markets into DC plans is to develop a customized investment solution that considers the priorities of a plan sponsor's objectives and is tailored to the specific needs of the plan.

While neither auction funds nor LHCs perfectly resolve the illiquidity and pricing challenges facing plan sponsors, StepStone believes both are legitimate options capable of helping to address plan sponsors' desire for liquidity and daily pricing in private market investments (**Figure 7**). Each of these structures has its own merits and risks. Auction funds provide monthly liquidity in return for greater flexibility to access any private market strategy that a plan sponsor desires. Due to the 40% test, LHCs have certain portfolio construction requirements and will likely require closer scrutiny of their governance and disclosure policies before investing. But in return, they can provide daily liquidity and pricing. These are not mutually exclusive approaches—it may be sensible to incorporate elements of both in a private markets allocation. For example, a TDF may use an auction fund to achieve higher risk-adjusted returns, and the auction fund could invest a portion of its assets in an LHC to help satisfy annual tenders.

FIGURE 7 | PRIVATE MARKET INVESTMENTS TODAY[7]

	Single Fund Classic LP	Single Fund Feeder	Private Fund of Funds	Interval Fund (No Tax Election)	Interval Fund (RIC Tax Election)	Auction Fund	Listed Holding Company
Capital Calls	Yes	Yes	Yes	No	No	No	No
Minimums	Large	Medium	Medium	Small	Small	Small	Small
Tax Reporting	K-1	K-1	K-1	K-1	1099	1099	1099
Typical Investors	Qualified Purchaser	Qualified Purchaser	Qualified Purchaser	Accredited Investor*	Accredited Investor*	Accredited Investor*	Retail (Any) Investors
Redemption Option/ Liquidity	None	None	None	Quarterly (Self-Tender By Fund)	Quarterly (Self-Tender By Fund)	Monthly (Market Driven)	Daily (Market Driven)
Valuation/ Pricing	Quarterly	Quarterly	Quarterly	Weekly**	Weekly**	Weekly**	Daily

* Funds that make direct investments can be offered to retail investors.

** While some direct investment interval funds calculate daily NAV, Rule 23c-3 requires an interval fund to calculate weekly NAV.

[7] As defined under Section 2(a)(51) of the '40 Act, a qualified purchaser is generally: (i) any natural person (including any person who holds a joint, community property, or other similar shared ownership interest in a Section 3 (c) (7) fund with that person's qualified purchaser spouse) who owns not less than US$5 million in investments; (ii) any family-owned company that own not less than US$5 million in investments; (ii) any trust that is not covered by clause (ii) and was not formed for the specific purpose of acquire the securities, the trustee and settlor of which are qualified purchasers; and (iv) any person, acting for its own account or the accounts of other qualified purchasers, that owns an invests on a discretionary basis not less than US$25 million in investments. Under Rule 501 of Regulation D of the SEC, for an individual to be deemed an "accredited investor," the individual must have a net worth of at least US$1,000,000, excluding the value of one's primary residence, or have income at least US$200,000 each year for the last two years (or US$300,000 combined income if married) and have the expectation to make the same amount in the current year. Other investment entities (e.g., banks, trusts, 501(c)(3), etc.) will have different requirements, as further described in the SEC's website (https://www.sec.gov/).

End Notes

The public market efficient frontier is derived using an unconstrained historic return/volatility optimization based on Money Markets, US Government Bonds, US Corporate Bonds, Equities US, MBS.

The private markets efficient frontier permits the addition of 20% of Real Estate Debt, Infrastructure Equity, Private Equity Buyouts and Private Debt.

The data is based on time series from 31 December 2004 to 31 June 2017. Forward-looking calculations may be available upon request.

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The Firm creates customized portfolios for many of the world's most sophisticated investors using a highly disciplined, research-focused approach that prudently integrates fund investments, secondaries and co-investments.

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