Going Direct

A New Paradigm in Venture Capital Investing

INCLUDING

The "7" Essential Best Practices for Institutional Adoption of Online Direct Investing

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Introduction

"Going Direct: A New Paradigm in Venture Capital Investing" is designed to discuss the challenges/opportunities facing institutional investors (Limited Partners ~Pension Funds) seeking to co-invest alongside "Lead" investors (General Partners ~Venture Capitalists) online. Co-Investing ("Direct" Investing) coupled with advancements in financial technology (FinTECH) provides distinct advantages for institutional investors/managers seeking access to premium deal flow/capital at lower costs and companies pursuing lead investors/ease of funding.

Institutional Investors (Limited Partners ~Pension Fund)

- Allows Alternative Approach to Health-care Private Market
- No Fund Management Fee or Carry
- Shorter Funding Cycles / Higher Capital Velocity
- Reserve Capital Invested at Higher Returns
- Low Cost and Informative Exposure to New General Partners
- Not Constrained to Limited Partner Bite Size
- Investment Rate at Pace of Industry, not of General Partner Staffing Levels
- Fund Manager Diversification

Investment managers (General Partners ~Venture Capital)

- Low Cost and Informative Exposure to New Limited Partners
- Different Fund Horizons
- Fund Dynamics Driving Company Decisions
- Reduced Financing Risk for Portfolio Companies
- Flexible Syndicate Structure

Management/Companies

- Secure Lead Investor
- Fundraising Ease
- Pre-Cursor to "Going Public"
- Increased Exposure to Strategic Buyers
- Ease Communications with Investors and Strategic Buyers

ONLINE DIRECT INVESTING – RETAIL TO INSTITUTIONAL CAPITAL ADOPTION

Online direct investing (~equity) is following a trajectory vis-à-vis Peer-to-Peer (P2P)/Marketplace Lending (~debt); from retail to institutional investor adoption. P2P's/Direct Investing adoption curves include:

PEER-TO-PEER (P2P) – DEBT	DIRECT INVESTING – EQUITY
Borrowers (individuals) seeking to refinance consumer debt, student loans adopt FinTECH platforms to;	Companies seeking equity capital to advance development programs adopt FinTECH platforms to;
Connect with retail investors with appetite for yield as a result of the low-interest rate environment as;	Connect with retail investors (Accredited – Title II and IV of JOBS Act; Non-Accredited – Title III and IV) with appetite for direct access to premium deal flow optimally with "Lead" investor as;
Originators (Prosper, LendingClub) launch/update infrastructures (portfolio management, valuation, **securitization**, and diversification) increasing transparency/ease-of-use attracting;	Originators (AngelList, CircleUp, Fundersclub, Capbridge) launch/update infrastructures (portfolio management, valuation, **online venture funds** and diversification) increasing transparency/ease-of-use attracting;
Institutional investors (~Hedge Funds) also "seeking yield" participate online with the support of intermediaries like;	Institutional investors (~Limited Partners) also "seeking access" to premium deal flow at lower costs participate online with the support of intermediaries like;
Orchard, https://orchardplatform.com/solutions/managers/ providing solutions for;	**S. Jordan Associates**, http://sjordanassociates.com/ providing solutions for;
■ *Originators* – Access to a wide spectrum of investment managers and institutional investors;	■ *Originators* – Access to a wide spectrum of investment managers and institutional investors;
■ *Investment Managers* – Order Management Systems (developed) enabling investment managers to back-test and deploy proprietary credit models to select loans meeting institutional investor risk/return profiles;	■ *Investment Managers* – Order Management Systems (in discussions) enabling investment managers to deploy proprietary diversification models (select portfolio of companies) meeting institutional investor risk/return profiles;
■ *Institutional Investors* – Best Practices for evaluation investment managers	■ *Institutional Investors* – Best practices for evaluating investment managers

Adoption Stage of P2P Platforms, 1/2016

Adoption Stage of Equity Platforms, 1/2016

RETAIL CAPITAL VALIDATES ONLINE DIRECT INVESTING VIA FINTECH (FINANCIAL TECHNOLOGY)

Direct investing (~equity) is not a new phenomenon. "Friends and Family" have supported companies on a direct basis for generations providing capital oftentimes at the earliest stages of development (seed-stage investments) when alternative sources were not available or unwilling to invest (e.g. venture capital). As such, direct investing by retail (high-net-worth/accredited) investors was conducting offline without the use of technology. Advancements in technology (Financial Technology or "FinTECH") has changed the dynamics of how investors participate on a "direct" basis in the debt (P2P) and equity (online direct investing) markets.

FinTECH adoption is most robust in P2P/Marketplace Lending wherein investors lend money online to borrowers seeking to refinance consumer/student debt, fund small business loans and real estate. P2P/Marketplace Lending has been validated by retail investors given:

- *Ease of investing* – Originators (Prosper, LendingClub) leverage credit risk modeling to select loan portfolios on behalf of retail investors based on their stated risk/return preferences
- *Familiarity* – Investors understand and are comfortable with debt as lenders (earn interest, return of principal ~bonds/fixed income investments) and as borrowers (bank loans/mortgages)
- *Infrastructure* – Availability of advanced portfolio management/valuation tools assisting investors with diversifying and monitoring loans post-investment

Online direct investing by retail investors is modest (<$1Bln raised under Reg D, 506 (c) - General Solicitation) in comparison to P2P/Marketplace Lending and the capital invested is largely concentrated in early-stage technology (AngelList, Fundersclub), consumer goods (CircleUp) and real estate (RealtyMogul, Fundrise) industries as a result of investor appetite for:

- "Home Run" Investing - fund the next Facebook (**Technology)**
- Investing in products consumed/utilized deemed to be attractive investment opportunities (**Consumer Goods)**
- Current income ("Yield") and safety of an asset-backed security in case of default (**Real Estate)**

Though online direct investing is growing, aggregate capital flows are minimal in non -"tech"/consumer goods/real estate market sectors given investors are less equipped to assess the merits of deal flow even on "curated" portals (private placements selected by experienced professionals), reluctant to invest capital over long investment horizons with no guarantee of return of principal, hesitant to participate without more advanced originator "infrastructures" (portfolio management, valuation, benchmarking tools), and challenges associated with managing risk (diversifying investments). This is especially evident in sectors like healthcare characterized by the following limitations acting as deterrents to retail investor participation:

- *Capital intensity* - Average pharmaceutical company raises >$50MM in capital to reach commercialization – risk of dilution and control as companies ultimately seek institutional capital to meet funding requirements
- *Long investment horizons* - Medical devices/pharmaceuticals must transverse clinical/regulatory hurdles contributing to 8-10 year approval cycles
- *Arduous diligence requirements* – Healthcare investments require extensive due diligence on behalf of investors given complexities associated with biopharmaceuticals and medical device technologies

In summary, most retail investors do not participate in private placements on a direct basis, offline or online. And for those with private placements in their portfolio (5% of 8.7 million accredited investors in the U.S.), the majority are made offline (Angel Groups) and/or invested "passively" meaning via retirement funds leveraging traditional GP/LP investment vehicles. Though retail capital validated P2P/Marketplace Lending during the financing vehicle's formative years (2005 – 2010), institutional capital is responsible for P2P/Marketplace Lending growth rates as measured by engagement (memberships, referrals, time spend on portals), and loan originations/revenues.

Institutional Capital – Scaling P2P and Online Direct Investing

P2P/MARKETPLACE LENDING

Institutional adoption of P2P/Marketplace Lending has been robust. At Prosper, a leading P2P/Marketplace Lending platform, lending origination grew by 347% in 2014 (YOY) issuing $1 billion worth of loans in just 6 months surpassing the $2 billion mark for the first time in the fall of 2014. Highlighting this accomplishment, it took Prosper 8 years to reach its first $1 billion in originations. Ron Suber, President – Prosper, termed this explosive growth "**Escape Velocity**" or transcending the gravitational pull of traditional lending practices and constraints (traditional commercial banking industry). And what accounted for Prosper's escape velocity? Institutional capital! Hedge funds have been the primary catalyst for Prosper crossing the $5 billion mark in loan originations (October 2015).

ONLINE DIRECT INVESTING

Since venture capital's origins in the 1960's/70's and robust growth in the 80's, this integrated ecosystem has diversified risk/rewards across private companies for 50 years and will continue to be a major financing vehicles in the future. In parallel to venture's continued prominence, "direct" investing on behalf of institutional capital sources (Limited Partners) is gaining traction fueled by maturing technology infrastructures (speed of accessing premium deals, ability to assess risk/returns) and demand for lower fees, shortened investment horizons, accelerated liquidity, and transparency.

Recent institutional investor adoption of online direct investing is being fueled by demand for access to early-stage companies through investment vehicles suited for diversifying capital ("investor syndicates") across a number of companies. Via these "online venture fund vehicles," institutional investors participate both as "lead" syndicators (similar to General Partners, GP's) and as "members" of syndicates on leading originator platforms like AngelList (similar to Limited Partners, LPs, ~CSC Upshot, see below).

"Chinese investors put $400 million into U.S. startups."

–CNNMoney, October 13th, 2015

- Founded in 2010, AngelList https://angel.co/ is a platform for angel investors and venture capitalists to band together and back young companies
- AngelList announced a new $400 million fund for early-stage companies, the largest seed fund ever
- The fund is backed by one of China's largest private equity firms, China Science & Merchants Investment Management Group, which recently opened up a new venture capital firm, CSC Upshot
- Upshot will use the platform to find startups and partner with other investors
- Up to $25 million will be deployed in the first year, in amounts of $200,000 each
- The money will inject capital into AngelList "syndicates." A "syndicate" is a group of investors with one who serves as the lead on a deal and others who contribute as backers
- AngelList will provides data and insights to help CSC make investment decisions

Like P2P/Marketplace Lending, the ultimate success of online direct investing (equity) will rely on "convergence" of institutional investors online encompassing technology to source, invest, and manage investments including through fund like structures (investor syndicates). Though LP's predominately invest offline through General Partners (byproduct of familiarity with fund investing and attractiveness of recent alpha returns generated by the bull market/robust M&A/IPO environment, reluctance or inability to fund directly given perceived risks), online direct investing is accelerating. Recent statistics demonstrate this movement; 5% of LP's are investing on a direct basis as of 1/2016 and expected to grow to >15% by 2017. As part of this movement, LPs are increasingly staffing-up to evaluate opportunities internally guided, co-investing alongside of GP's without incurring"2" and "20" fee structures.

As Chance Barnett states in "*Trends Show Crowdfunding to Surpass VC in 2016*," Forbes, 6/10/2015, "It's important to understand that online direct investing is not a stand-alone funding source, it includes angel investors and VCs participating as well. Online direct investing can be seen as a methodology inclusive of individual and institutional investors like VCs…..There's just one big difference….online direct investing originators can scale, depending on their model. VCs can't scale."

Institutional investors .are further drawn to direct investing as a result of venture's uneven track record of performance especially during disruptive macroeconomic events ("Great Recession").

In Nature Biotechnology, "*The View Beyond Venture Capital*," Dennis Ford and Barbara Nelsen commented, "In return for a promise of premium performance, VC's were often not returning any more capital than investors would have earned by making more liquid investments in the public small caps market. Returns from venture capital have not outperformed the public markets since the late 1990's…as a result, institutional investors and large single and multi-family offices often do direct alternative investment – essentially, taking a similar percentage of their funds and investing in early-stage opportunities with the same potential for high returns but in which the institution maintains control rather than ceding oversight to a VC. These investments can occupy anywhere from 2-10% of their assets under management."

Another analysis of Venture Capital performance was written by the Kauffmann Foundation (*"We Have Met the Enemy and He is Us"*) highlighted the challenges Limited Partners faced generating returns in excess of standard benchmarks (alpha) like the S&P 500.

"The Kauffman Foundation investment team analyzed our twenty-year history of venture investing experience in nearly 100 VC funds with some of the most notable and exclusive partnership "brands" and concluded that the Limited Partner (LP) investment model is broken. Limited Partners (foundations, endowments, and state pension funds) invest too much capital in underperforming venture capital funds on frequently misaligned terms. Our research suggests that investors like us succumb time and again to narrative fallacies, a well-studied behavioral finance bias. We found in our own portfolio that:

- Only twenty of 100 venture funds generated returns that beat a public-market equivalent by more than 3 percent annually, and half of those began investing prior to 1995
- Majority of funds (sixty-two out of 100) failed to exceed returns available from the public markets, after fees and carry were paid
- There is not consistent evidence of a J-curve in venture investing since 1997; the typical Kauffman Foundation venture fund reported peak internal rates of return (IRRs) and investment multiples early in a fund's life (while still in the typical sixty-month investment period), followed by serial fundraising in month twenty-seven
- Only four of thirty venture capital funds with committed capital of more than $400 million delivered returns better than those available from a publicly traded small cap common stock index
- Of eighty-eight venture funds in our sample, sixty-six failed to deliver expected venture rates of return in the first twenty-seven months (prior to serial fundraises). The cumulative effect of fees, carry, and the uneven nature of venture investing ultimately left us with sixty-nine funds (78 percent) that did not achieve returns sufficient to reward us for patient, expensive, long-term investing."

The goals of this paper are to establish the "7 essential best practices for institutional adoption of online direct investing" by providing institutional investors/managers with a greater understanding of how to leverage FinTECH platforms ("originators" or portal sponsors) to overcome the inherent challenges of venture investing including illiquidity, adverse selection, diversification, volatility, performance, scalability, access to best managers, and valuation.

We believe successful implementation of these "seven" best practices will encourage institutional capital to invest directly propelling online direct investing forward vis-à-vis P2P/Marketplace Lending ("Escape Velocity"):

- Diversification
- Portfolio Valuation
- Infrastructure
- Alpha vs. Beta
- Portfolio Benchmarking
- Liquidity: Primary Markets
- Liquidity Secondary Markets

Before we progress, a special thanks to Jeremy Todd, *Orchard*, the author of a distinguished white paper, *"The Essential Best Practices to Marketplace Lending Investing,"* for inspiring the vision for this paper, especially the concept of identifying "success factors" required for institutional adoption.

In his white paper, Jeremy mentions how the meteoric rise of P2P/Marketplace Lending is analogous to how the hedge fund industry's growth was fueled by institutional adoption/capital flows:

"This institutionalization of hedge funds was driven by the adoption of a set of best practices established for institutional investors so that they could get comfortable investing in hedge funds. Investors' concerns about managers using leverage and shorting securities, paying performance fees, operational robustness, and proper portfolio benchmarking hampered investments in hedge fund for years. Once investment teams from pension plans, endowments, foundations, sovereign wealth funds and other institutions could implement a thorough due diligence process on hedge funds by following best practices, they were able to get the necessary approvals from their investment committee and board of directors in order to make an allocation to hedge funds."

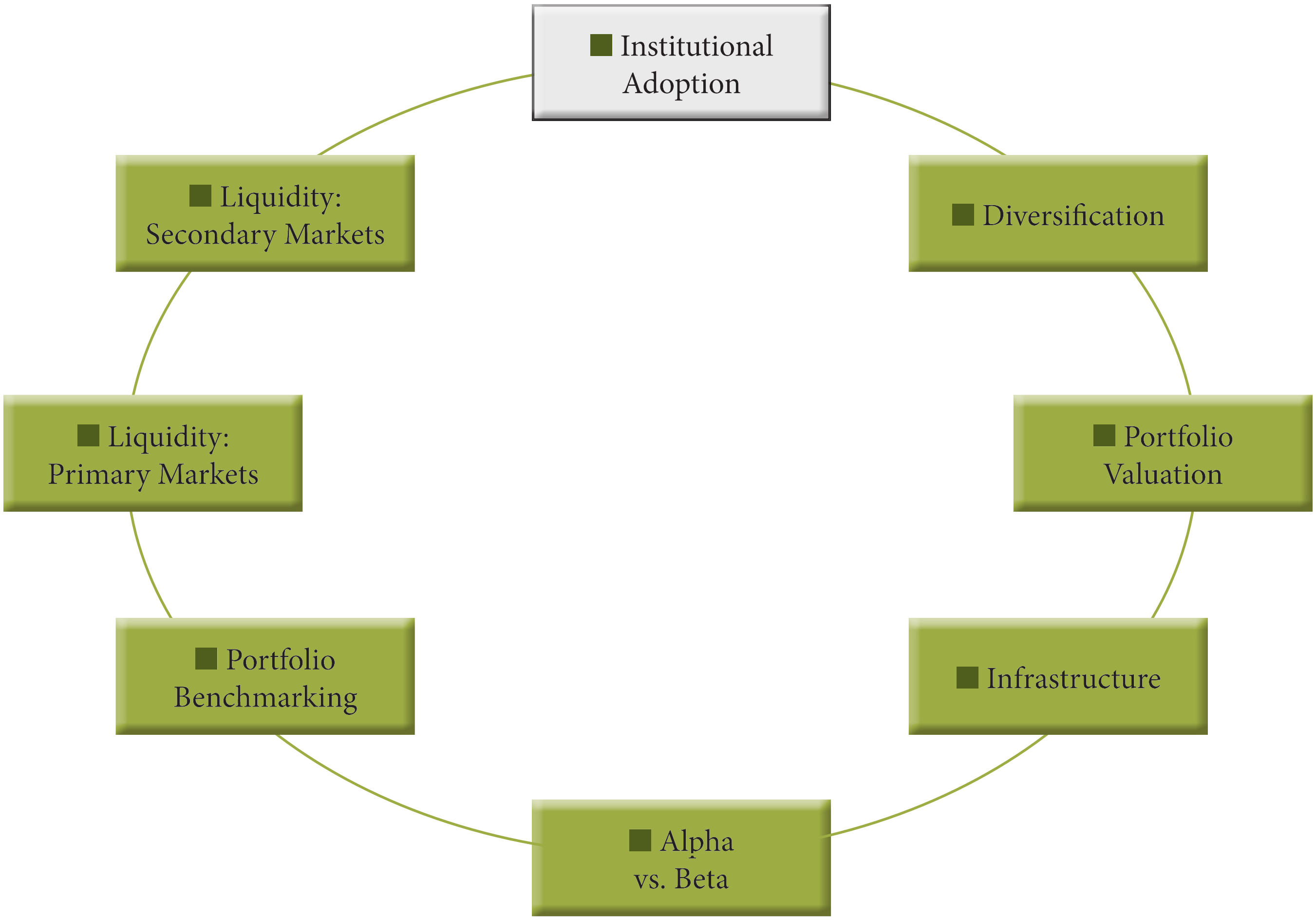
Challenges for Institutional Investors – Investing on a "Direct" basis ("Co-Investing")

- Understand asset class characteristics
- Replicating venture model (due diligence, diversification) without the fees/lock-up
- Uncovering "direct" investing options
- Recognizing importance of access to supply
- Identifying quality originator platforms
- Identify quality deals on originator platforms
- Portfolio benchmarking
- Verifying portfolio valuation methodologies
- Proper manager infrastructure evaluation

Challenges for Investment Managers – Sourcing Deal Flow and Investing via FinTECH platforms

- Modeling across multiple equity sub classes
- Access to comprehensive data for analysis
- Invest with scale
- Find and access to origination platform
- Automate investing across originators
- Accurate portfolio valuation
- Portfolio benchmarking
- Robust technology infrastructure
- Portfolio management tools
- Raising institutional capital

7 Best Practices – Institutional Adoption of Online Direct Investing



Diversification

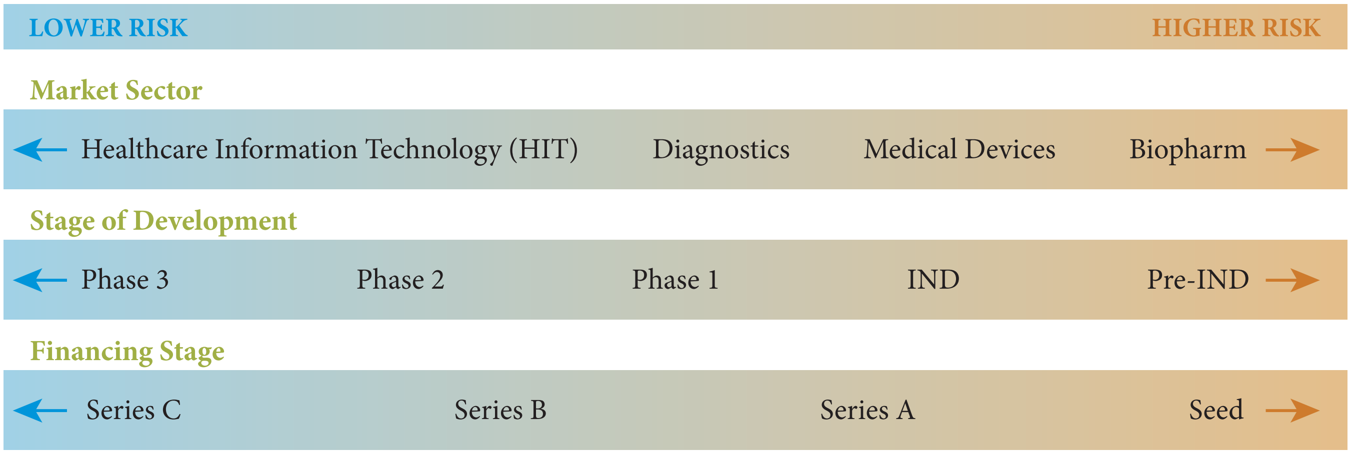
Institutional investor/manager adoption of online direct investing starts with mitigating risks via diversification oftentimes defined as "smoothing returns through uncorrelated assets." Diversification strategies should be implemented similarly to P2P/Marketplace Lending where capital is spread across investments with various degrees of risks/return profiles and amongst multiple originators to minimize potential counterparty risk. For example, originators agnostic to industry (e.g. Crowdfunder, AngelList, Capbridge) offer baskets of investments with minimum or negative correlations meaning return profiles do not trend in tandem (but in opposite directions) over various market cycles/time periods.

For originators focused in one market sector (e.g. Healthcare – HealthiosXchange; Technology – FundersClub; Real Estate - Fundrise), diversifying risk is more challenging but can be achieved to some degree by offering baskets of securities across "risk spectrums." Let's profile diversifying risks online in the healthcare industry.

Industry specific risks associated with healthcare investing includes:

- **PATENT LIFE** – Intellectual property and freedom to operate
- **DEVELOPMENT** – Achieving clinical study objectives/results
- **REGULATORY** – FDA approval and Oversight
- **COMMERCIAL** – Meeting revenue targets and profitability

These risks range across spectrums from lower (healthcare information technology) to higher (biopharmaceuticals) based on stage of development (Preclinical – Marketed), and financing stage (Seed – Series Rounds).



Whereas diversification is achieved in the P2P/Marketplace Lending industry by aggregating loans with different credit risks and return profiles, online direct investing is a "hits" business meaning only a small number of investments succeed. Though focused on early–stage/angel investing (deal flow offered on Originator platforms also encompasses mid to late-stage assets), important diversification lessons in context of "hits-based investing" can be gleaned from David Rose's book, *"Angel Investing, The GUST Guide to Making Money and Having Fun Investing in Startups."* In his book, David states in a chapter titled, *"The Portfolio Theory of Angel Investing, Why Every Angel Needs to Invest in at least 20 Companies,"*

Once investments are made, the rough outcomes are:

- 50% eventually fail completely
- 20% eventually return the original investment
- 20% return a profit of 2-3x the investment
- 9% return a profit of 10x the investment
- 1% return a profit of more than 20x the investment
- Angel/Private Equity Investing is a "Hits" oriented business

"The greater number of companies into which an angel invests, the greater likelihood of an overall positive return… Several studies and mathematical simulations have shown it takes investing the same amount of money consistently in at least 20 to 25 companies before returns begin to approach the typical return of over 20% for professionals"

ONLINE DIVERSIFICATION MODEL IN FOCUS – "INVESTOR SYNDICATES"

A novel financing vehicle, "Investor Syndicates" has emerged to meet the demand of investors seeking to diversify investments online. Investor syndicates are "online venture funds" where investment decisions are made by experienced "lead" investors (GPs ~venture capital) with access to premium deal flow on behalf of "syndicate" investors (retail and institutional capital sources) including LPs (~endowments). In return for access, syndicate investors pay "carry" to lead investors (% of profits on "exits" including M&A and IPOs) and to portal originators. For example, syndicate investors pay 15% or more carry to leads and 5% to originators in a typical investor syndicate on AngelList https://angel.co/, a leading originator.

Over $200M has been raised by 160+ lead investors via investor syndicates on AngelList since 12/2015. And institutional convergence is happening online in real time. Syndicates are increasingly led by institutional investors including early (incubators/accelerators ~500 Startups raised >$1.5M) and late-stage focused funds (~Arena Ventures raised >$3.4M). Traditional GP's (~CSC Upshot) are starting to participate online (oftentimes as syndicate members) as they seek to access early-stage deal flow especially in valued ecosystems like Silicon Valley.

Institutional investors/managers also seek to diversify across originators to minimize counterparty risk (minimize negative impact on returns from the failure of an originator). This, of course, requires substantial infrastructure to identify and manage these relationships. Companies like Crowdnetic attempted to aggregate deal flow on one platform (similar to Kayak) to overcome the difficulties associated with diversifying across multiple originators.

INVESTOR CHECKLIST	MANAGER CHECKLIST
What is the investment manager's diversification process?	Are we providing sufficient diversification modeling to minimize risk?
Does the manager invest with multiple originators to help mitigate counterparty-risk?	Are we properly diversified across multiple originators to mitigate my counterparty-risk exposure?

Portfolio Valuation

This section is one of the more challenging sections of the white paper vis-a-vis P2P/Marketplace Lending (established credit models for assessing loan market values/risks) given the challenges associated with assessing valuations of private companies where estimates vary widely depending on the model utilized (DCF vs. "comps" vs. option-based models), lack of a secondary market (illiquid), and the entity conducting the valuation (mutual funds vs. hedge funds vs. family offices). A recent WSJ article, "*Mutual Funds Flail at Valuing Hot Startups Like Uber,*" October 29th, 2015, highlights the challenges associated with valuing private companies even amongst sophisticated institutional investors like mutual funds.

"An analysis by The Wall Street Journal of closely held technology startups worth at least $1 billion found 12 instances where the same company was valued differently by more than one mutual-fund manager on the same date. T. Rowe Price valued the stake held in software startup Cloudera Inc. by the T. Rowe Price Global Technology Fund at $27.83 per share on June 30, 2014. That was roughly twice as high as the valuation by Hartford and Macquarie Group Ltd.'s Delaware Investments on the same day."

"Rules-Based Investing" frameworks have been developed to mitigate variability in valuations by ensuring funding rounds are "priced" by established and reputable institutional managers (firms like Domain Associates, Atlas Ventures in healthcare), or what some industry insiders call "new money" or "externally priced." Externally priced term sheets create the context for passive co-investors to participate without suffering from adverse selection or from an informational disadvantage on terms. *Capbridge http://www.capbridge.sg/home,* a global private capital exchange connecting institutional investors to professionally led syndicated transactions in emerging growth companies, employs rules-based investing to ensure fair and equitable valuations. Capbridge criteria for fundraising includes:

- Lead investor is not a member of the existing issuer shareholders
- Lead investor is a top quartile venture capital firm
- Lead investor owns at least a 5% ownership interest post-money
- Co-investors in aggregate make up no more than 75% of the round and not more than 3x the Lead investor

As Jeremy Todd's states in *"The Essential 8 Best Practices to Marketplace Lending Investing,"*

"Investors are requiring managers to implement valuation processes with improved guidelines. Properly valuing a portfolio entails assessing the portfolio's performance, which in turn determines the management fees and performance fees that managers charge their investors. An institutional investor should try to fully understand and be comfortable with a manager's portfolio valuation process before any potential allocation is made to the manager. Investors should also require that the manager have an objective and documented valuation process performed by an experienced, reputable and independent third party."

INVESTOR CHECKLIST	MANAGER CHECKLIST
Does the manager have an objective and documented valuation process?	Are portfolio valuation processes objective and documented?
Does the manager use a "Rules-Based" investment model for portfolio valuation?	Are we utilizing a "Rules-Based" Framework for valuing companies?

Robust Infrastructure Requirement

Consider the following conundrum: Investor "A" wants to invest online in a number of private technology companies, healthcare start-ups, and real estate projects on separate originator platforms. How does this work in light of investor's existing asset allocation plan and what constraints exist hampering the investment process?

- #1. Investor is required to set up a different username and password for each originator which do not have APIs in place to facilitate integration and the consolidation of investment holdings onto one statement
- #2. Originator holdings are not integrated with investors' broker dealer/RIA account including via online FinTECH (~Mint)
- #3. Investor is unable to ascertain how returns are correlated to existing holdings and how to diversify across market sectors to achieve negative correlations. (Of note, select originators have started to address this constraint; Fundrise has created tools for assisting investors with diversifying capital across real estate assets with various risk/return profiles)
- #4. Without a viable secondary market, investor is unable to determine a market-based valuation of investments and is challenged to exit position(s) if so desired (a leading real estate platform, PeerRealty, has launched a secondary market, CFX)

Each point above highlights the need for significant infrastructure upgrades to facilitate institutional investor adoption of online direct investing. Jeremy Todd mentions the following infrastructure constraints challenging institutional adoption in P2P/Marketplace Lending which also holds true for online direct investing (~equity).

The infrastructure risks mentioned by Jeremy in *"The Essential Best Practices to Marketplace Lending Investing,"* include:

1) Minimal technology infrastructure
2) Disparate technology infrastructure
3) Insufficient tools for assessing risk
4) Execution risk
5) Counterparty risk
6) Inadequate portfolio management reporting
7) Inaccurate portfolio valuation risk
8) Insufficient Portfolio Benchmarking Risk

Below are excerpts from *"The Essential Best Practices to Marketplace Lending Investing"* detailing infrastructure required for institutional investor adoption of online vehicles ** **See bold text for corollaries vis-à-vis online direct investing:**

MINIMAL TECHNOLOGY INFRASTRUCTURE RISK – "Asset managers, hedge funds **(~General Partners)** and other types of managers typically implement multiple technology systems to support execution, portfolio reporting, research, modeling, clearing, market data collection, cash management **(~income generated from real estate holdings, proceeds generated from exists – M&A/IPO)…….**in managing their portfolios. Investors in traditional asset classes expect as part of their due diligence process to be shown that a manager has implemented an appropriate technology infrastructure to efficiently manage their business and their portfolio(s). Manager needs to implement a comprehensive technological infrastructure that is nimble across multiple functionalities including execution, reporting analysis, and data management. Institutional investors will expect such an infrastructure in order to make an allocation to the manager."

DISPARATE TECHNOLOGY INFRASTRUCTURE RISK – "A disparate technology infrastructure is a result of having multiple technology systems in place that do not work well together. For example, suppose a manager is using a marketplace lending **(~online direct investing)** order management system to buy loans **(~private equity)** across multiple originators. The order management system then must be able to exchange information with other third-party systems, such as a portfolio management system. Compatibility creates operational efficiency and greatly reduces the possibility of errors, which is critically important in establishing investor confidence. Compatibility creates operational efficiency and greatly reduces the possibility of errors, which is critically important in establishing investor confidence."

INSUFFICIENT TOOLS FOR CREDIT (~Private Equity) MODELING RISK – "Investment managers thrive on data in order to manage their portfolios. Regardless of the asset class they're researching, they want access to both historical and current data to make informed investment decisions. As a result, managers need tools to receive, analyze, and create models, charts, and other assessments from this data. Similarly, marketplace lending **(~online direct investing)** managers want current and historical data to perform proper credit **(~valuation/rules-based)** analysis on each originator from whom they are considering purchasing loans **(~private equity)."** Therefore, managers have to either identify third party modeling tools or create the right internal modeling tools to perform comprehensive credit **(~valuation/rules-based)** analysis. Since investors need to understand a manager's research process, institutional investors will require that managers describe in detail their credit-analysis **(~valuation/rules-based)** methodology, including the tools utilized in this analysis as part of their due diligence."

EXECUTION RISK – "Execution risk within marketplace lending is the risk that investment managers may not able to acquire the right loans **(~private equity)** to implement their custom credit **(~valuation/rules-based)** model. Execution risk applies only when an investment manager is actively buying loans **(~private equity)** on origination platforms in an attempt to generate alpha. it is imperative that active managers utilize technological tools that will enable them to actively purchase these loans **(~private equity)** before others can."

COUNTERPARTY RISK – "Protection against counterparty risk is mainly achieved through multi-platform diversification. However, executing across multiple origination platforms requires managers to have the right technological tools. The number of additional originators a manager decides to do business with compounds the execution risk. Furthermore, a manager building multiple originator connections exacerbates the challenge of sharing and aggregating loan **(~private equity)** information as part of the manager's portfolio management and operational processes."

INADEQUATE PORTFOLIO MANAGEMENT REPORTING RISK – "Inadequate portfolio management reporting risk stems from a manager's lack of a reporting system that can import, export, aggregate, analyze, and store all information about the manager's positions. Many managers that are considering investing in marketplace lending **(~online direct investing)** have determined that within this asset class, the technological resources needed to connect to multiple originators and to import, export, normalize, aggregate, and store data on thousands of loans **(~private equity)** is a much larger project than in other asset classes. Institutional investors will likely require that managers provide them with detailed reporting throughout both their due diligence process and their ongoing relationship with the manager."

INACCURATE PORTFOLIO VALUATION RISK – "Essential a manager's technological infrastructure allow them to aggregate data across multiple originators, standardize the data in a consistent format, and then provide this data file electronically to a third-party for an objective and documented valuation process."

INSUFFICIENT PORTFOLIO BENCHMARKING RISK – "First is for the manager to have access to detailed information from all originators with whom they do business, including grade weightings, duration weightings **(~alpha, beta, correlation),** and seasoning of the loans (~**private equity**) over specific defined time periods, for purposes of comparison. The second is for the managers to be able to perform all the necessary calculations with this data once it is extracted from the data set."

Along with the infrastructure "gaps" noted above, significant system advancements are required to increase levels of transparency, and increase ease of investing (ability of users to customize portfolios) to stimulate institutional investor adoption. ****Again, see bold inserts for comparison vis-à-vis P2P lending mentioned in Jeremy Todd's white paper:**

TRANSPARENCY – "With direct platform investing, investors have full transparency and know exactly which loans **(~private equity)** are in their portfolio along with hundreds of data points on each loan **(~private equity)."**

PORTFOLIO CUSTOMIZATION – "Direct platform investing allows managers the full flexibility to customize their portfolios; In building a direct platform portfolio, investors can decide the overall number of loans **(~private equity)** they wish to buy, the acceptable credit grade **(~valuation/rules-based)** for those loans **(~private equity)**, and which sub–asset classes—such as consumer **(~consumer goods)**, small-business **(~healthcare/technology)** or real estate loans **(~private equity)."**

EASE OF INVESTMENT – "Typically, investment managers can easily purchase and hold securitized marketplace lending bonds **(~private equity)** using their existing operational infrastructure. By comparison, investing in marketplace loans **(~private equity)** directly through an origination platform requires managers to have an additional operational infrastructure to efficiently manage, analyze, acquire and report on the individual loans **(~private equity)** in their portfolios."

INVESTOR CHECKLIST	MANAGER CHECKLIST
Has the manager implemented a robust infrastructure that is integrated, reliable, and scalable?	Do we have a robust infrastructure that provides technological and operational efficiencies?
Does the manager have a portfolio management reporting system to properly manage their portfolio?	Do we have a scalable portfolio management system that provides all the necessary functionality?
Does the manager use an order management system that successfully acquires desired private equity?	Do we have an order management system to efficiently purchase private equity across multiple originators?
Does the manager pass my technological and operational infrastructure due diligence requirements?	Does my technological and operational infrastructures pass an institutional investor due diligence requirements?

ALPHA VS. BETA RETURNS

ALPHA RETURNS: "ACTIVE" INVESTING - Institutional Investors/Managers Select Investments Using Proprietary or 3rd Party (~Originators) Models

Institutional investors generate alpha returns (~premium to market indices) via online direct investing as a result of:

- Bypassing punitive fee structures ("2" and "20")
- Shorter investment horizons
- Accelerated liquidity
- Ability to participate with top-tier managers
- Established "exit" pathways
- Increased transparency
- Participation in favorable valuation structures

For managers investing on behalf of institutional investors, alpha returns are generated by:

- Reduced financing risk
- Enhanced control
- Lowering investment expense
- Enabling rapid decision making
- Achieving strategic flexibility
- Higher capital efficiency
- Establishing new relationships with Limited Partners

BETA RETURNS: "PASSIVE" INVESTING - Institutional Investors/Managers Rely on 3rd Party (~Originators) to Match Market Indices Returns (See Portfolio Benchmarking)

Given the challenges associated with assessing company specific risk and formulating index proxies (resulting from limited number of companies currently participating online) institutional capital/managers will most likely continue to focus on generating alpha returns in the near term. In an effort to generate alpha, traditional GP's will deploy capital across a spectrum of investments within their corporate mandates (market sector, stage of development, financing stage etc.) given most managers cannot "pick the winners" and are relying on one or two investments to provide outsized returns (8-10x) making up for companies returning investor principal and those losing money ("Hits-Based Investing"). Online direct investing is designed to overcome the primary limitations associated with traditional GP/LP investment vehicles ("Offline") negatively impacting alpha returns including:

- Fees (management/carry) - Punitive to generating alpha returns especially in bear markets

  Via online direct investing, institutional investors realize lower fee structures (elimination of "2%" management fees and lower carry, <"20%")

- Lock-Up's - Incentivizes GPs not to deploy capital quickly given they earn management fees on assets under management leading to an emphasis on raising larger funds whose returns have historically underperformed the performance of smaller funds

  Online direct investing is characterized by shorter funding cycles/higher capital velocity given capital is deployed more rapidly

As mentioned in the "Diversification" section, a novel FinTECH innovation emerged providing institutional capital/ managers access to alpha returns resulting from direct investments in premium deal flow at lower fee structures, "Investor Syndicates." Again, syndicates are online venture funds wherein lead investors with distinguished track records (history of successful exits/IPO's), raise capital from investors seeking access to premium deal flow afforded by the lead's networks and favored geographic positioning (~Silicon Valley).

Recently, AngelList announced the launch of "SPVs" (Special Purpose Vehicles) targeting venture capitalists interested in raising funds online expanding upon the success raising capital experienced by FG Angels (Foundry Group), and Arena Ventures. Some angels and VCs have begun integrating online direct investing into their investment models. Paige Craig, a prolific LA-based investor and General Partner of Arena Ventures, one of LA's newest venture funds, aims to activate 10,000 angel investors alongside the investments they make, using leading originators." – *Source: "Trends Show Crowd-funding to Surpass VC in 2016,"* Forbes, 6/10/2015

INVESTOR CHECKLIST	MANAGER CHECKLIST
Is the manager investing actively, passively?	Do we have our own proprietary model?
If the manager is investing actively, what type of model(s) utilizing?	If not, is there a quality, third party model we can use?
Does the model create alpha?	

Portfolio Benchmarking

As Jeremy Todd mentions in his white paper, "*The Essential 8 Best Practices to Marketplace Lending Investing,*" and applicable to online direct investing:

- Portfolio benchmarking is critical for institutional investor adoption, enabling them to determine if and how alpha is being generated in a fund manager's portfolio
- Proper benchmarking necessary for the investor to determine whether or not they want to make an asset allocation to a manager, and if so, on what terms

In the P2P sector, benchmarking investor returns to established indices provides the level of transparency required by institutional investors to participate online. An example of how benchmarking assists originators and managers identify "alpha" generated by loan portfolios is profiled in the article, "*Crowdfunding and Peer Lending: Time to Swim with the Sharks?*" 3/1/2016, Thinkadvisor.com,

- "There is ample net (after default) return information on both Prosper and Lending Club to suggest that peer lending is a solid investment"
- "Credit score is used by Prosper to place borrowers into risk categories"
- "A P2P Investor made 4.9% on his Prosper loans net of fees between 2009 through 2016"
- "This is better than the five-year performance of the high-yield corporate bond category (3.24%)"

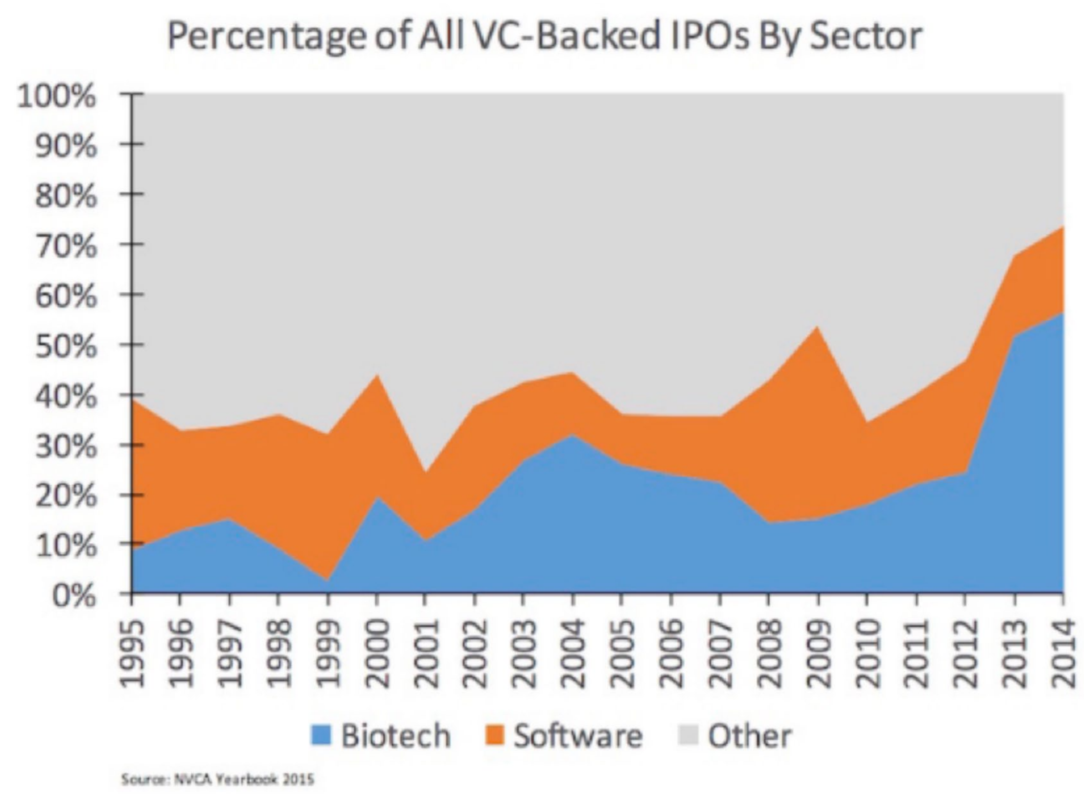
Unlike the fixed income markets where the credit quality of P2P loans can be assessed (credit modeling) and assembled to match diversified bond indexes (e.g. J.P. Morgan Global Aggregate Bond Index), sector indexes 99 (FTSE), municipal bonds (S&P Municipal Bond Index), corporate bonds (Bloomberg US Corporate Bond Index), high-yield bonds (S&P US Issued High-Yield Corporate Bond Inex), mortgage-backed securities (Markit ABX.HE), matching benchmark equity returns is daunting for originators. Challenges associated with translating benchmarking to online direct investing includes:

- Assessing company risk/return profiles – private company forecasts and valuations historically inaccurate
- Aggregating companies online with various risk/returns matching established public (e.g. Russell 2000) or customized benchmarks – aggregating companies online matching market indices problematic

INVESTOR CHECKLIST	MANAGER CHECKLIST
Does the manager benchmark itself against the appropriate marketplace-lending indexes?	Are we benchmarking allocations against the appropriate marketplace-lending indexes?
How is the manager performing versus the established benchmark?	How are we performing versus the established benchmark?

LIQUIDITY – PRIMARY MARKETS

Institutional managers leverage two primary vehicles for realizing "exits" (liquidity), Mergers and Acquisitions (M&A) and Initial Public Offerings (IPOs), for generating returns/distributions to investors. And "The IPO Window is Open" in the healthcare sector. Biotech has increasingly grown its share of the number of IPO offerings since 2008.

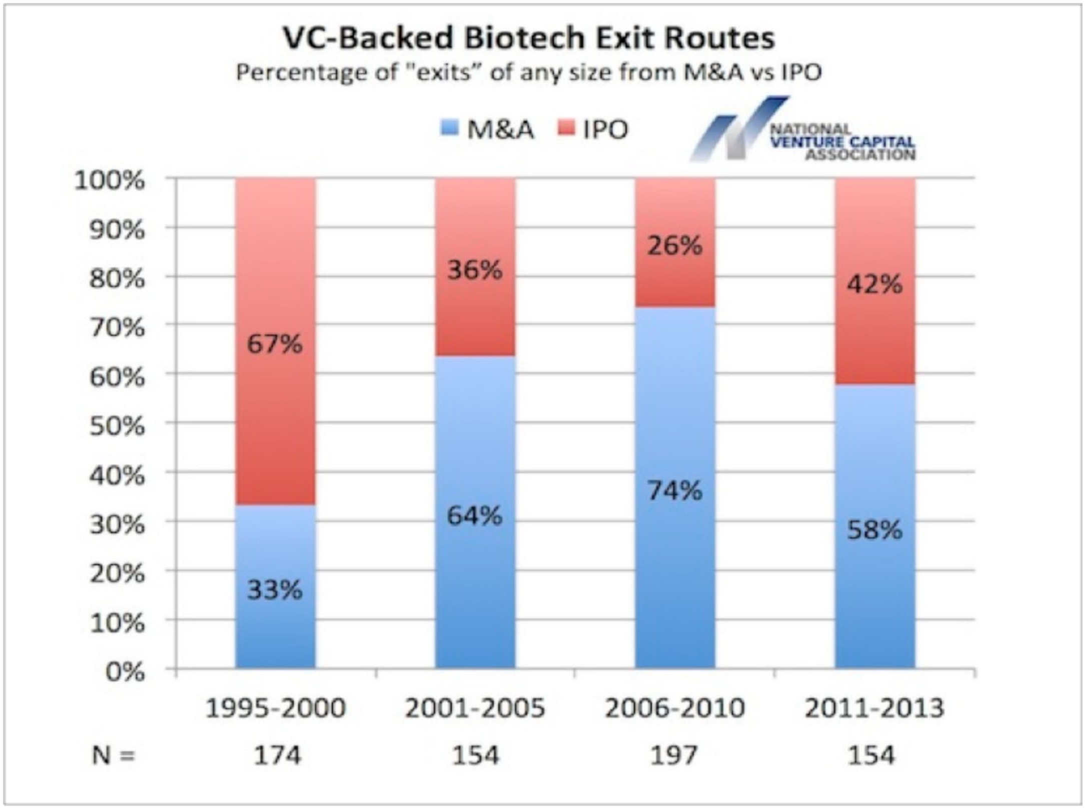


Next-generation originators are establishing "on-ramps" to the public markets via affiliations with public stock exchanges similar to Capbridge's relationship with the Singapore Stock Exchange (SGX), wherein SGX provides custody and research coverage functions to facilitate private to public listings. These types of partnerships between originators and stock exchanges (e.g. Capbridge and SGX, Nasdaq Private Markets and Nasdaq) have the potential to supercharge onboarding of private companies into the public markets providing liquidity pathways for institutional investors.

SGX AND CAPBRIDGE

- Singapore Exchange Limited ("SGX") seeks to lead the global equity financing market for companies with market capitalizations of US$100 – US$300M
- SGX focused on top companies in the leading venture capital portfolios where NASDAQ is just out of reach and insiders or new investors are providing support for the next funding round of financing
- SGX and local investment banks in its Sponsor-supervised regime will raise pre-IPO private rounds through its co-investment platform partner, Capbridge, and further capital, and liquidity, on SGX via an IPO
- Capbridge is serving as a transaction management platform for SGX sponsors while it raises a venture capital co-investment fund

And how about the second pillar of liquidity, mergers and acquisitions (M&A). In the biotech sector, M&A still is the centerpiece of liquidity constituting 58% of exits from 2011-2013.



Strategic buyers (large biopharma, medical device, healthcare services) who provide the bulk of industry M&A activity, increasingly are partnering with originators to act as "virtual" venture platforms gaining exposure to promising early-stage deal flow including signaling from the "Crowd" regarding "trending" companies (page views, followers, customers/investors etc.) which are prime targets for investment and acquisition. Originator collaborations with strategic buyers is well documented in the consumer goods industry. CircleUp, an online consumer goods originator, partnered with Procter & Gamble, General Mills, and GE to identify promising consumer goods companies gaining traction with consumers. Strategic buyer participation enables originators like CircleUp to become "investment marketplaces" as emerging growth companies increasingly list their profiles online to raise market awareness (followers, early adopters, investors) drawing the attention of strategic buyers.

INVESTOR CHECKLIST	MANAGER CHECKLIST
Are strategic buyers investing in/participating on Originator platforms?	What strategies are being pursued to draw the attention and participation of Strategic Buyers?
Are Originators promoting company exits via affiliations with public stock exchanges?	How are we facilitating liquidity via strategic exits and IPOs?

LIQUIDITY – SECONDARY MARKETS, BITCOIN

One of the primary constraints limiting institutional direct investing online is the inability to "exit" via a secondary market (selling securities to a 3rd party). This is referred to as "illiquidity." Many attempts have been made to establish a "secondary" market where buyers and sellers transact similar to the public markets with limited success (~SecondMarket) given inherent lack of volume (in comparison to public markets), execution (2-3 days required to clear transactions domestically and up to 5 days internationally for private securities), and lack of transparency.

Enter Bitcoin and the platforms' underpinnings known as "the blockchain" or "distributed ledger" technology. You may be thinking Bitcoin currency (Mt. Gox debacle) but that would be missing the point, the underlying technology is a "game changer." Consider the following:

> **"Does bitcoin's underlying technology have other uses? Investors think so."**
>
> **–LA Times, August 9, 2015**

"But as bitcoin and other digital currencies evolve, the technology that underlies them may soon spread into other transactions: **trading stock**, buying and selling real estate, purchasing music……"

> **"NASDAQ Selects Bitcoin Startup Chain to Run Pilot in Private Market Arm"**
>
> **–Forbes, June 24, 2015**

"Managing the shares of private companies has long been an expensive, labor-intensive process involving lots of paper, as well as spreadsheets, lawyers and sometimes filing cabinets or bank vaults….The blockchain allows for every transaction to take place securely and be recorded on a public ledger, copies of which are held by computers all around the world and then continuously synced so that each ledger agrees with all the others about when money or assets have been transferred, how much, and which party sent and which received.

Let's say a private company wanted to use the blockchain to issue shares to employees, It would send each employee a nominal amount of money (a hundred-millionth of a bitcoin), on which would be coded metadata stating how many shares of the company are being transferred along with it. If, later, employees wanted to sell all or part of those shares to an investor, a liquidity company could be created to hold the shares of all employees wanting to sell. They would then transfer their stock shares to that liquidity partner's wallet, and investors could buy those shares. Each transaction would only move a tiny fraction of bitcoin encoded with the number of shares – not an amount in bitcoin equal to the value of the shares themselves."

Now enter the NASDAQ Private Markets – Marketplace for pre-IPO trading of shares in private companies!

"Big players including the NASDAQ stock market and Goldman Sachs, both of which engage in an unfathomable number of transactions each day, are investing in blockchain experiments. Goldman Sachs funded a start-up using blockchain to track and protect U.S. Dollars, not bitcoins. And NASDAQ is working with Chain.com to build a blockchain-based marketplace for shares in privately held companies."

From Forbes, September 9th, 2015, "*Bitcoin's Shared Ledger Technology: Money's New Operating System*"

"In May (2015) NASDAQ became the first established financial services company to announce a real-life test using Bitcoin technology. With Chain.com as its partner, NASDAQ plans to go live in November (2015) with blockchain trading of shares of pre-IPO private companies like Uber and Airbnb."

"*NASDAQ Private Market Acquires SecondMarket*," GlobelNewsWire, October 22nd, 2015

"The combination of NASDAQ Private Market and SecondMarket provides an exceptional platform for private companies to manage their equity and provide liquidity events for employees and investors"

Bitcoin technology has the potential to be the foundation of private equity's "secondary" market. Benefits offered by the technology could stimulate institutional adoption of online direct investing:

Shortened Settlement Time:

"This so-called 'Internet of Value' works by maintaining a shared ledger on a network of participating computers around the world and updating the ledger with a block of bitcoin transfers roughly every ten minutes (vs. traditional ways to clear private share purchases of 2-3 days domestically and >3 days internationally)"

Speed and Security:

"In addition to speed and smaller middleman's cut, a shared ledger system offers superior security and transparency… shared ledger technology could curb the current epidemic of identity theft"

Transparency:

"All those duplicate ledgers could be used to track who transacted with whom when and which assets were involved"

Cheaper:

"And the blockchain will be much cheaper to use than older financial instruments like credit cards. The banks, Visa, MasterCard, and American Express now collect 1-3% of domestic credit and debit transactions, generating more than $70B a year in fees in the U.S. market alone."

INVESTOR CHECKLIST	MANAGER CHECKLIST
Will managers be able to assist investors with "exiting" positions via a secondary market?	Are systems in place to facilitate/encourage trading of securities on a secondary market?
What innovations will become available to assist with shareholder management including transfers and compliance?	Are we working on ~Bitcoin type solutions to increase efficiencies associated with stock transfer, reduce identity theft?

SUMMARY

INVESTOR DEMAND, DEMAND, DEMAND

Contrary to P2P/Marketplace Lending where "demand" (investors) for loans exceeds "supply" (borrowers), online direct investing is characterized by supply (companies seeking capital) far exceeding demand (investors). Investor demand is higher in market sectors where investors "shoot for the fences" like technology or in real estate (traditional alternative investment category providing current income and asset-backing in case of default), however, across all market sectors online direct investing participation rates are modest to date in comparison to P2P/Marketplace Lending. Direct investing only accounts for $2.5 billion of an estimated >$1 trillion in Reg D's transacted, a reflection of limited institutional capital (GPs and LPs) participation.

How do we increase institutional investor/manager demand online? It starts with execution of the "seven" success factors mentioned in this white paper. Until institutional investors feel confident online platforms safeguard their interests, emulate existing offline workflows/infrastructures, and generate beta and more importantly "alpha" returns over time, institutional investors will continue to sit on the sidelines.

The upcoming launch of next-generation direct investing platforms like Capbridge will increase institutional investor/manager participation rates by making it easier to identify, communicate, close, and manage deal flow online via advanced functionality:

- **Big Data** - Automation (third party databases and user generated data) generating up-to-date company profiles and algorithms for assisting investors with identifying premium deal flow
- **Search** - Easily browse companies by market sector, stage of development, revenue stage, geography, and investment range
- **Matching** - Institutional investor preferences automatically "matched" to deal flow including market stage, stage of development, and financing stage; companies matching investor preferences placed in investor "Inboxes" for review
- **Portfolio Management** – Institutional Investors ability to monitor, "Watch," multiple companies and receive real-time alerts regarding catalytic events impacting valuation and liquidity ("Exits")
- **Evaluation/Due Diligence** – Investors access to enhanced "diligence" tools including online data rooms and advanced community-based tools (~Salesforce Chat) facilitating communication with management
- **Affiliations** – Identify institutional investors with similar affiliations (investment focus) assisting with syndicating and co-investing

Though supply (companies seeking capital) far exceeds demand (investors) for online direct investing (often perceived as a weakness in comparison to P2P/Marketplace Lending where originators are selective on which institutional investors/managers they want to offer supply, how much they offer, and how they offer it passive/active), it will work to the advantage of online direct investing in the long run. The growing “supply” of emerging growth companies seeking to raise capital online is already raising institutional investor awareness and participation rates (~*CSC Upshot/Arena Ventures – AngelList* syndicates). Eventually, institutional investors (~LPs) will be persuaded to join and source deal flow directly online and/or leverage third-parties (S. Jordan Associates) to broker transactions with originators facilitating introductions.

In addition to driving institutional investor participation online, efforts are also underway to scale “retail” investor capital via the following channels:

ORIGINATION CHANNELS – INVESTORS
Broker Dealers
Registered Investment Advisors (RIAs)
Angel Groups/Accredited Investors
Self-Directed IRAs

DIRECT VS. FUND INVESTING

Institutional capital flows into private companies via traditional offline channels (General Partners/Limited Partners) is the predominant financing vehicle as measured by $’s invested vs online direct investing. Venture Capitalists (VC’s) are well established in the capital markets and for good reason. VC’s play a major role in identifying deal flow (via proprietary channels), assessing deal flow (due diligence by industry veterans), capitalizing deal flow (access to syndicate partners), and providing ongoing value to portfolio companies including introductions to valued resources (operations, marketing, finance).

Top decile, and in some instances top quartile firms (especially during bull markets like the current one), oftentimes return 25%> IRR’s to investors justifying their management fees (2% of investible assets) and “carry” or % of profits (~20%). Unfortunately, not all investors have access to top decile/quartile fund managers and even for those who do, eventual market downturns (~Great Recession) can by punitive to manager performance given high fee structures and restrictive lockups (~10 years).

As a result, institution investors (LPs) are increasingly seeking alternative financing vehicles including online direct investing to maximize returns and lower costs. LP’s should consider a number of factors when assessing the merits of investing on a direct basis including transparency, portfolio customization, and ease of investing.

	DIRECT	FUND
Holding Period:	Capital Invested Immediately	Up to 10 Year Holding Period
Transparency:	High	Moderate (~Fund Discloses Investments)
Fees:	Broker Dealer, Originator Success Fees (5-10%)	“2” Management Fee; 20% Carry
Customization:	Yes – Investors Control Investment Decisions	No – Fund Manager Controls Investment Decision
Commitment (LP):	Active	Passive

Summary of the advantages associated with "Direct" investing vs. through venture capital (GP) funds:

RISKS OF VENTURE	Summary Description	DIRECT Investment Solution
Illiquidity	Capital Velocity / Access to Cash	■ Reduce investment horizon ■ Create "Evergreen" fund mechanism
Adverse Selection	*"Investors should be cognizant of the possibility that managers may be sharing their less attractive opportunities."* – Cambridge Associates	■ Establish stringent investment criteria – "Rule Set" – stipulating that every Direct investment be subject to leadership from new, third-party institutional investor
Diversification	Achieving a Portfolio Effect	■ Invest at same rate as top-decile GPs
Correlation	Targeting pure "Alpha"	■ # of General Partners, multiplied by the # of institutionally-backed portfolio companies, equals the potential for non-correlated IRR.
Volatility	Extreme dispersion of returns on company-by-company basis	■ Eliminate "J-Curve" ■ Mitigate "downside" through deal selection based on "Rule Set" ■ 65.3% of Standard Deviation of Returns in VC due to "upside" events
Performance	Generating superior IRR / MOIC	■ No Fee, No Carry. ■ Gross Return = Net Return
Scalability of Venture Capital	*"At fund sizes greater than $200 million, performance suffers"* – Kaufmann Foundation	■ (900) direct transactions ■ $11 billion opportunity
Access to Best Managers / GPs	*"Increasingly challenging to get into top tier funds since VC funds are getting smaller and access is limited."* – National Venture Capital Association	■ Broad exposure to top-tier funds ■ 'Dating Prior to a Marriage' ■ Eliminating the effect of fees and carried interest enables greater universe of GPs to achieve top-decile Gross IRR
Valuation	*"As early-stage investors seek to preserve their positions in companies in early rounds of financing, venture co-investments are more often offered at late-stage rounds when they may also be subject to high valuations."* – Cambridge Associates	■ Every direct investment made on "pari passu" basis, subject to discrete, independent pricing as established by new institutional "Lead" investor with like-minded return expectations
"Zeros"	High loss ratios associated with write-offs	■ Single Purpose Investment Vehicle ("SPV") permits diversification, attenuates impact of losses, preserves return profile of portfolio
Inconsistent Cash Flows	*"Cash flows from venture capital are lumpy."* – Preqin	■ Continuous distributions upon "exit" of each discrete portfolio company ■ Continuous liquidity following investment period of initial portfolio companies
Relationship with GPs	*"GPs assume significant reputational risk with their investors when offering co-investment opportunities. Poor interactions with LPs and poor results could cost future fund commitments."* – Coller & Company	■ Third-party, "Arms-Length" structure ■ Deal-by-Deal decision making