The Secondary Market:
A Panacea for the Illiquidity in Private Equity Investments?

Peter Cornelius

October 23, 2014

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Agenda

- Private Equity as an Asset Class and Investment Risks
- The Evolving Role of the Secondary Market
- Conclusions: Implications for Risk Management

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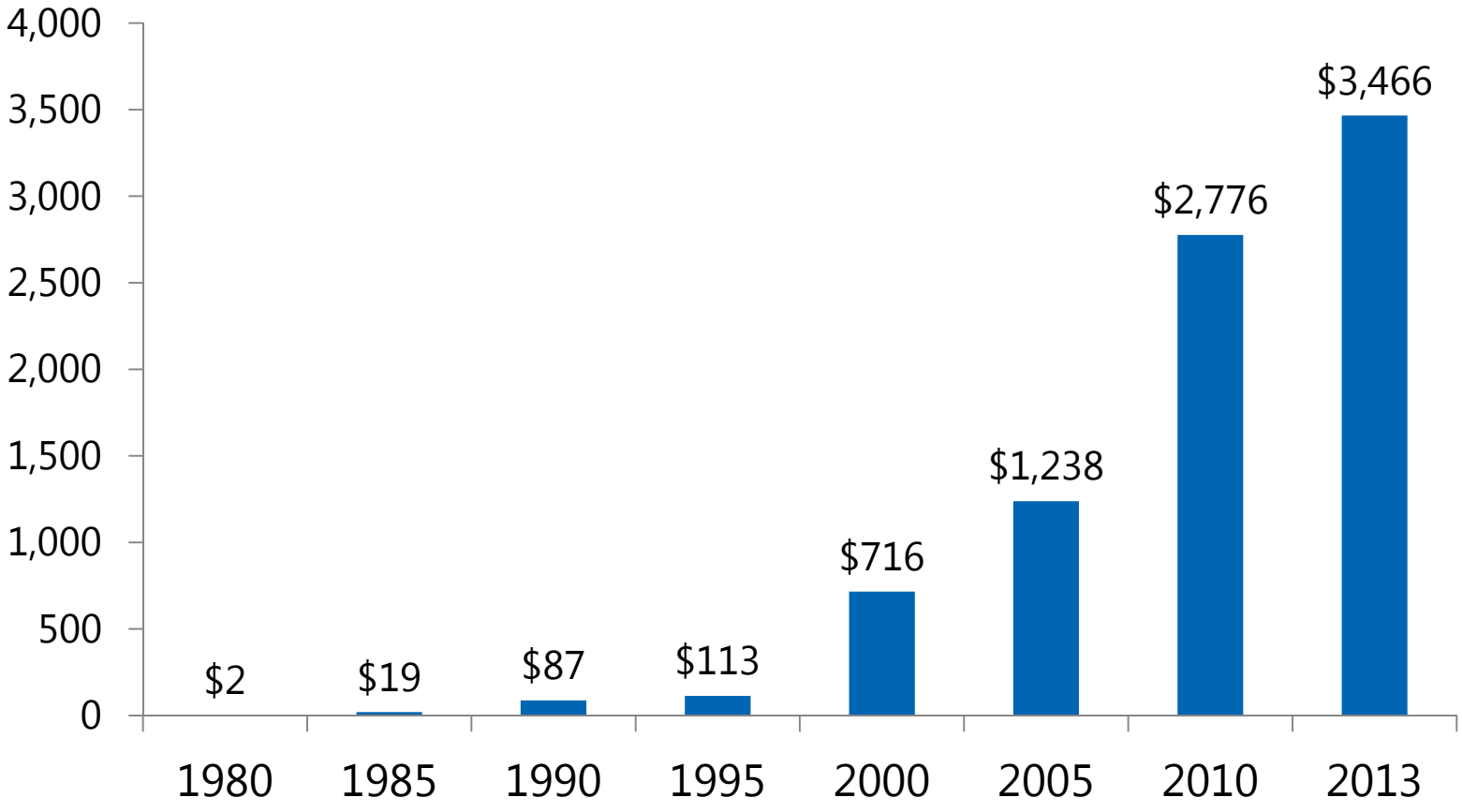
Private Equity as an asset class has been growing rapidly, …

Private Equity Assets Under Management, US$ bn



Source: McKinsey Global Institute, Preqin (as of 9/1/2014)

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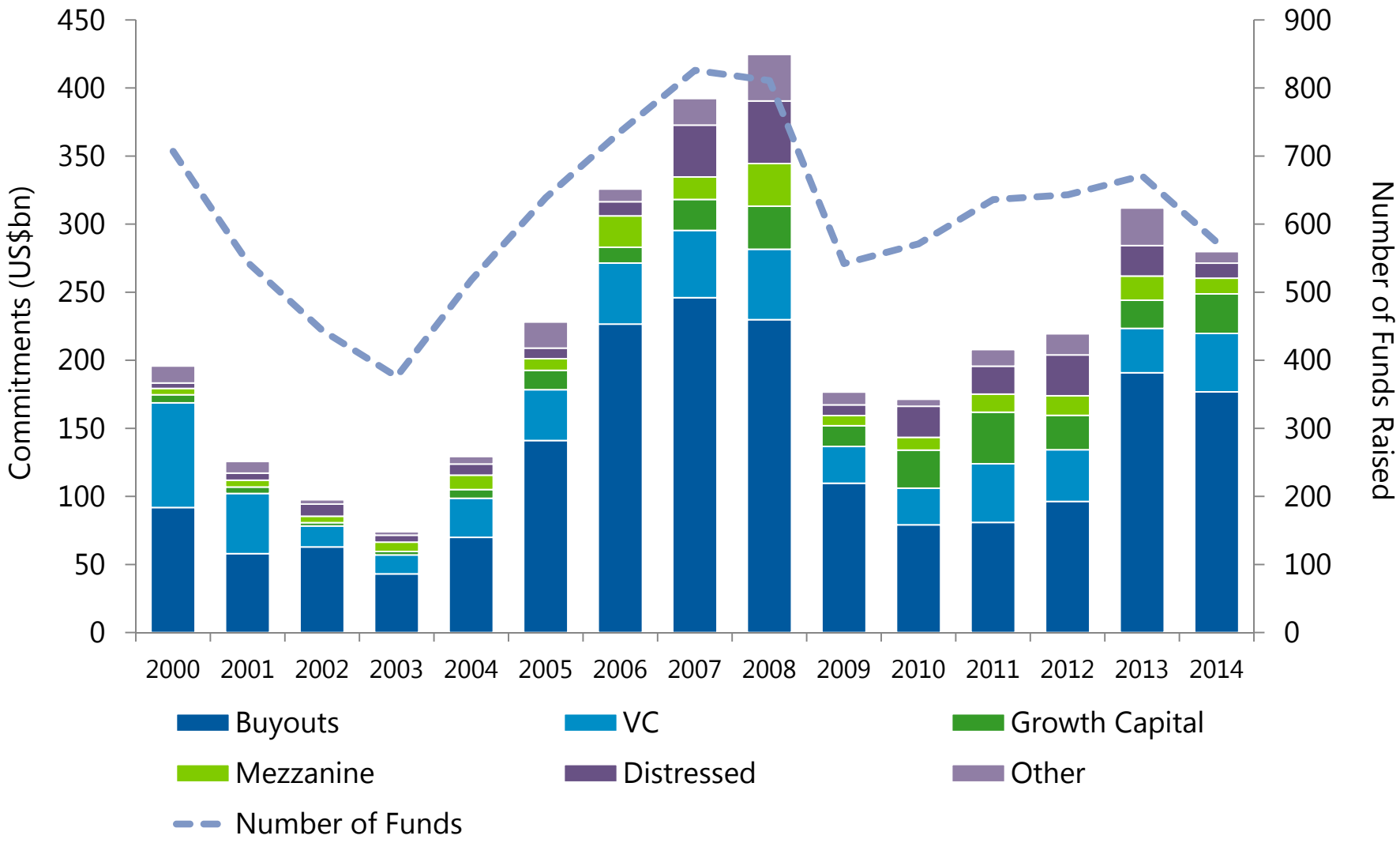
… with commitments to private equity funds having regained considerable momentum since the global financial crisis



Other includes balanced, special situations and turnaround funds. 2014 annualized. For illustrative purposes only.
Source: Preqin (accessed 09/11/14)

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Private Equity has been subject to important innovations

The Stone Age 1974-1984

- Infant industry
- Small firms
- New technology of debt financing
- Small Deals
- Not important to the financial world

The Bronze Age1985-1990

- More firms
- Wider investor base
- Debt financing more mainstream
- Junk bonds
- Public companies taken private
- Outsized Returns
- RJR Nabisco

The Silver Age1991-2001

- Multi-billion dollar funds
- Global investors and lenders
- Many new funds
- Public pension funds dominate investor base
- Overseas investments
- Talent drain from other financial companies
- Emergence of secondary market

The Golden Age 2002-2007

- Dominant position in financial world
- 175 funds ≥ $1Bn[1/]
- Fortune 500 companies go private
- Accounts for large percentage of M&A activity (40% in 1H 2007) [2/]
- A global business
- PE firms become large organizations
- PE firms going public
- Public/Government scrutiny

Post – GFC 2008 - today

- Terms and conditions; rebalancing GP/LP relations
- Co- and direct investments
- Managed accounts
- Access for retail investors
- GPs becoming alternative asset managers
- New regulations
- LPs' increased focus on investment risk
- Environmental, Social & Corporate Governance.
- Continued globalization, including investor base
- Continued growth in secondary market

1/ Source: Preqin (accessed 9/15/14).
2/ Source: Dealogic (accessed 9/15/14).
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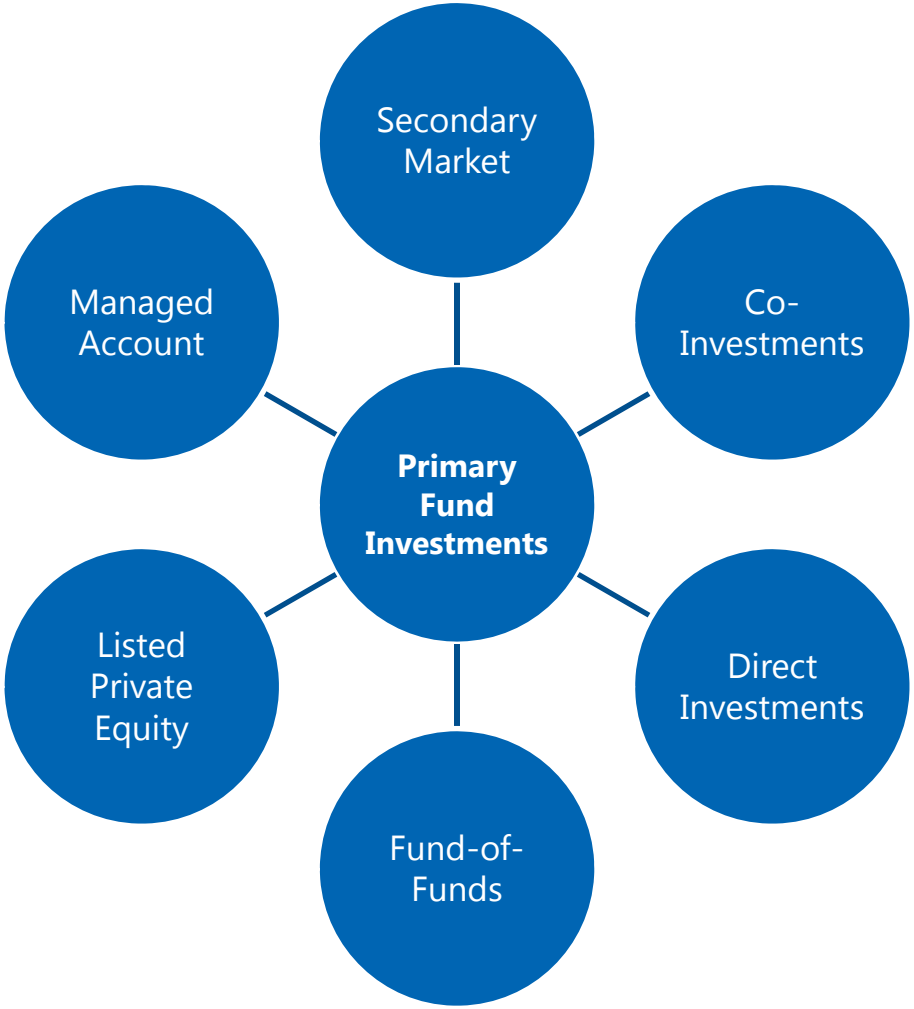
Today, investors have several options to get exposure to the asset class



For illustrative purposes only.

However, the dominant way remains the limited partnership fund

- Typical **life span of fund is 10 years**, with possible extension of up to 2 years.
- Investors serve as limited partners (LPs) in the fund, which is managed by private equity firm as general partner (GP).
- GP charges management fees of around 1½% pa and participates in the profits ("carried interest", normally 20%), subject to a hurdle rate).
- **Portfolio companies** bought by the fund are typically held for **3 – 7 years**.
- Leveraged buyout and venture capital transactions represent the bulk of the private equity market.[1/]
- While venture capital transactions generally involve little, if any, debt, buyouts tend to be substantially leveraged.[2/]
    - 60% to 80% of purchase with debt
    - 20% to 40% with equity from private equity fund

1/ AlpInvest Research, based on data provided by Preqin for the period 2000 – H1 2014.
2/ Source: S&P LCD Capital IQ (accessed 9/15/14)
Source: S. Kaplan and P.Strömberg (2009), "Leveraged Buyouts and Private Equity," Journal of Economic Perspectives, 23 (1), pp. 121-46.
For illustrative purposes only.

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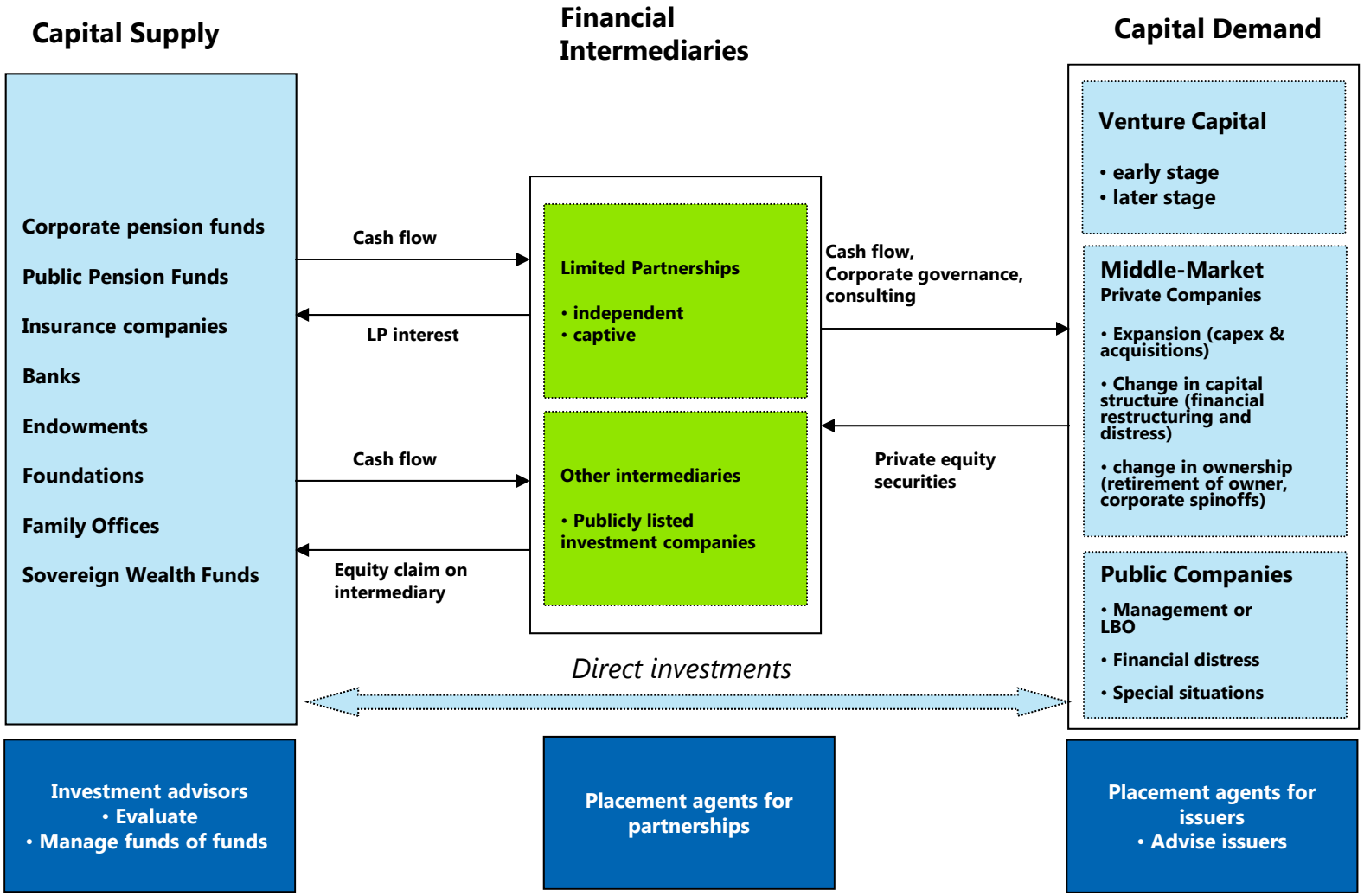
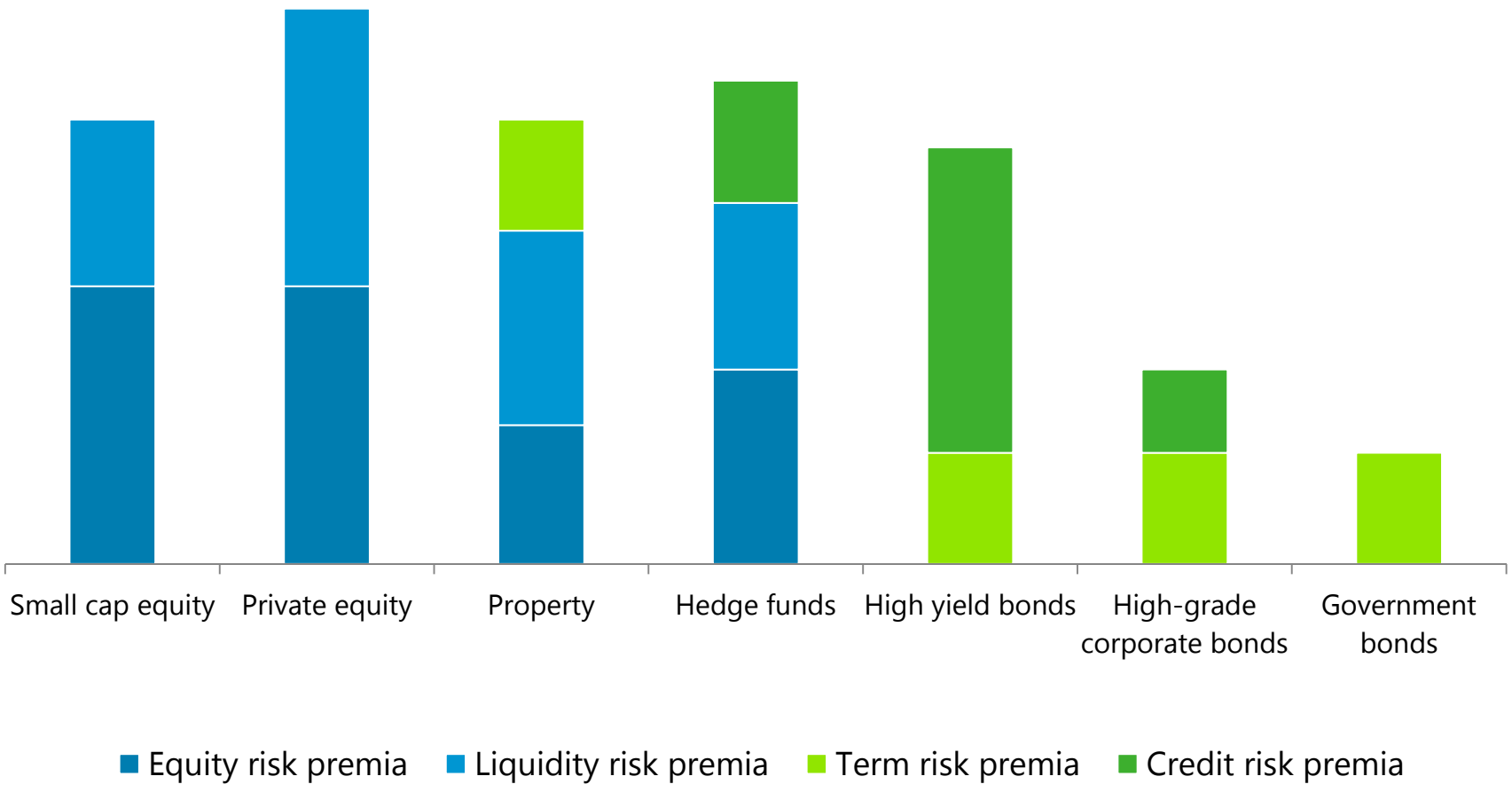
In a limited partnership, the general partner serves as a financial intermediary



For illustrative purposes only.
Source: P. Cornelius (2011), International Investments in Private Equity. Elsevier, 2011.

Private equity investors seek to harvest an illiquidity risk premium



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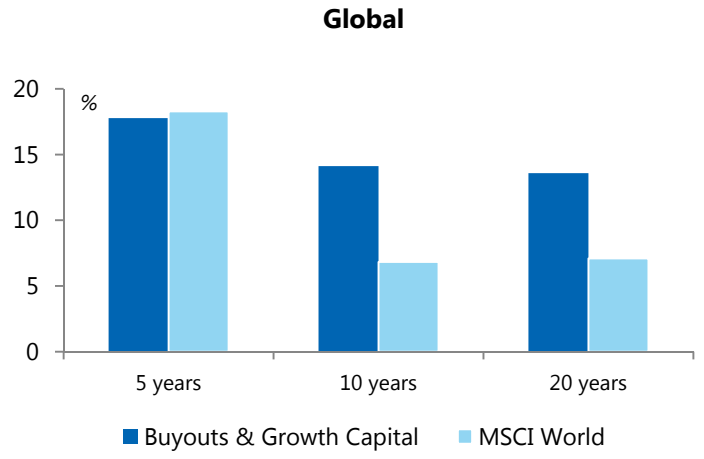
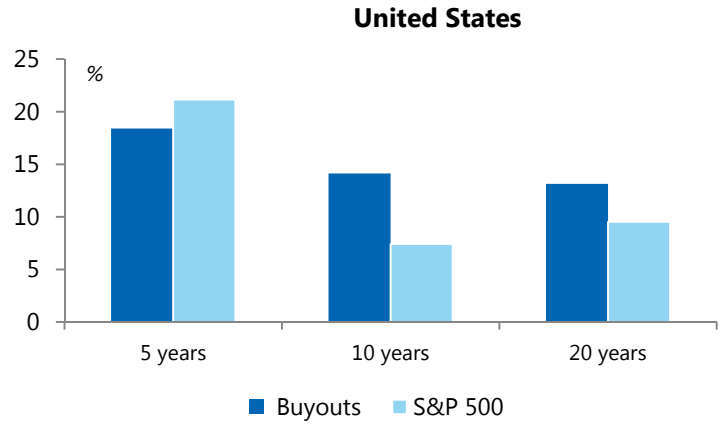
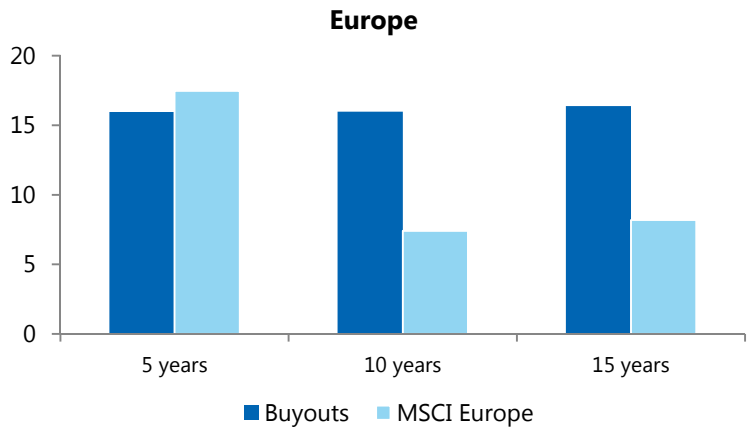
World Economic Forum (2011). Most recent data available used. For illustrative purposes only.

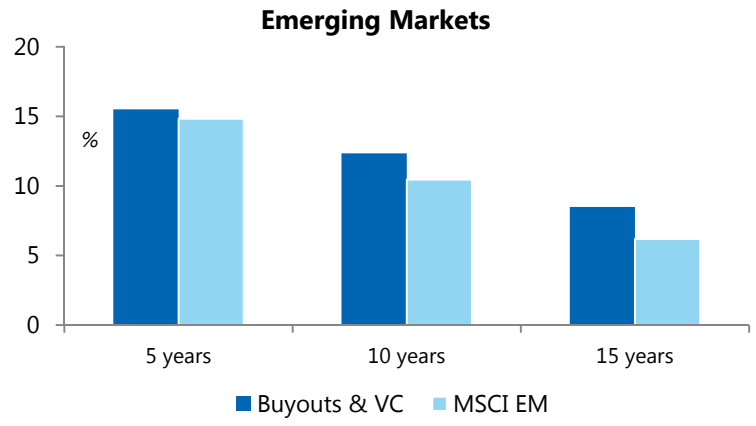
Reported returns suggest that the illiquidity risk premium is significant …

End-to-End Pooled Returns (net-of-fees)%









Returns as of March 31, 2014
Source: Cambridge Associates.
For illustrative purposes only and should not be deemed an offer or recommendation to buy or sell any investment or to participate in any strategy. **Past performance is not indicative of future results.** Indices are unmanaged and it is not possible to invest directly in an index. Indices do not include any expenses or fees, which would lower performance.

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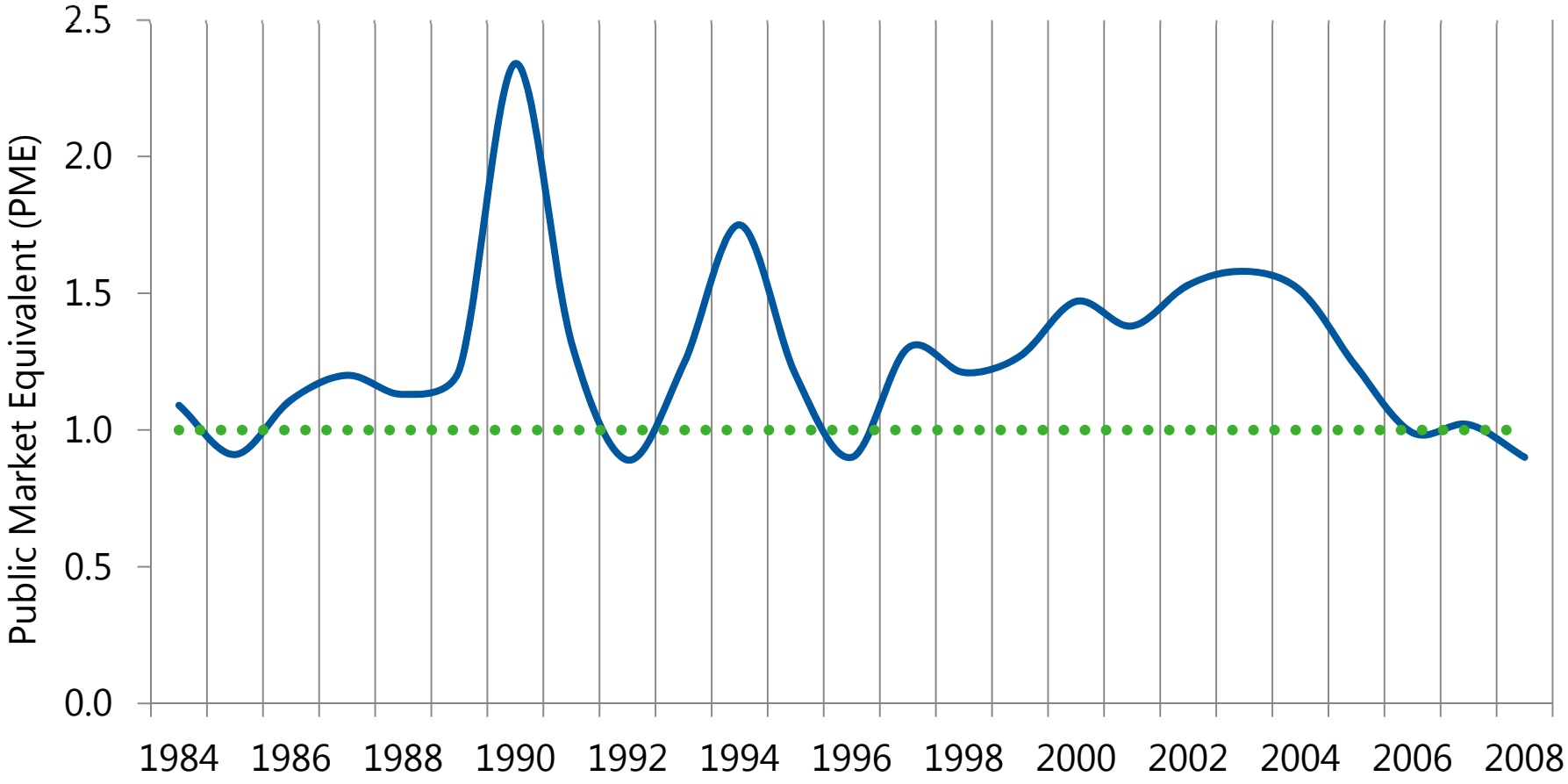
… with U.S. buyout funds having outperformed the S&P500 in 20 of 25 vintage years between 1984 and 2008



Note: A PME of greater *than 1 indicates outperformance by private equity, a PME of smaller than 1 indicates underperformance; public market returns measured by the S&P 500*

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Source: Harris, Jenkinson, Kaplan (2013), based on Burgiss data.
For illustrative purposes only and should not be deemed an offer or recommendation to buy or sell any investment or to participate in any strategy. **Past performance is not indicative of future results.** There is no assurance that this trend will continue.

To be able to reap potentially higher returns requires accepting specific risks …

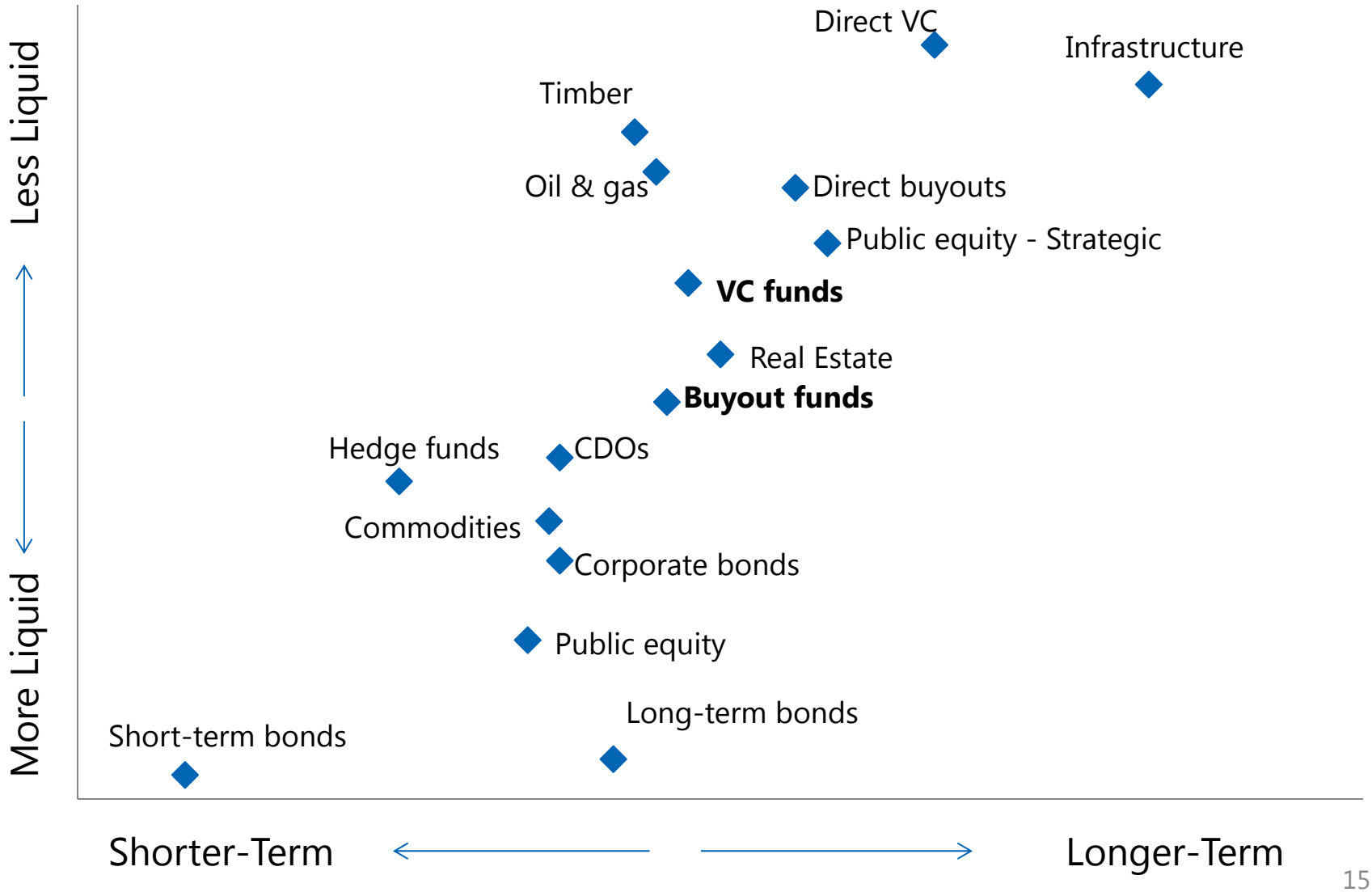
- **Liquidity risk:**
  - Investors are unable to rebalance their portfolios continuously. Their actual portfolios deviate almost always from their target allocations. [1/]
  - Investments in private equity funds (funded or unfunded) cannot easily be liquidated in periods where liquidity is needed.

- **Commitment risk:**
  - Future drawdowns are unknown in terms of their amounts and timing. Failing to honor commitments has serious consequences for LPs.
  - Nor do investors know the volume and timing of future distributions, aggravating the design of commitment strategies.

1/ See A. Ang and M. Sorensen (2012), "Risks, Returns, and Optimal Holdings of Private Equity. A Survey of Existing Approaches." Quarterly Journal of Finance.

For illustrative purposes only. The views and opinions provided herein are subject to change based on market and economic conditions.

… reflecting the characteristics of the underlying investments



Source: World Economic Forum (2011). Most recent data available used. For illustrative purposes only.

Liquidity risk is attracting increased interest, but there is little research on commitment risk

- *Why investors want to be compensated for liquidity risk* (e.g. Acharya & Pedersen, 2005; Chien & Lustig, 2009; Huh & Subrahmanyam, 2009; Ang, Papanikolaou & Westerfield, 2011)

- *Empirical literature*: (e.g. Pastor & Stambaugh, 2003)

- *PE liquidity risk*:
  - Ang & Sorensen (2012)
  - Franzoni, Novak & Phalippou (2012) find a **liquidity risk premium of 3% pa**
  - Sorensen, Wang & Yang (2014) find that **α > 2.06% pa is needed to compensate investors for liquidity risk** (in leveraged buyouts; α > 3.08% without leverage)

- "Although it is natural to benchmark private equity returns against public markets, investing in a portfolio of private equity funds across vintage years inevitably involves uncertainties and potential costs related to the **long-term commitment of capital, uncertainty of cash flows** and the **liquidity of holdings** that differ from those in public markets. While the average out-performance of private equity we find is large, **further research is required to calibrate the extent of the premia investors require to bear these risks**." Harris, Jenkinson & Kaplan (JoF, forthcoming),

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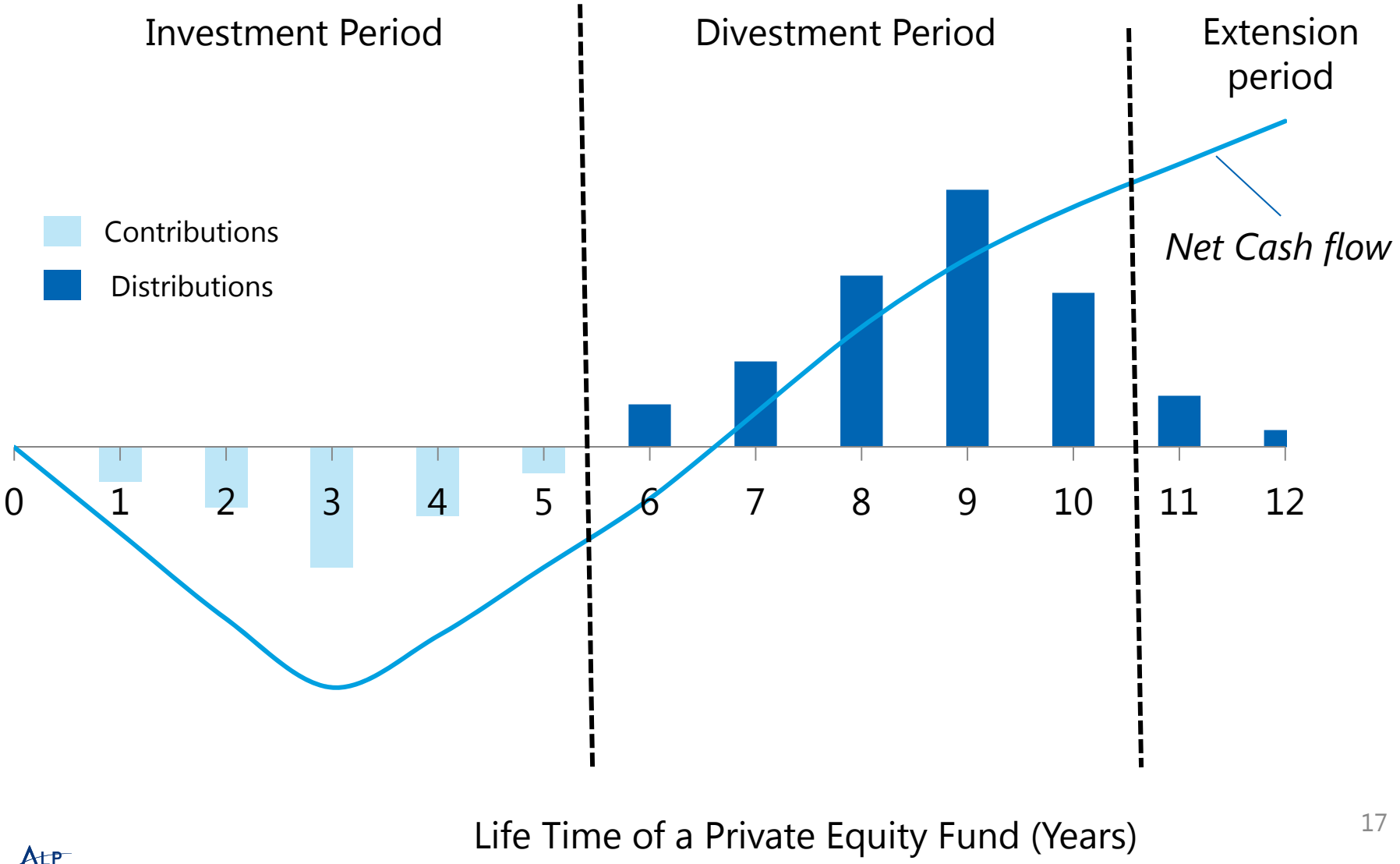
Standard cash flow models work well in normal times …



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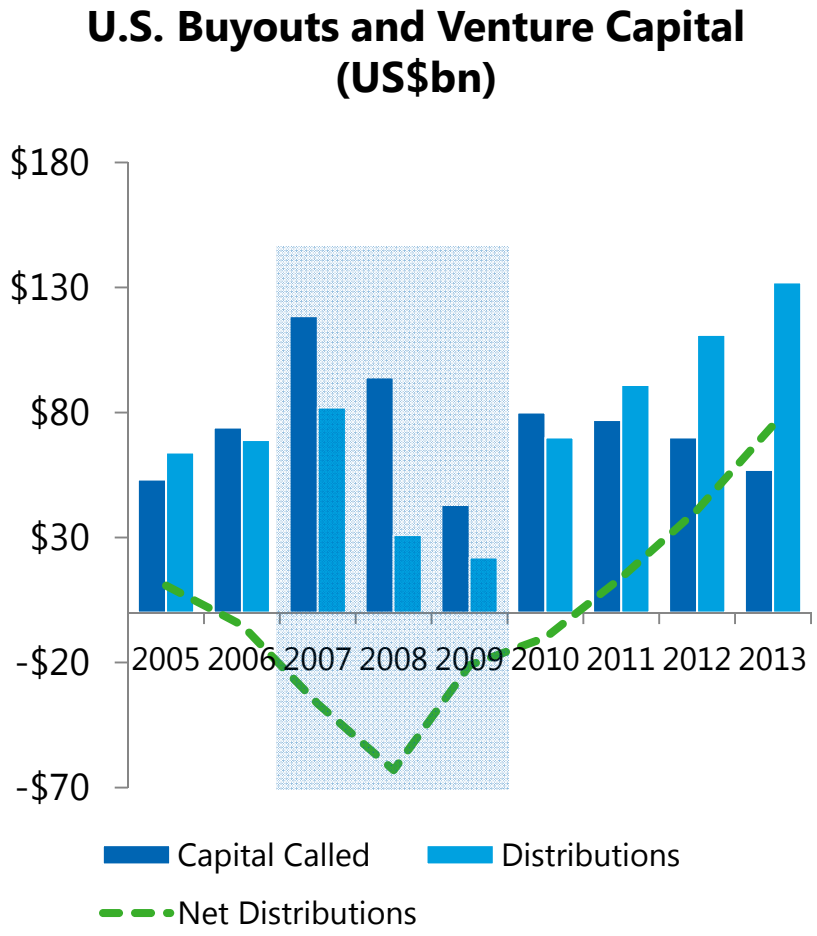
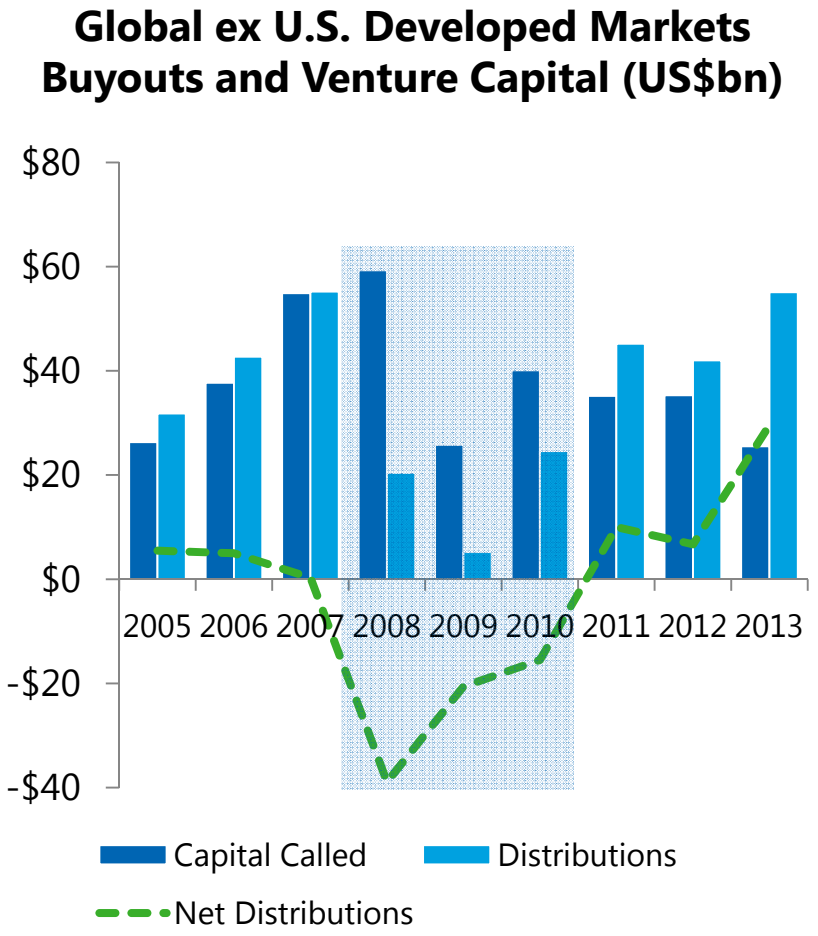
… but may collapse in periods of financial stress

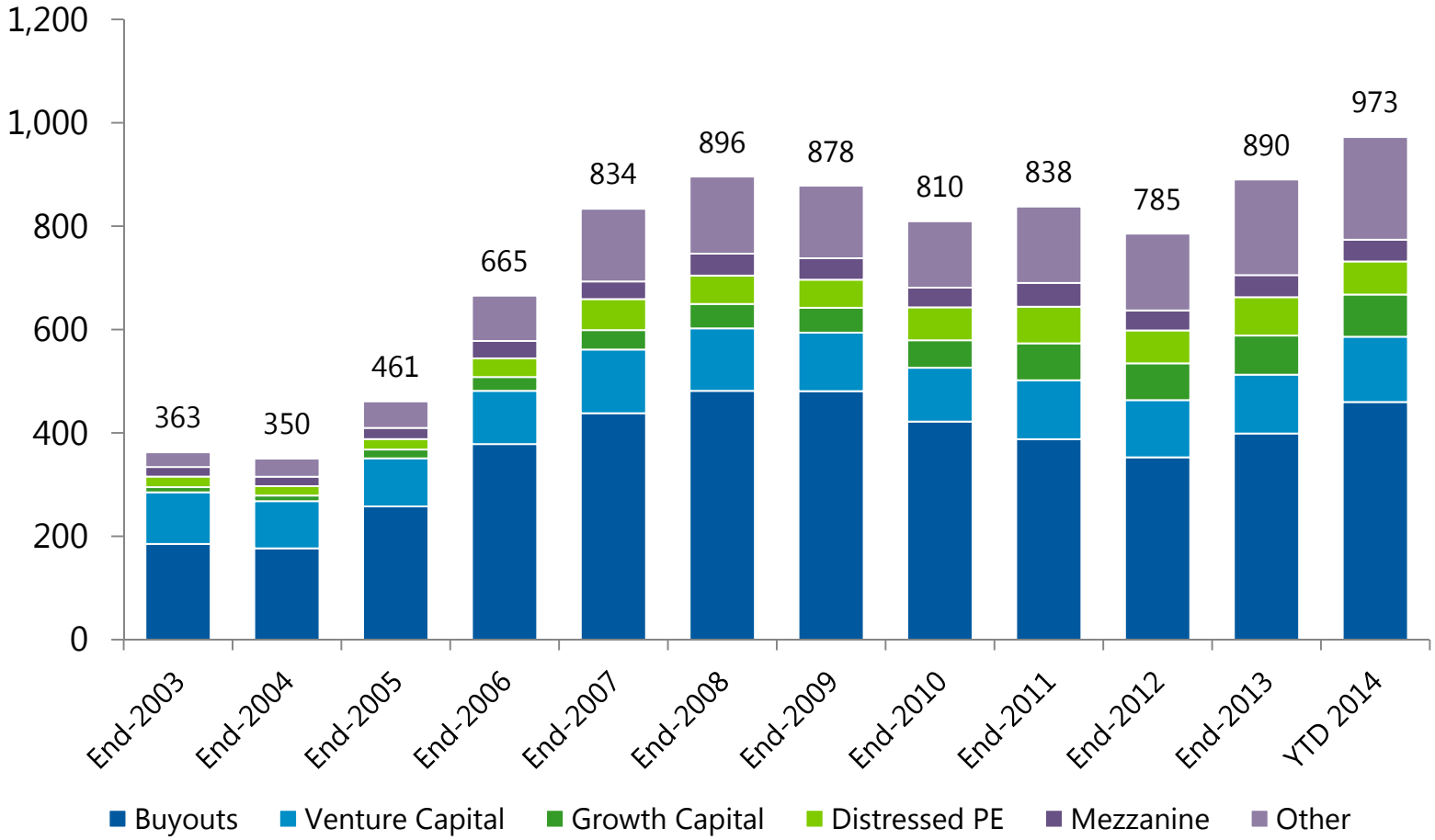




Source: Cambridge Associates (June 2014).
For illustrative purposes only.

Managing commitment risk effectively is critical in light of the increase in unfunded commitments to almost USD 1 trillion …

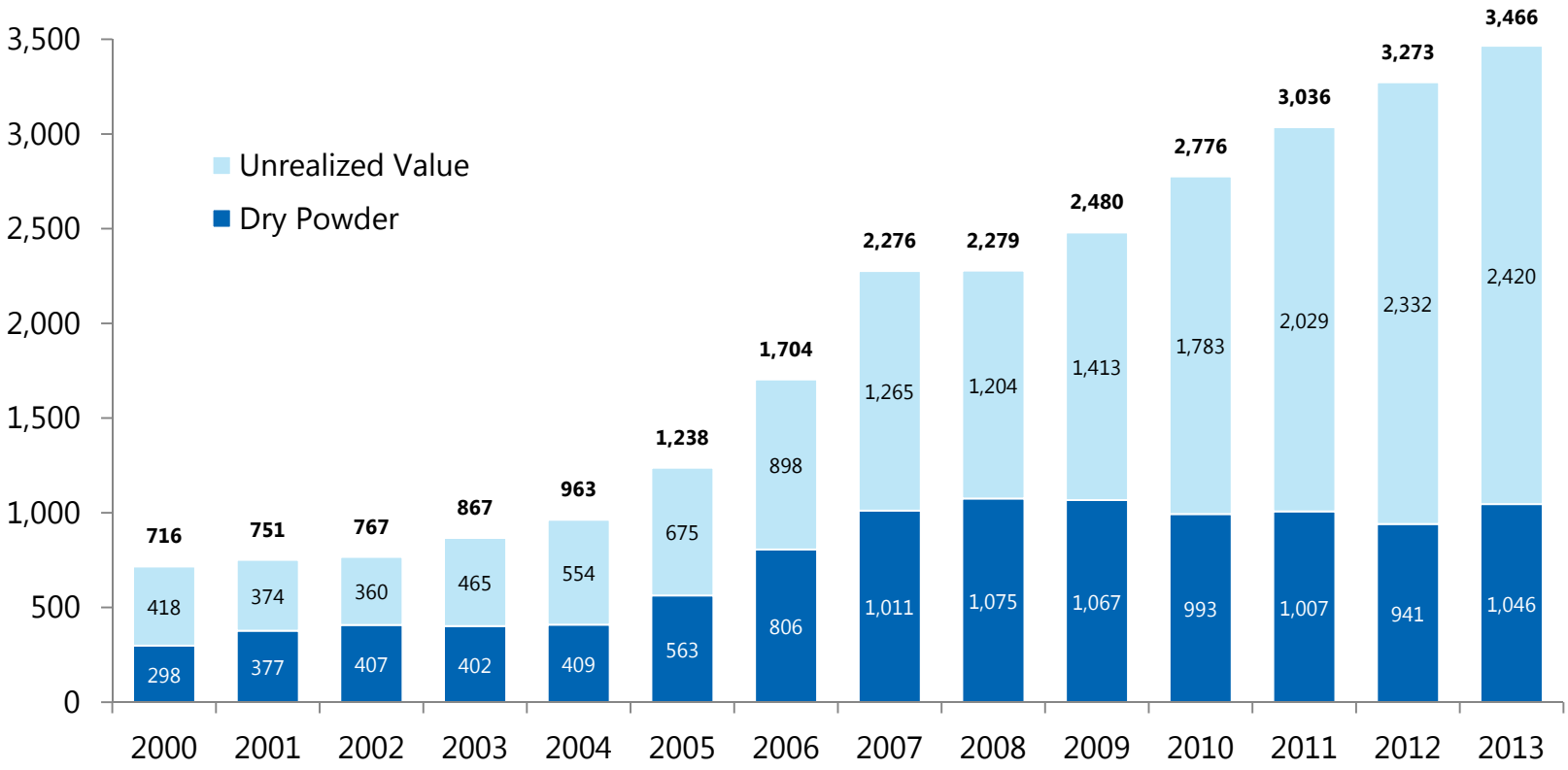
Dry Powder in USD bn; excludes real estate private equity funds



For illustrative purposes only.
Source: Preqin (accessed 9/11/14)

… representing 30% of private equity assets under management [1/]

Global Private Equity Assets under Management (End-of-Period, USD bn)



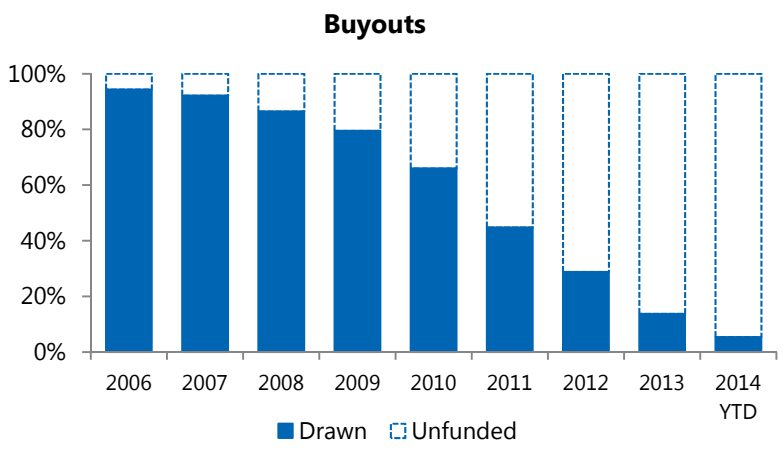
1/ Includes corporate private equity (including secondary funds and funds of funds, real estate private equity, infrastructure and energy). With commitments to corporate private equity funds representing around 67% of inflows to all private equity funds, corporate private equity is likely to represent the bulk of AUM managed by global private equity firms.

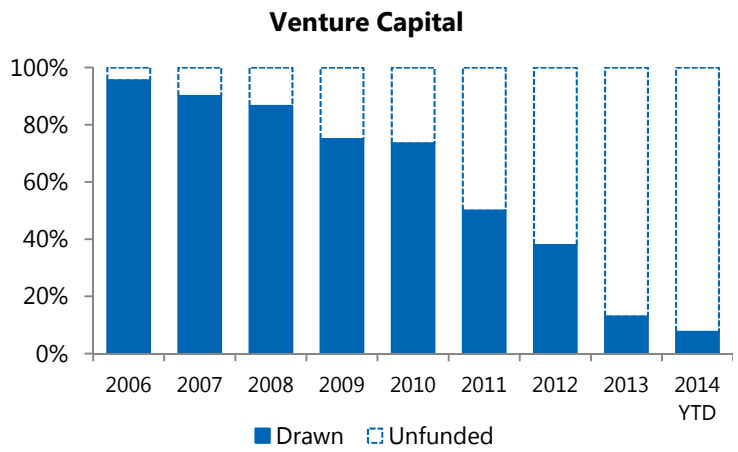
Source: Preqin Annual Report (January 2014)

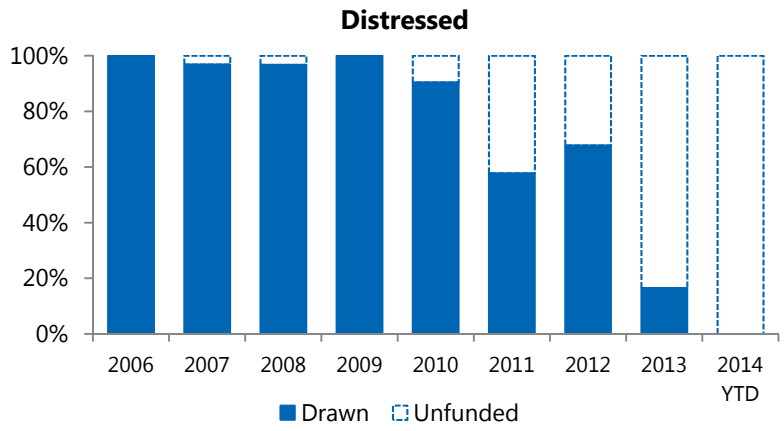
For illustrative purposes only. There is no assurance that this trend will continue.

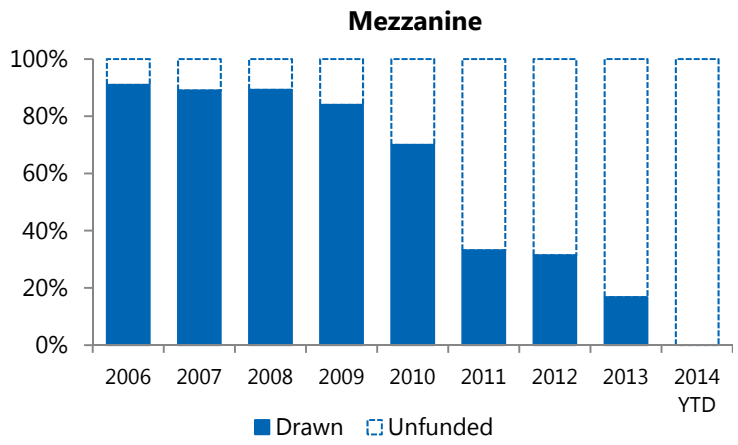
Today's unfunded commitments reflect investments over the past 5 – 6 years

Drawdowns in Percent of Capital Raised, By Vintage Year









Source: Preqin (accessed 9/11/14).
For illustrative purposes only.

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Family offices and endowments are particularly exposed to liquidity risk and commitment risk

Institution	Constraints	Liability profile	Risk appetite	Allocation to illiquid assets
Life insurers	Liability structure, regulation, accounting	Fixed payments with average duration of 7 – 15 years	Regulatory and accounting pressures reduce the risk a life insurer is willing and able to take	2-4%
Defined benefit pension funds	Liability structure, regulation, accounting	Fixed payments with average duration of 12 – 15 years	Regulatory and accounting pressures reduce the risk a pension fund plan sponsor is willing and able to take	8–20%
Sovereign wealth funds	Potential for short-term public pressure to influence decisions	Minimal yearly payouts	Direct and indirect influence from public opinion/policy makers	10-20%
Endowments/ Foundations	Significant yearly payout requirements	Yearly payouts are required for beneficiaries but are proportional to the assets	Despite some pressure from the trustees to meet yearly budget targets, willing to accept short-term volatility of illiquid assets	15-30%
Family offices	Family conservatism	Minimal yearly payout	Focus on wealth preservation but willing to accept short-term mark-to-market losses	25-50%

Source: WEF (2011); Preqin (as of 9/15/14).
Most recent data available used.

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Today, some endowments are even more exposed than they were during the financial crisis

	Yale Investments Office		Harvard Management Company	
	2008	**2013**	**2008**	**2013**
Absolute Returns	25%	18%	18%	15%
Domestic Equity	10%	6%	12%	11%
Foreign Equity	15%	10%	22%	22%
Fixed Income	4%	5%	15%	9%
Private Equity	20%	32%	11%	16%
Real Assets	29%	28%	26%	25%
Cash	-4%	2%	-5%	0%

Source: Yale Investments Office and Harvard Management Company, Annual Reports (various issues).
For illustrative purposes only.

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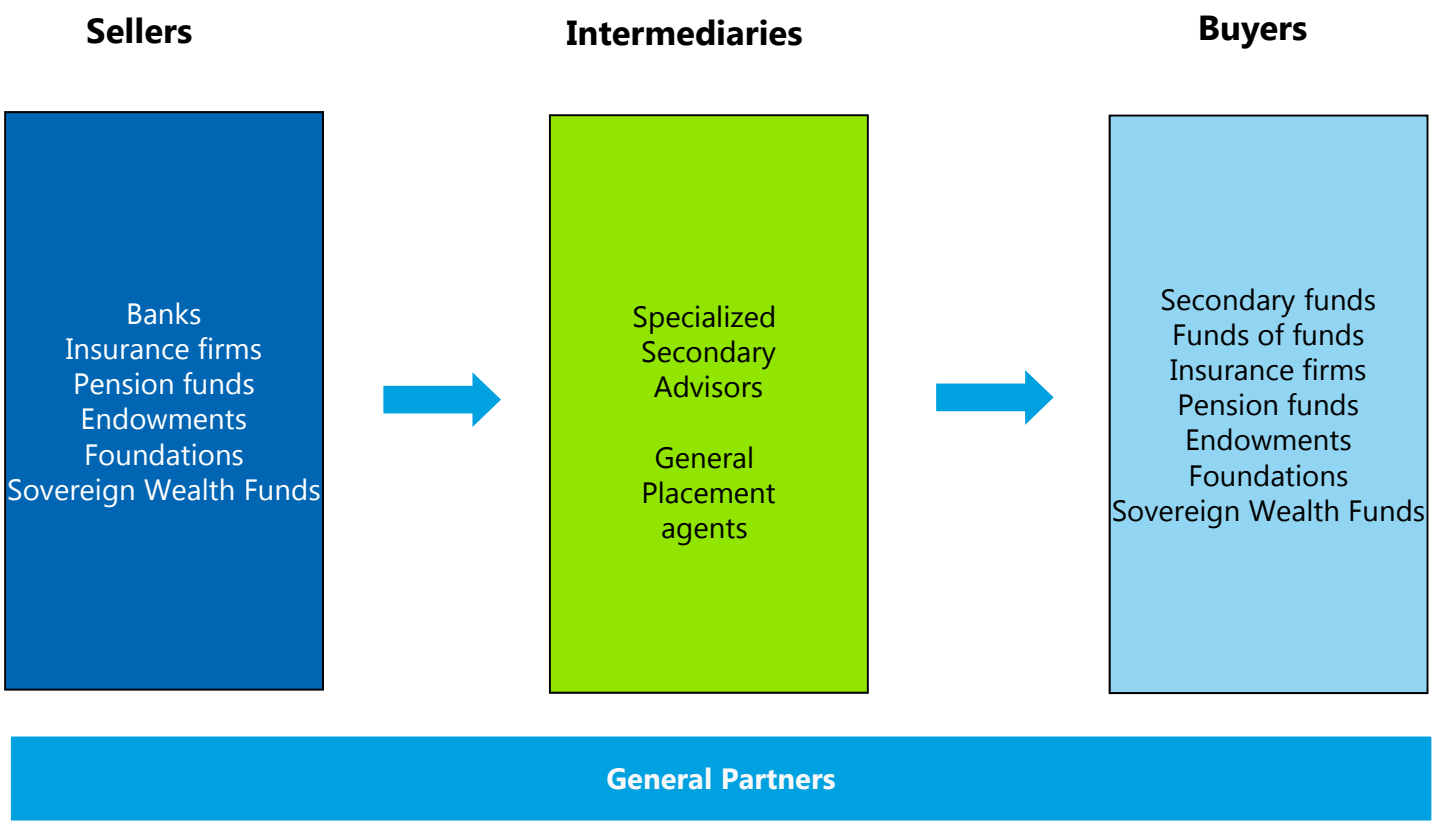
What are secondary transactions?

- Secondary transactions refer to the buying and selling of pre-existing limited partnership interests in private equity funds (and similar vehicles focusing for example on real estate).
- These interests include both commitments that have already been drawn down by the GP and unfunded commitments.
  - The transfer of investor commitments between LPs in the secondary market should not be confused with secondary buyouts where, for example, a deal is exited by a fund or sponsor selling the underlying portfolio company to another fund!
- Transactions are usually initiated by sellers. However, it is not uncommon for buy-side LPs to pro-actively source deals.
- Transactions involving individual funds or small portfolios are usually negotiated bilaterally.
- Intermediated auctions are common for larger and more complex transactions.
- A secondary transaction requires the consent of the GP.

For illustrative purposes only.

Secondary Market Structure



For illustrative purposes only.

What motivates sellers and buyers in the secondary market?

Sellers and their Motivations

- Liquidity needs
- Dissatisfaction
- Returns
- Regulation
- Asset allocation
- Strategy
- Active portfolio management
- Change of group strategy

Buyers and their Motivations

- Discount
- Repayment speed
- Visibility versus "blind pools"
- Portfolio diversification
- 'Invitation'-only funds
- J-curve
- Commitment pace and exposure
- Investment pace

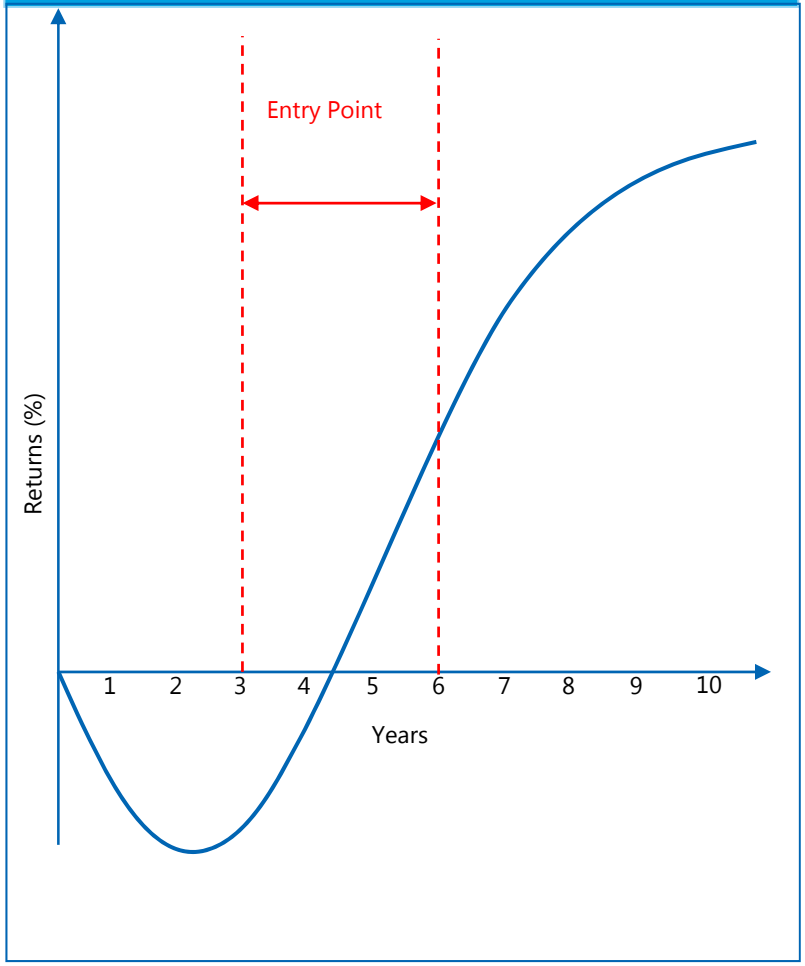
Source: Cornelius et al. (2013). Mastering Illiquidity. Wiley (Chapter 6).
For illustrative purposes only.

Key characteristics of secondaries investing

Secondary Investing

- **Mix of funded assets and unfunded capital:**
  - Funded assets (50-70%): existing portfolio companies
  - Unfunded capital (30-50%): remaining undrawn commitments to the underlying funds acquired
- **Asset visibility**:
  - Funds are already invested in portfolio companies
  - Generally, have 2-5 years of performance data per portfolio company
- **Shorter duration:**
  - Early cash proceeds from funded assets
  - Less fee "drag"
  - Earlier full exit from a fund
- **Smoothens the J-Curve:**
  - Lower risk of early book losses compared to a primary program
  - Higher IRR
  - Less capital at work

The J-Curve of Private Equity Returns



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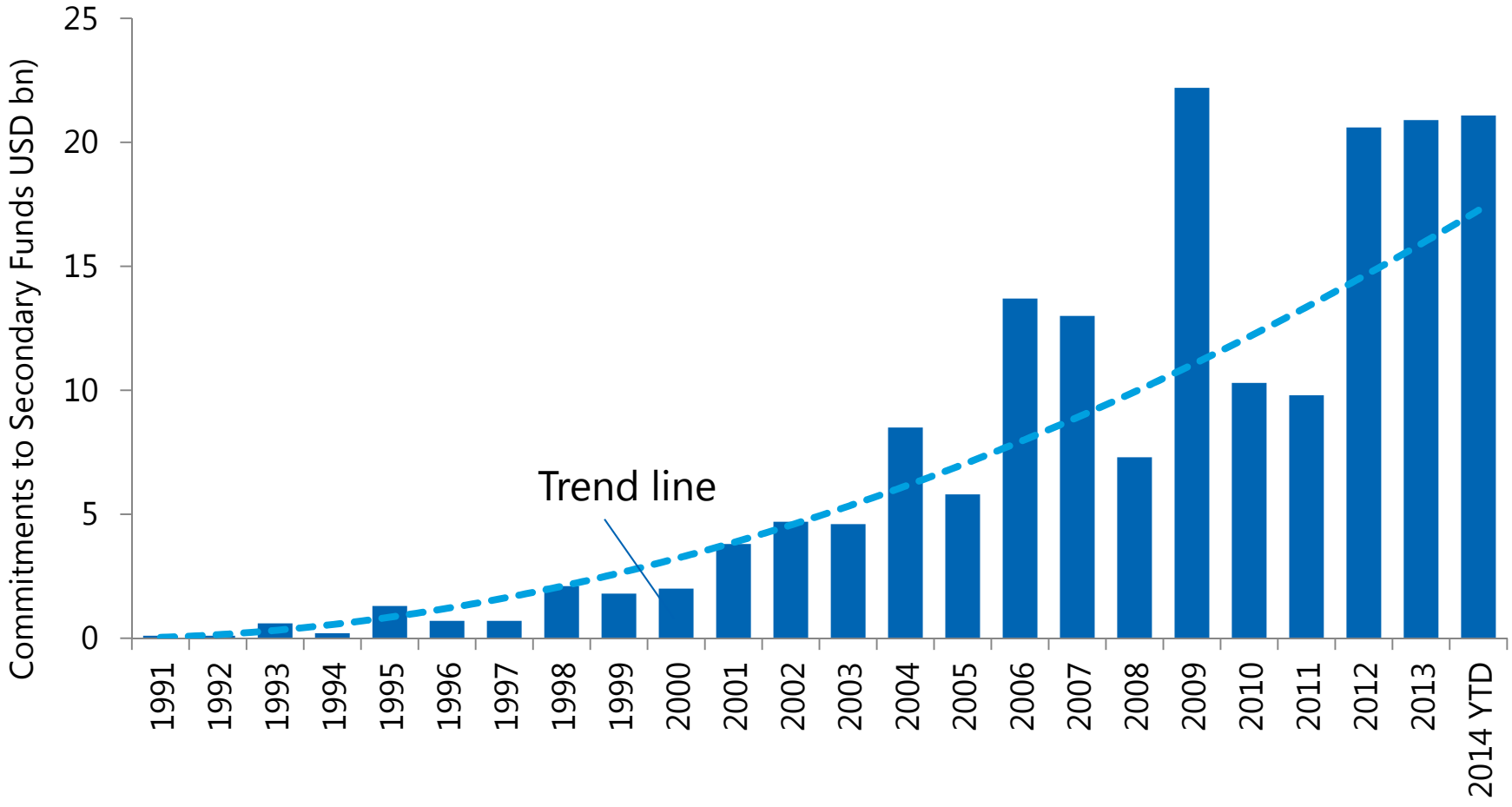
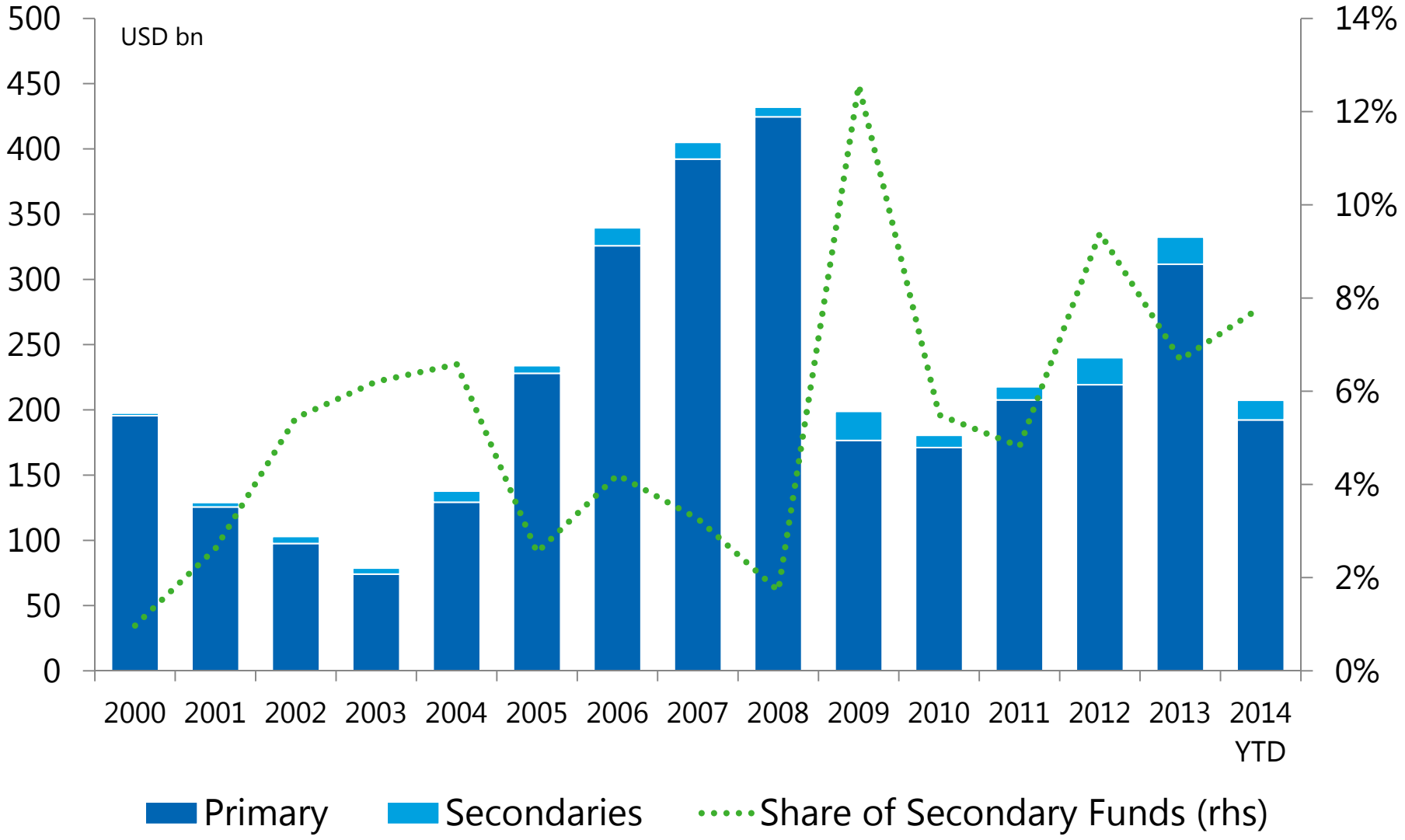
The demand for LP stakes has risen appreciably …

Capital Raised by Secondary Funds (USD bn)



Sources: Preqin, Thomson (as of 9/15/14)
For illustrative purposes only. There is no assurance this trend will continue.

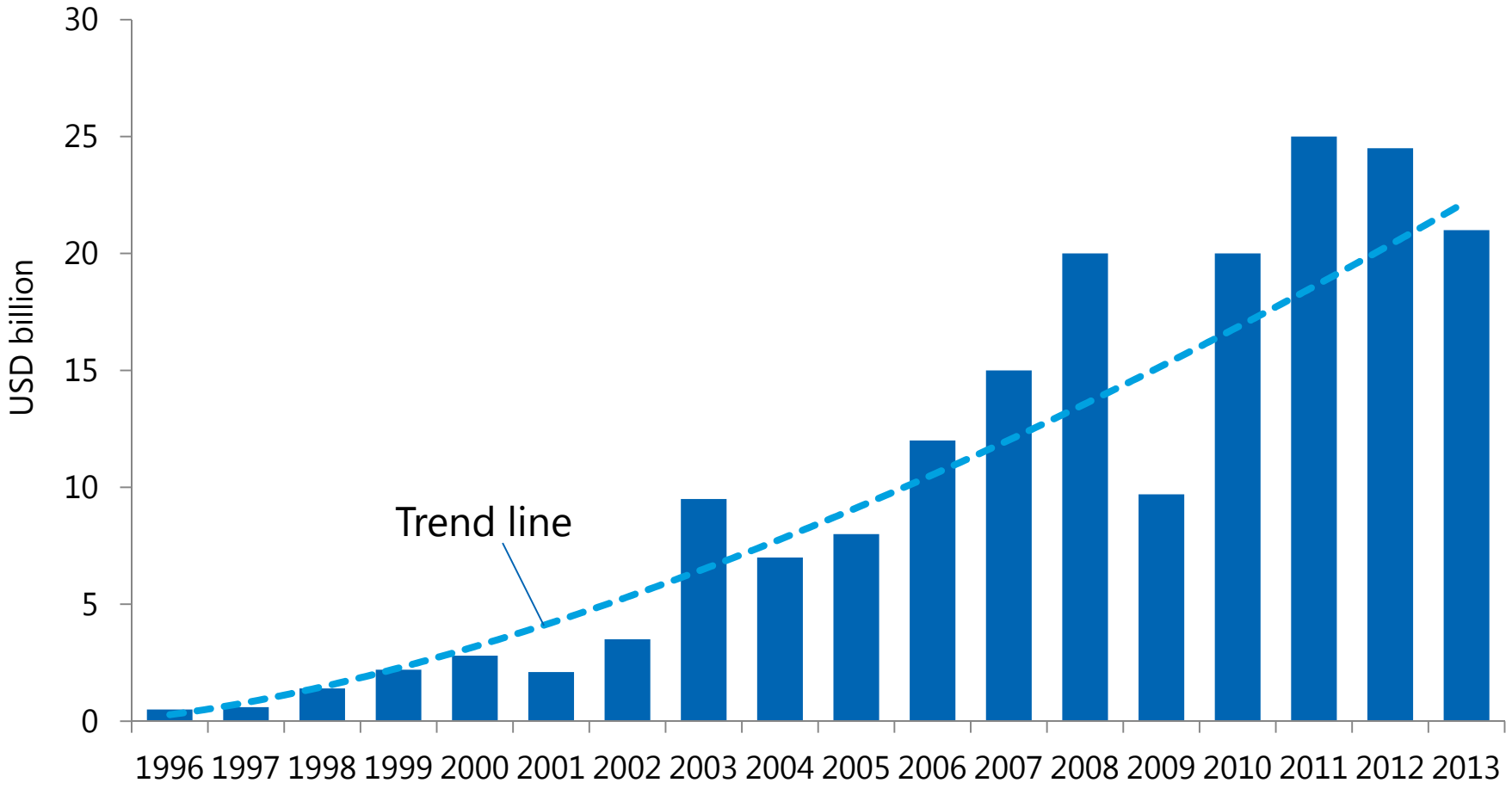
… with commitments to secondary funds accounting for around 8% of total commitments to private equity partnerships



Source: Preqin, as of 9/15/14.
For illustrative purposes only.

Market volume has grown significantly as supply has also increased

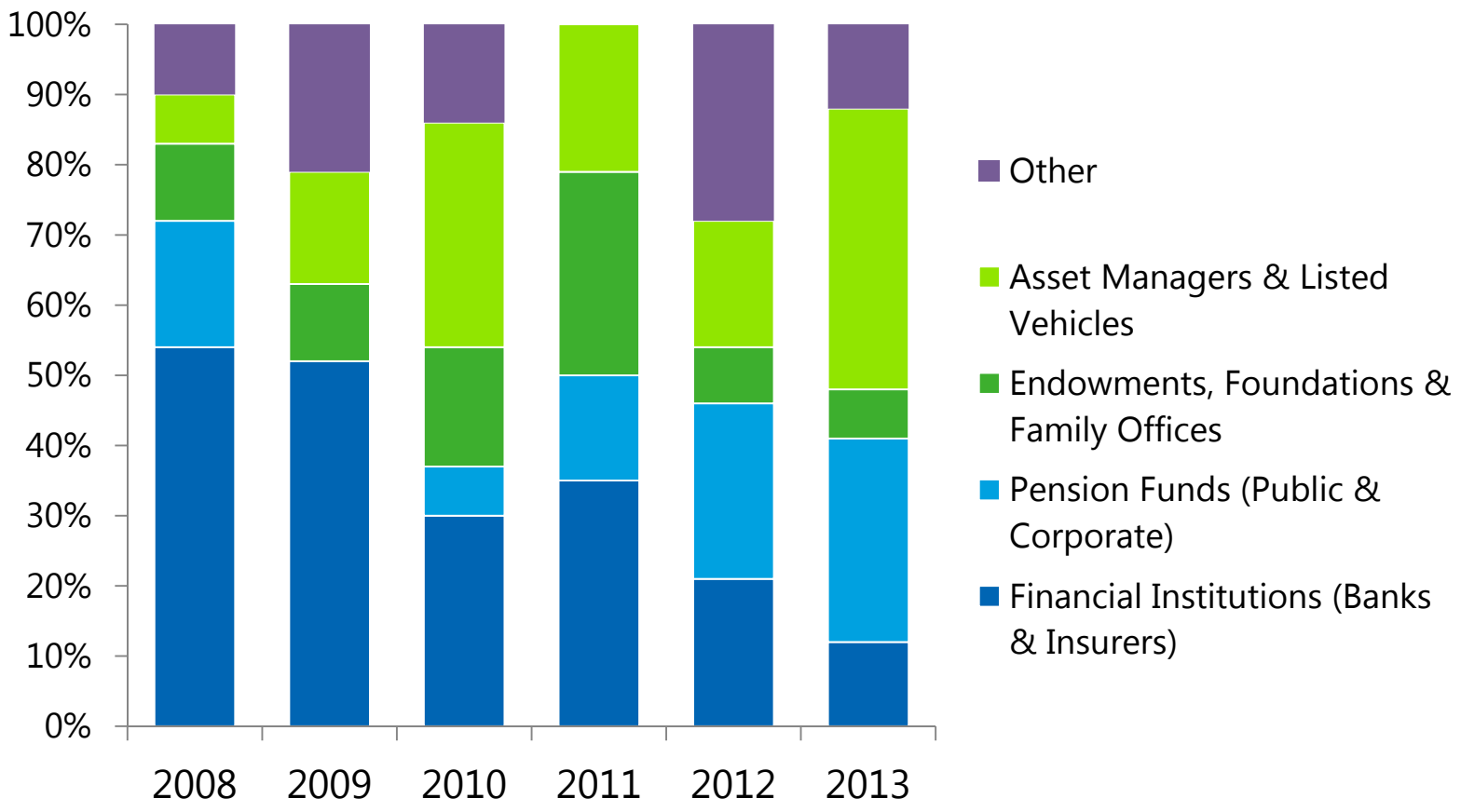
Transaction Volume in the Secondary Market (USD bn)



Source: UBS (as of 3/15/14)

For illustrative purposes only. There is no assurance this trend will continue.

Who are the sellers?



Source: UBS (2013)
For illustrative purposes only.

The emergence of the secondary market has been hailed as the advent of liquidity in an otherwise illiquid asset class

Secondary Volume Hit $15B in First Half
- LBO Wire, September 16, 2013

Buyout fund sell-offs fuel secondary market
- Financial News, July 31, 2013

Secondary Market Volume Higher Than Previously Assumed
- Deal Market, September 26, 2013

Are Secondaries Discounts Really a Bargain?
- Private Equity News, September 16, 2013

A buoyant private equity secondary market
- FTSE Global Markets, June 10, 2013

Secondary Deals Slow, But GPs Continue to Raise Big Funds
- Wall Street Journal, September 5, 2013

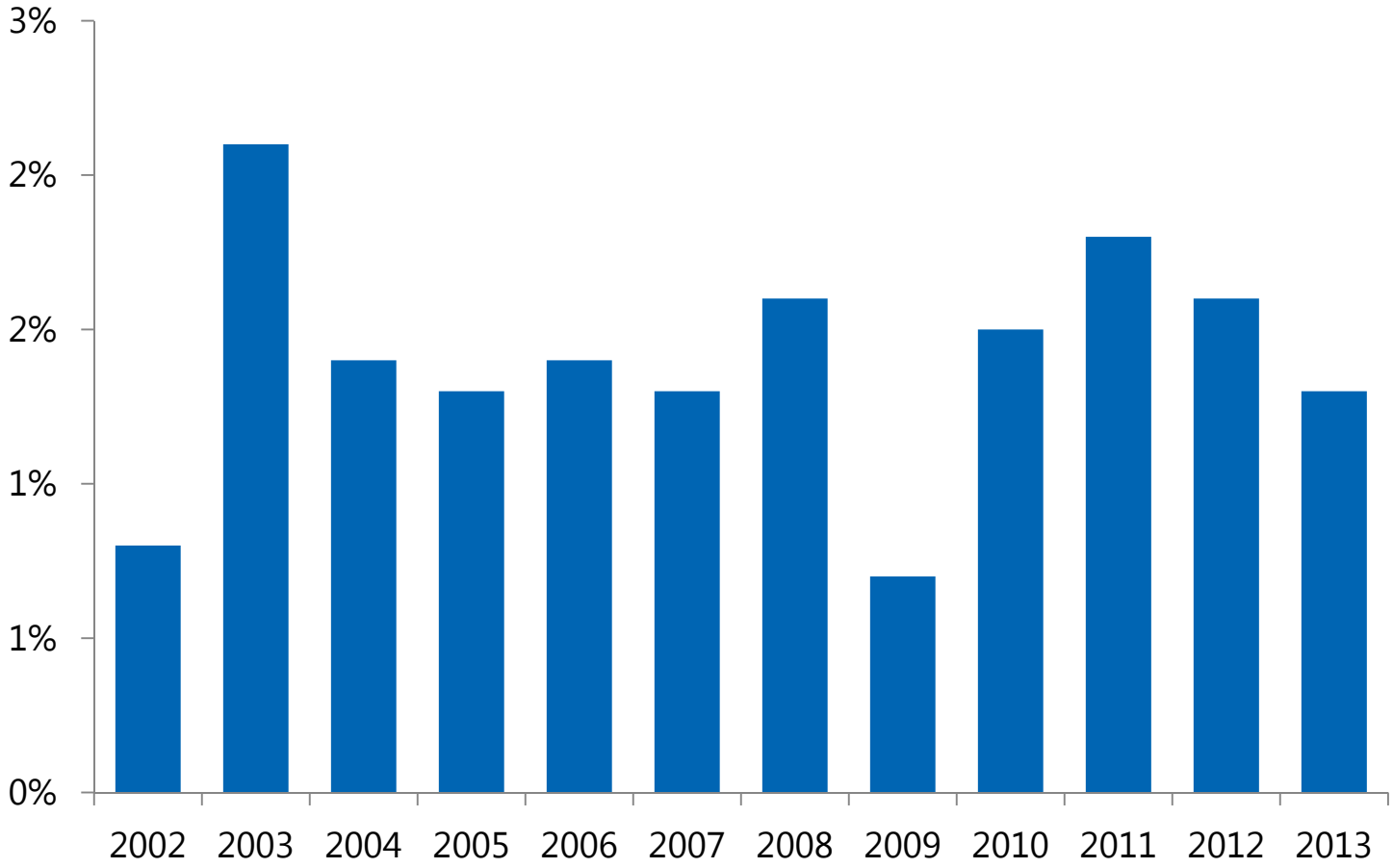
Secondary Market for Private Equity Heats Up
- Institutional Investor, Feb 5, 2013

Rise of the non-traditional buyer
- PEI, July/August 2013

Nearly 100% of LPs Expect Secondary Market Activity to Match or Beat 2012 Levels
- PE Hub, March 21, 2013

But the secondary market is still in "adolescence" and has a long way to go before it is mature

Transaction Volume in % of private equity assets (NAV, plus unfunded commitments)



Source: UBS (2013).
For illustrative purposes only.

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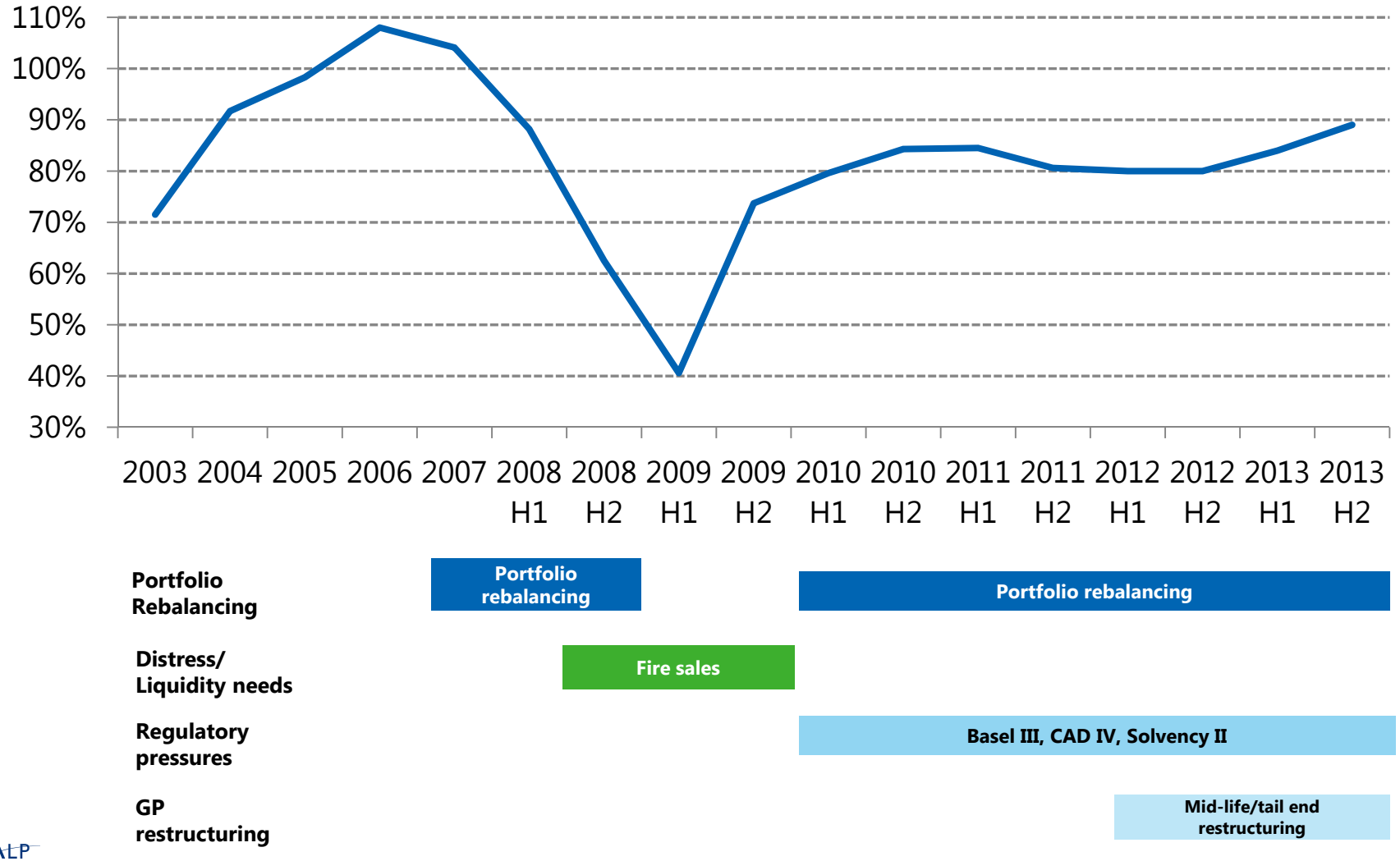
During the global financial crisis ("GFC"), the number of sellers jumped, but there were few buyers, resulting in a collapse of secondary prices …

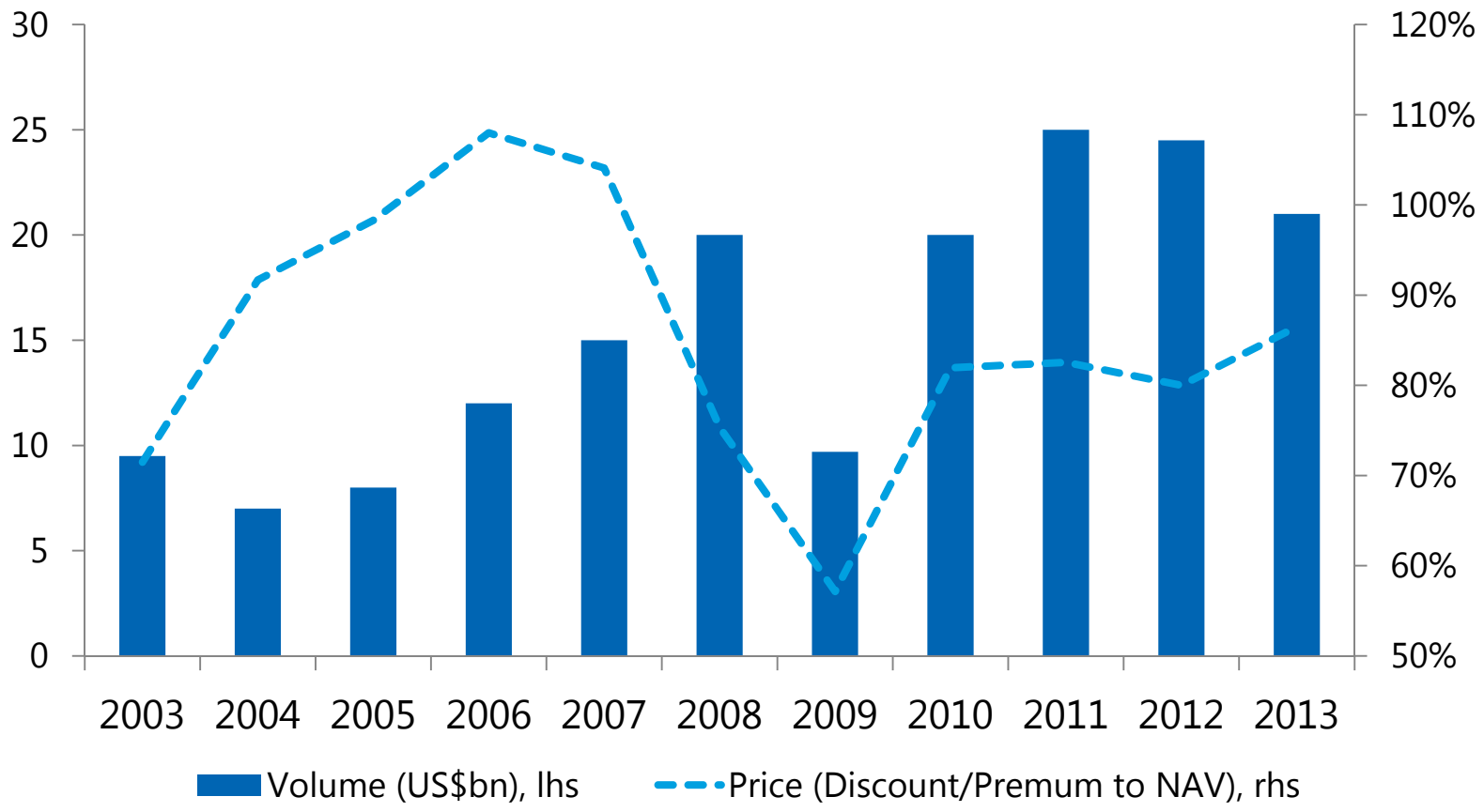
Average high bids in secondary market as a percentage of NAV



Source: Cogent Partners (as of Q1 2014). Most recent data available used. For illustrative purposes only.

… as well as volumes

Transaction volume in the secondary market and first-bid offer prices



Source: UBS, Cogent Partners, Q1 2014.
For illustrative purposes only.

The price dynamics during the GFC reveal the particular characteristics of how buyers and sellers form their price expectations

The Seller's Perspective

- Key issue is the deviation of the price a buyer offers from the fund's NAV provided by the GP.
- A transaction at a discount creates a loss on the seller's books.
- Losses may be particularly painful for private equity investors as their compensation tends to be tied more closely to performance.
- Sellers tend to employ lower discount rates than potential buyers, who usually have an informational disadvantage and therefore require a higher risk premium.
- The discrepancy may be particularly large if the seller is a pension fund, which for actuarial reasons uses a low target rate of return.

The Buyer's Perspective

- Determining the offer price for a stake in a private equity fund requires pricing each underlying portfolio company as a function of a set of key variables (EBITDA, cash position, debt, exit multiples etc).
- Valuing VC stakes tends to be even more challenging as many companies have no revenues.
- Valuing unfunded commitments is usually based on a GP's track record and governance factors.
- Given these uncertainties, buyers typically work with different scenarios and require significant risk premiums.
- The required risk premiums vary over time, reflecting macro and market uncertainties.

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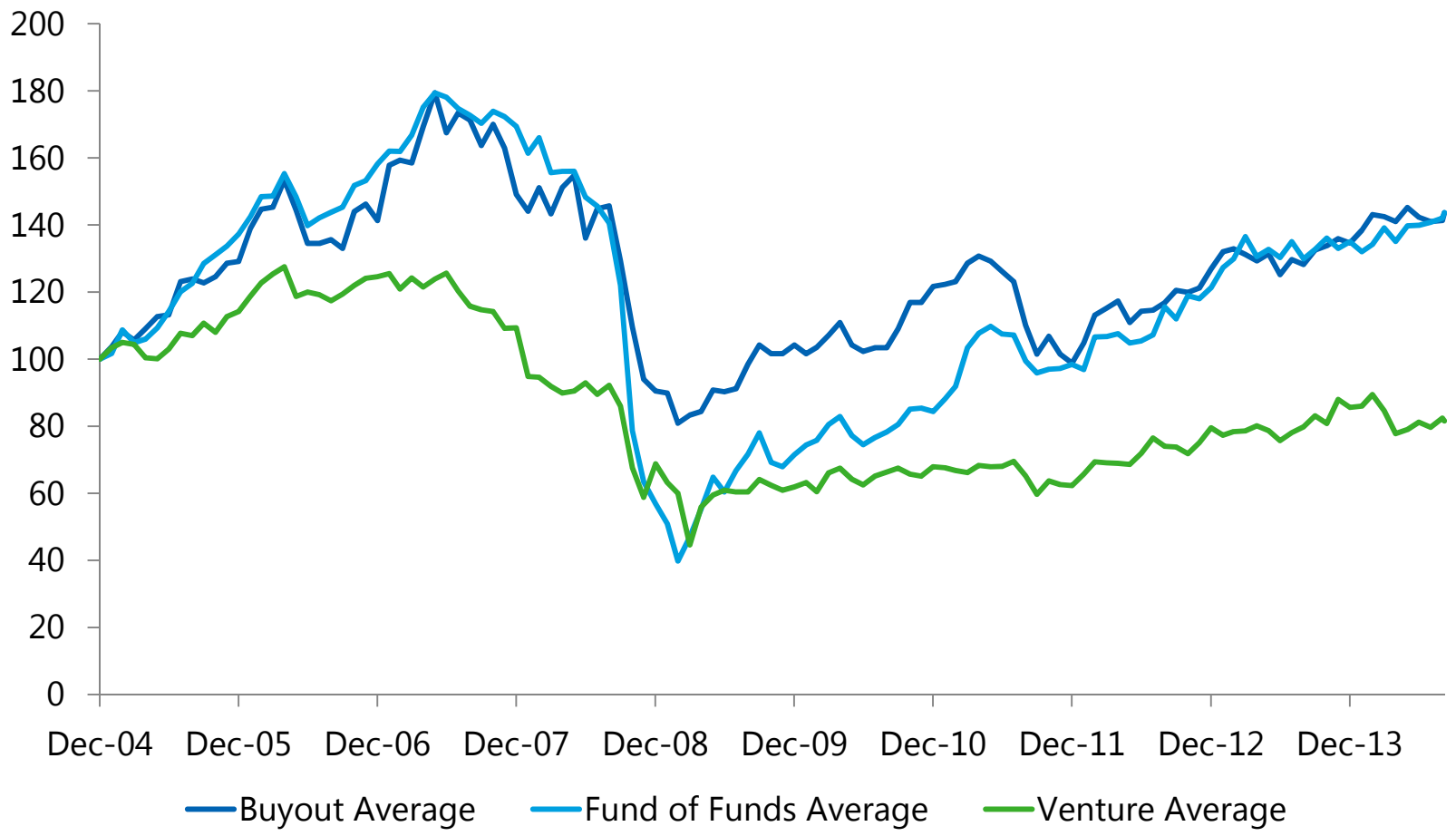
Source: Cornelius et al. (2013). Mastering Illiquidity. Wiley. Chapter 6.
For illustrative purposes.

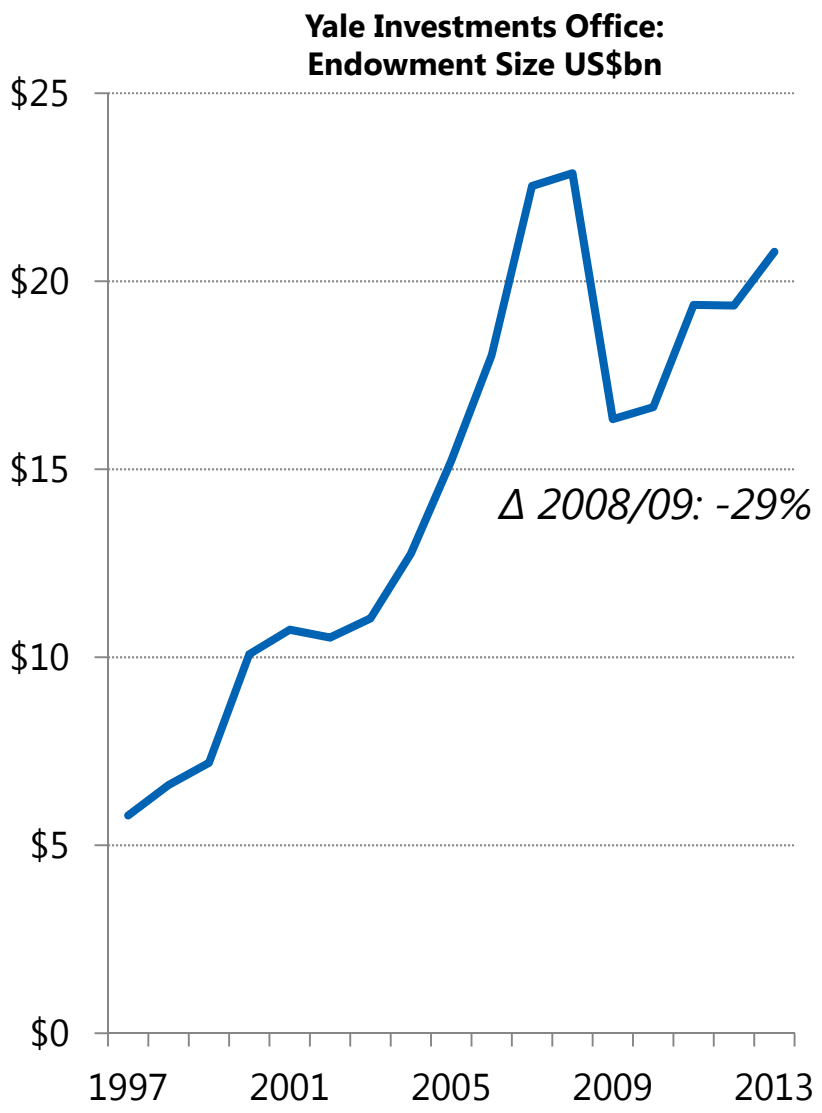
Similarly, the share price of listed private equity, which tends to follow the NAVs of the underlying portfolio companies, fell sharply

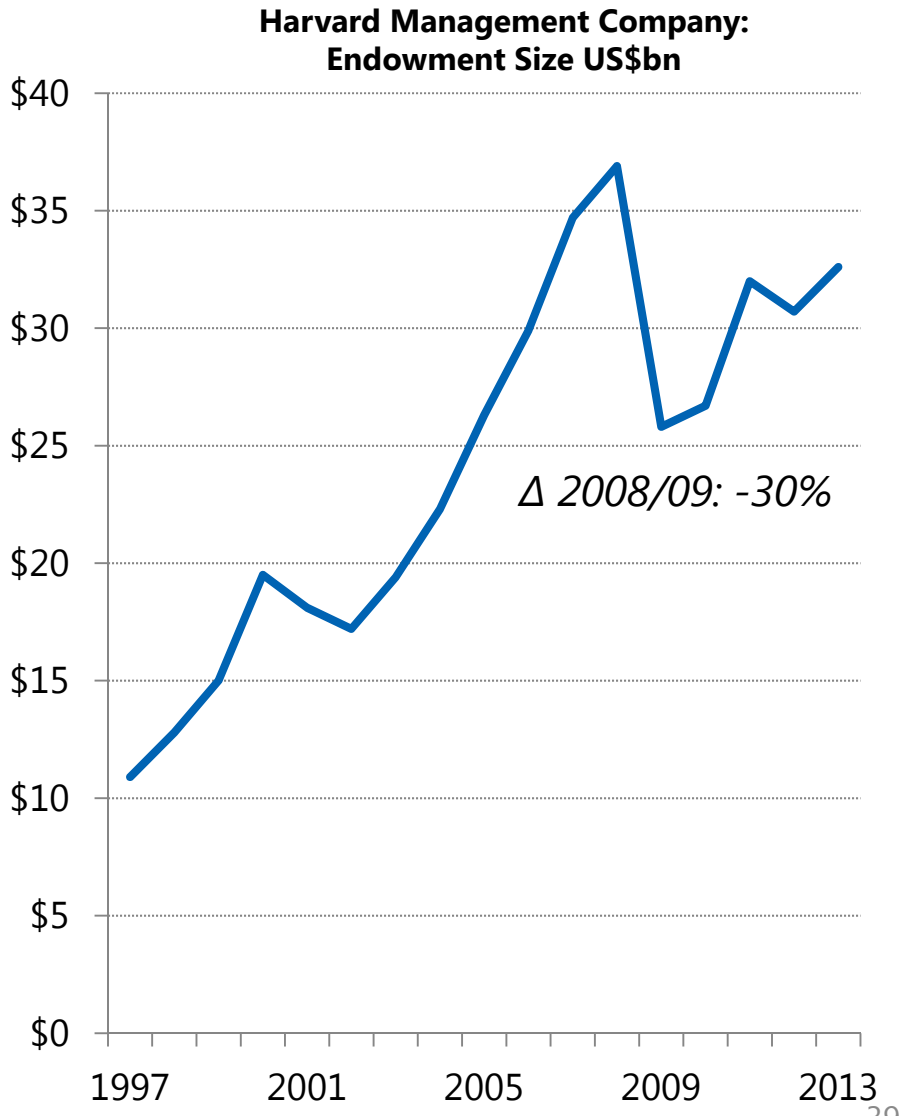
Listed Private Equity Share Prices (December 2004 = 100)



Source: Preqin (as of 9/15/14).
For illustrative purposes only.

During the GFC, many investors suffered substantial losses …





Source: Yale Investments Office; Harvard Management Company, Annual Reports (various issues).
For illustrative purposes only.

… as they became increasingly desperate for liquidity

"**Desperate for cash**, Harvard Management went to outside money managers begging for a return of money it had expected to keep parked away for a long time.
It tried to sell off illiquid stakes in private equity partnerships <u>but couldn't get a decent price</u>.
It **unloaded two-thirds of a $2.9 billion stock portfolio** into a falling market.
And now, in the last phase of the cash-raising panic, the university is **borrowing money, much like a homeowner who takes out a second mortgage in order to pay off credit card bills**.
Since December Harvard has raised $2.5 billion by selling IOUs in the **bond market**. Roughly a third of these Harvard bonds are tax exempt and carry interest rates of 3.2% to 5.8%. **The rest are taxable, with rates of 5% to 6.5%."**

Forbes, 26 February 2009

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But what's the alternative?
(especially in a period of extremely low interest rates)

" There have been some articles that have criticized the Yale model and my role in managing the endowment. And I think that's odd. … What is the alternative? Aside from the heroic impossible alternative of being **100 percent in treasury bills?**"

David Swensen, Yale Investments Office

Financial Times, 11 October 2009

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Agenda

- Private Equity as an Asset Class and Investment Risks
- The Evolving Role of the Secondary Market
- Conclusions: Implications for Risk Management

The secondary market should not be considered as a risk management tool

- The secondary market represents a major innovation, with features that are of interest to both sellers and buyers, e.g.
  - Portfolio management
  - J-curve mitigation
  - Faster exposure to private equity
  - Potentially attractive risk-adjusted returns
- Given these features, it is anticipated that the secondary market will continue to grow.
- But it is not a risk management tool.
- Nor is the secondary market an appropriate mechanism to determine the fair market value of assets held by limited partnership funds.

For illustrative purposes only. The views and opinions provided herein are subject to change based on market and economic conditions and may not necessarily come to pass.

Instead of relying on the secondary market, LPs should carefully monitor their commitment risk on the basis of various funding tests

- Over-Commitment ratios ("OCR"):
  - $OCR = \frac{undrawn\ commitments}{resources\ available\ for\ commitments}$
  - $OCR_1 = \frac{undrawn\ commitments}{cash\ reserves\ \&\ liquidity\ facilities\ available\ for\ commitments}$
  - $OCR_2 = \frac{undrawn\ commitments}{cash,\ liquidity\ facilities\ \&\ proceeds\ from\ highly\ liquid\ assets\ available\ for\ commitments}$
  - Over-commitment strategies of OCR > 120% would seem increasingly imprudent, given LPs' experience during the GFC.

Source: Cornelius, Diller, Guennoc, Meyer (2013).
For illustrative purposes only.

Managing commitment risks should be part of an holistic risk management approach

Risk Management

Independent Market & Sector Research

- Proprietary market research & allocation strategies
- Sector views from dedicated teams
- Engagement with industry leading organizations including ILPA

Prudent Portfolio Construction

- Prudent approach to portfolio construction through investment selection & diversification
- Proprietary asset allocation & risk management research
- Integrated portfolio construction process within both diligence and global Investment Committee process

Sector Expertise

- Investment teams dedicated by sector
- Proprietary database of funds & underlying companies

Risk / Return Benchmarking

- Multi-stage investment process with input from IC throughout the process
- Internal & external databases to assess risk / return

Independent Underwriting

- Review underlying company operating metrics & valuations of unrealized companies
- Take view on potential returns to compare with GP view
- Utilize outside experts to validate GP assumptions

Legal Review / Framework

- Access to internal legal experts to negotiate terms & improve alignment of interests
- Access to internal experts to understand regulatory & tax considerations of investment structure
- Develop relationships with LPs to compare notes on market terms

J-Curve Mitigation Strategies

- Complement portfolio with shorter duration strategies to lower illiquidity risk
- Develop complementary portfolios to fill exposure gaps to minimize vintage year risk

Funding Tests

- Ensuring that capital calls can always be met
- Optimizing commitment strategies

Active Monitoring

- Dedicate deal leaders to manage investments throughout the life. Investment Committee oversight of the process
- Instill comprehensive regular investment review process
- Re-underwriting of investments within the reviews

Portfolio Value-Add

- Utilize industry network to add value to GPs
- Active board participation; including taking lead advisory board member roles
- Independent diligence review & strategic introductions to managers

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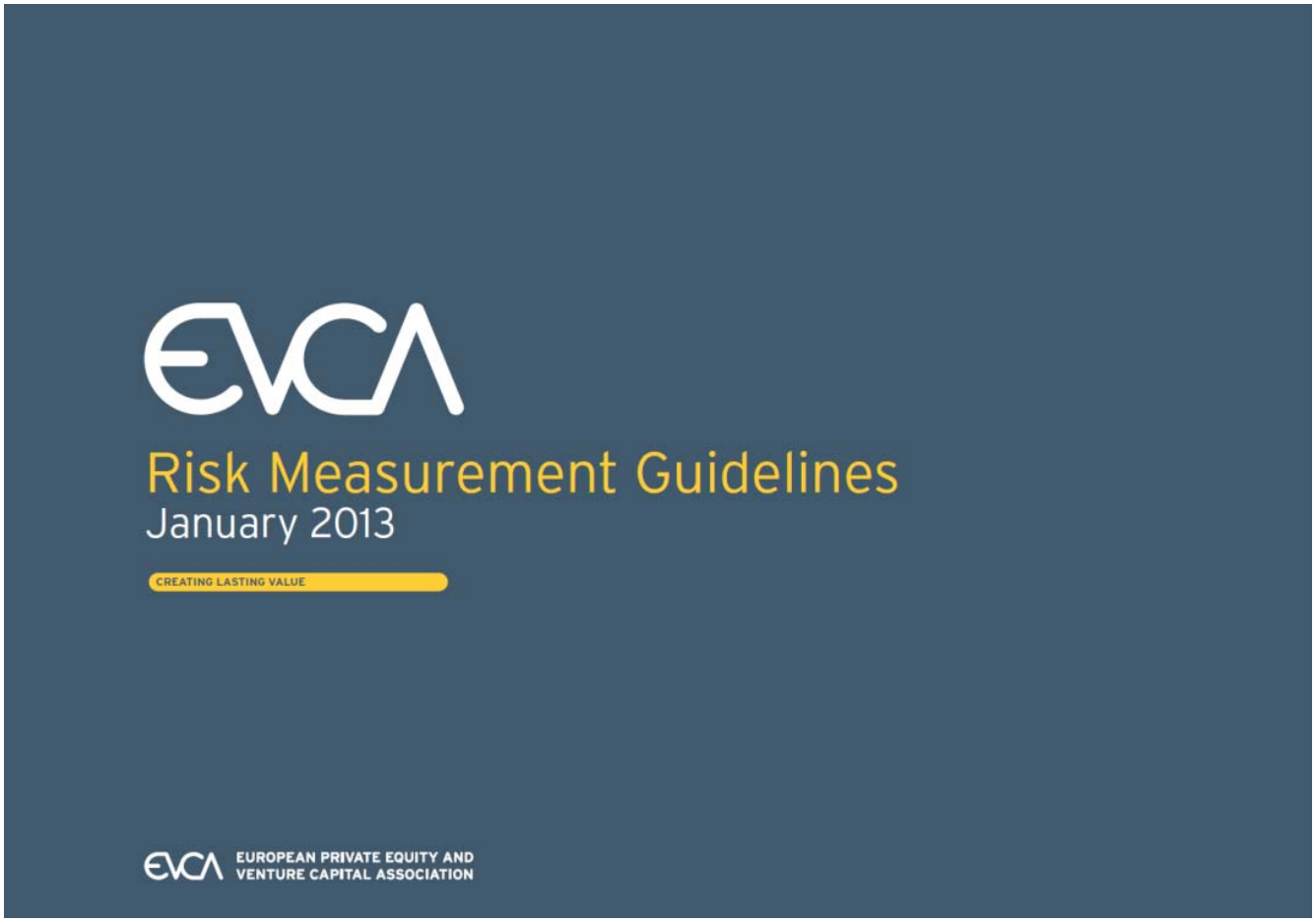
Further reading



Thank you!