

Listed Private Equity/Listed Infrastructure

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Designed to represent

Alternative Asset Classes.



- **LPX Group – Background**
- Listed Private Equity – Introduction
- LPX50 – Global Listed Private Equity Index
- Why invest in Listed Private Equity now ?
- Listed Infrastructure – Introduction



LPX Group is a leading provider of Listed Private Equity / Listed Infrastructure Indices since 2004

- First Mover in the field of Listed Private Equity
- LPX and NMX indices are representative benchmarks for Private Equity and Infrastructure assets. They are used by more than 1000 clients in the financial community
- Leading Research House in the field of Listed Private Equity and Listed Infrastructure with 100+ vehicles under live-coverage

Competence based on academic work completed in 1999

- First research project at Basel University (WWZ) under the leadership of Prof. Dr. Heinz Zimmermann.
- Development of two distinct data bases which focus on listed private equity (LPE) and listed infrastructure.

LPX Index Family		
LPX Composite		
Global	Regions	Styles
LPX50	LPX Europe	LPX Buyout
LPX Major Market	LPX America	LPX Venture
	LPX UK	LPX Mezzanine
		LPX Direct
		LPX Indirect
Designed to reflect the risk & return characteristics of the largest and most liquid listed private equity companies	Designed to reflect the risk & return characteristics of listed equity companies with a focus on geographical regions	Designed to reflect the risk & return characteristics of listed private equity companies with a focus on investment styles

Index Series	LPX Equity Index Series	LPX NAV Index Series	LPX NAV P/D Index Series
Measurement	Value creation of (listed) private equity on the exchange	Fundamental value creation of (listed) private equity	Price to Book ratio of private equity over time
Application	Financial products, benchmarking	Benchmarking	Pricing indication for secondary market, pricing indication of LPE
Input	Stock prices of the LPE constituents	Net asset values of the individual constituents	Market prices and net asset values of the individual constituents
Financial Products	ETFs, Index linked investment products, Certificates	n/a	n/a

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Characteristics	Primaries (closed end funds)	Secondary Fund	Listed Private Equity
Lock-up	8-10 years	2-4 years	No lockup
Transaction costs	High	High	Low
Diversification	Low	High	Very High
Exposure to PE	Over time	Immediate	Immediate
Discounts	No	Yes	Yes
Transparency	Low	Low	High
Governance	Low	Low	High

There are three main organizational forms of listed private (LPE) equity vehicles:

1. LPE vehicles that invest **directly in private companies**



Deutsche
Beteiligungs AG



2. LPE vehicles that invest in **private equity funds**

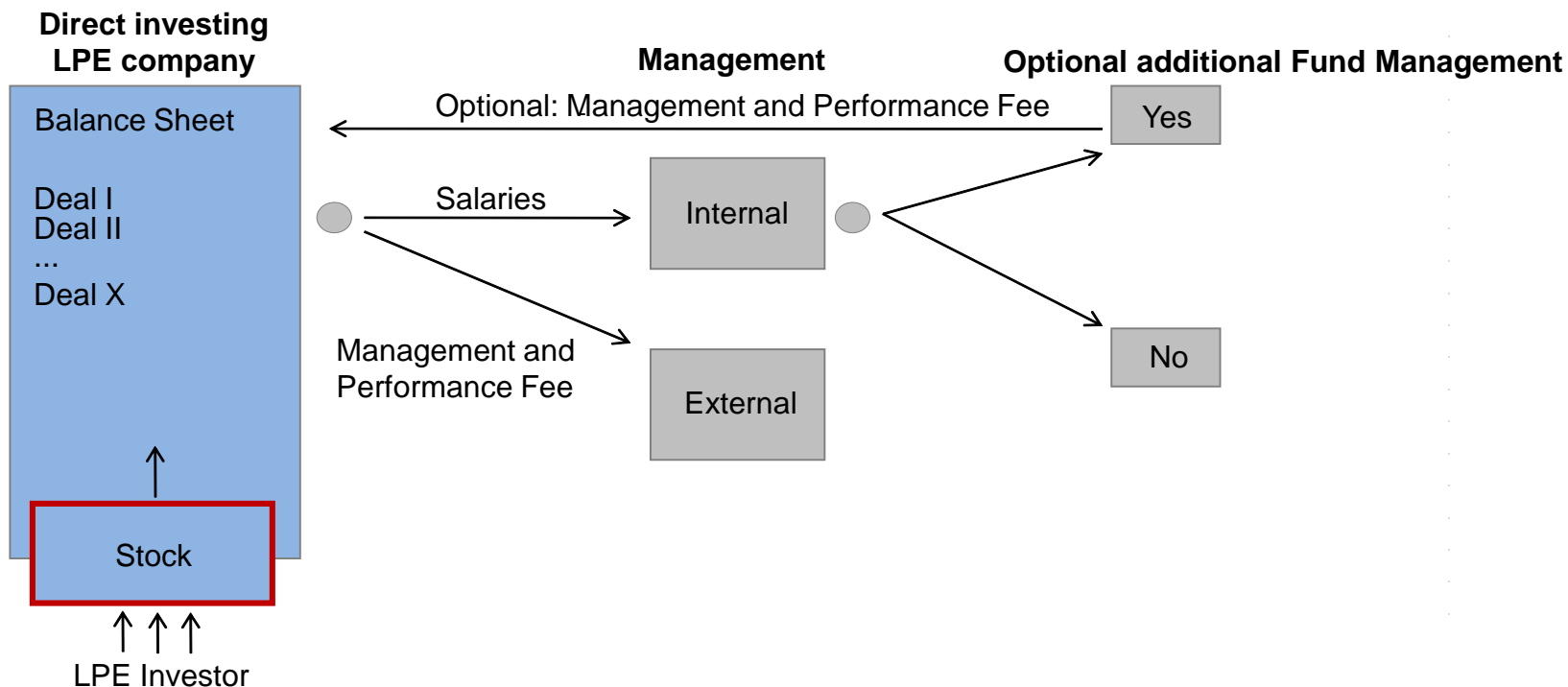


3. Private equity **fund manager**

The  Group[®]

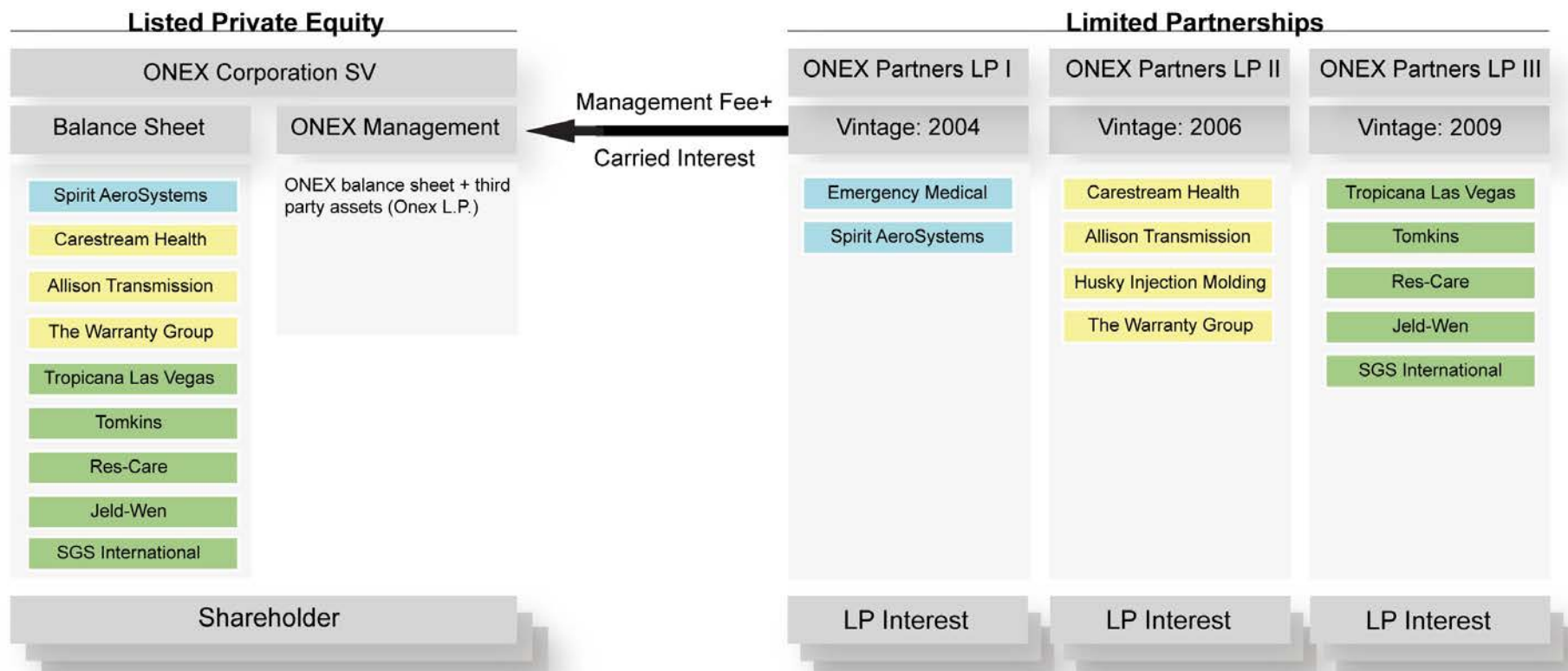


- In the space of Listed Private Equity the predominant form are direct investing PE companies
- They mainly provide equity or mezzanine capital
- There is typically no lifetime („permanent capital“)



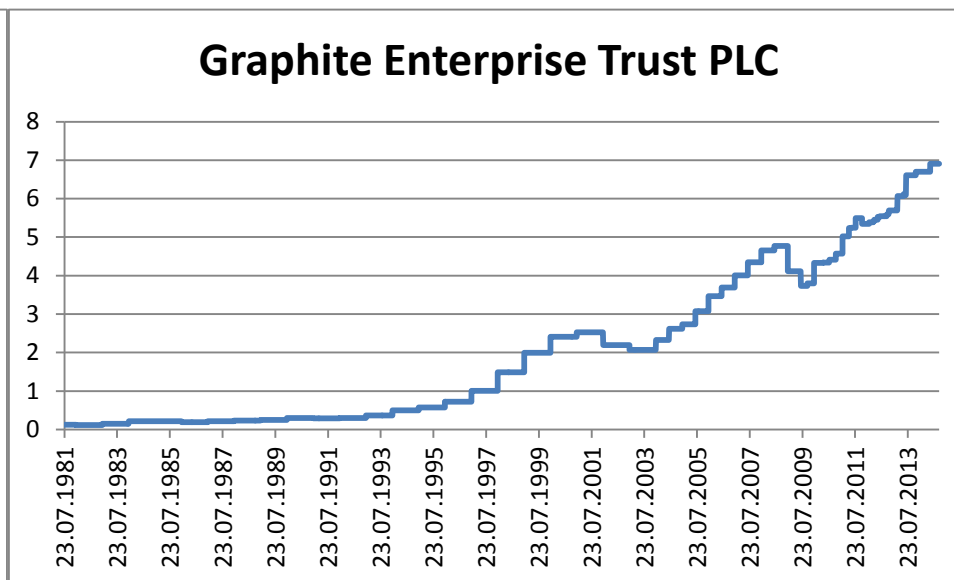
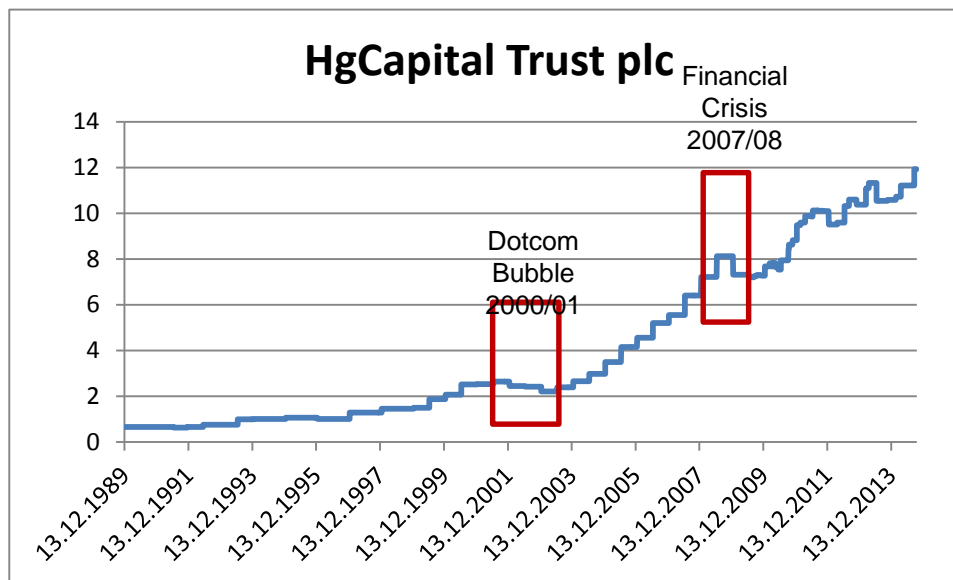
- Examples:





ONEX is listed on the Toronto Stock Exchange.

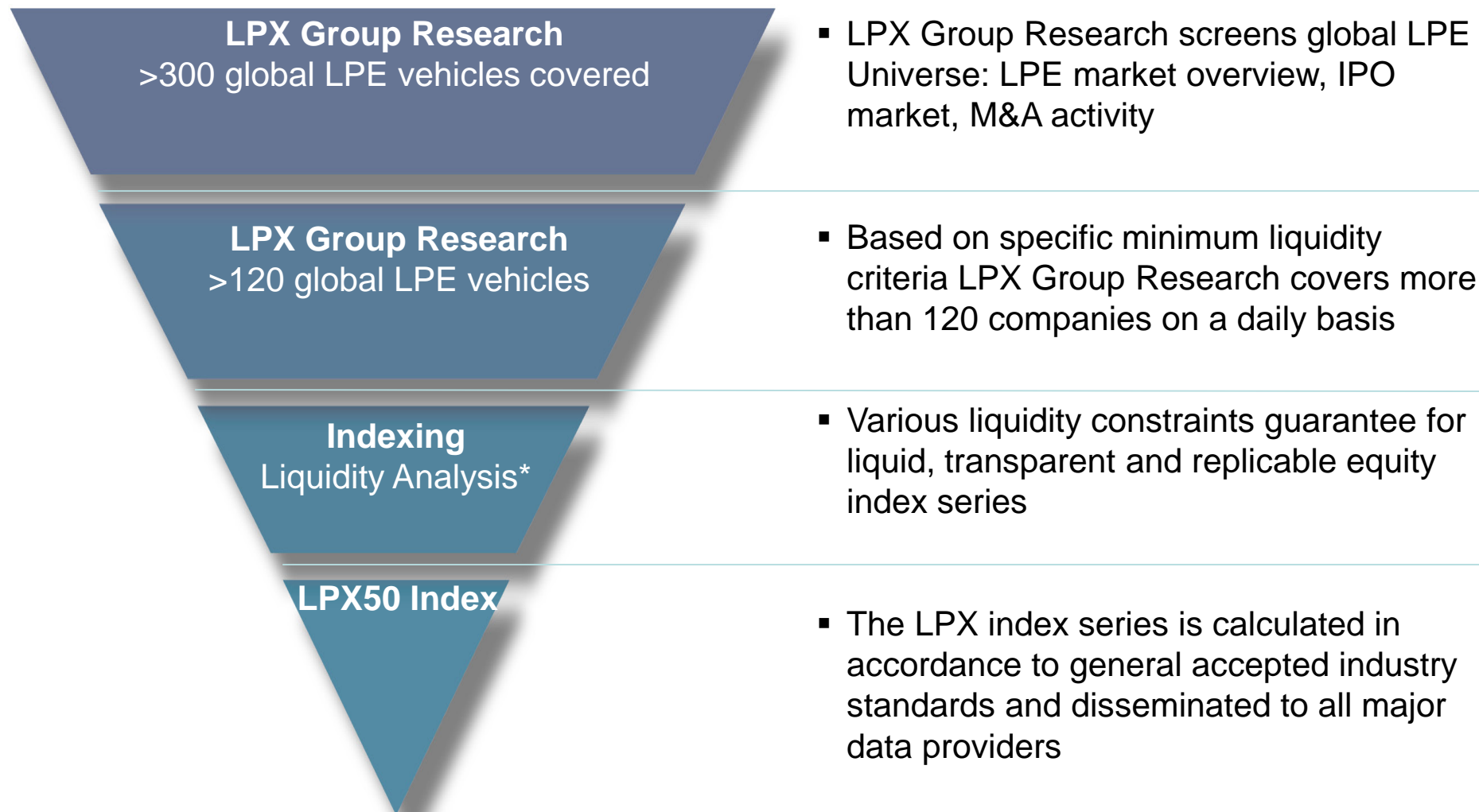
An ONEX shareholder has **immediate and liquid exposure** to a broadly diversified private equity portfolio and also participates from the **management fees and carried interest** streams generated by ONEX Management.



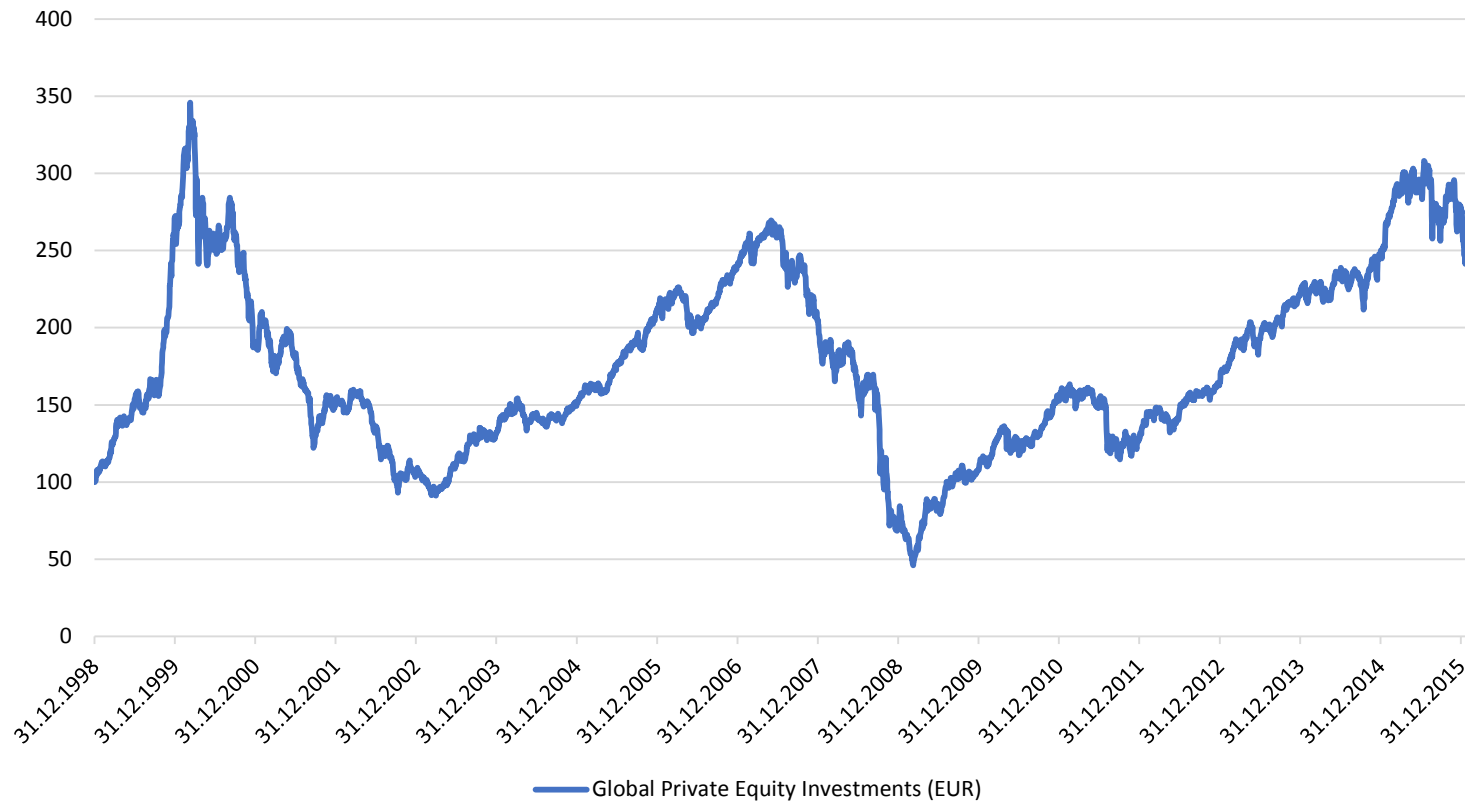
The graphs show the **NAV per share (book value)** of HgCapital Trust and Graphite Enterprise Trust

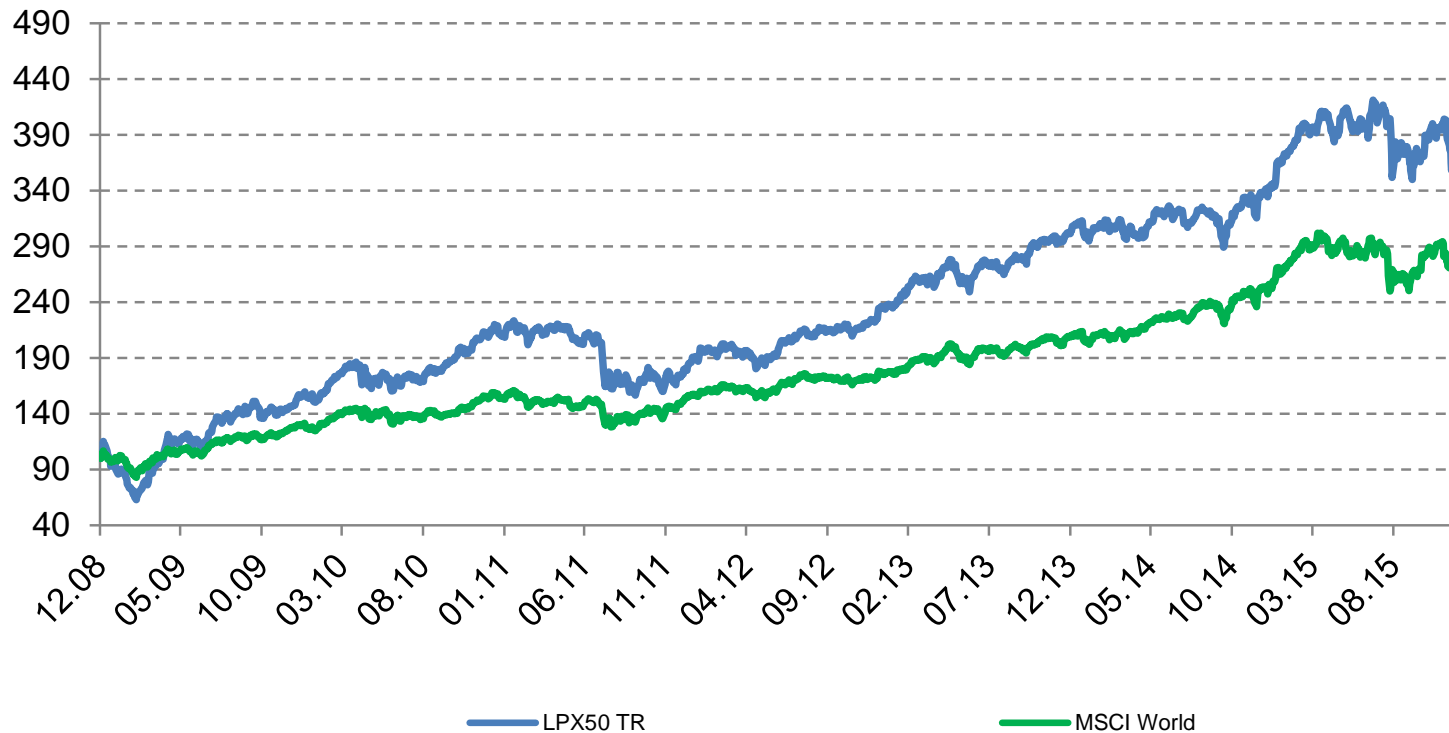
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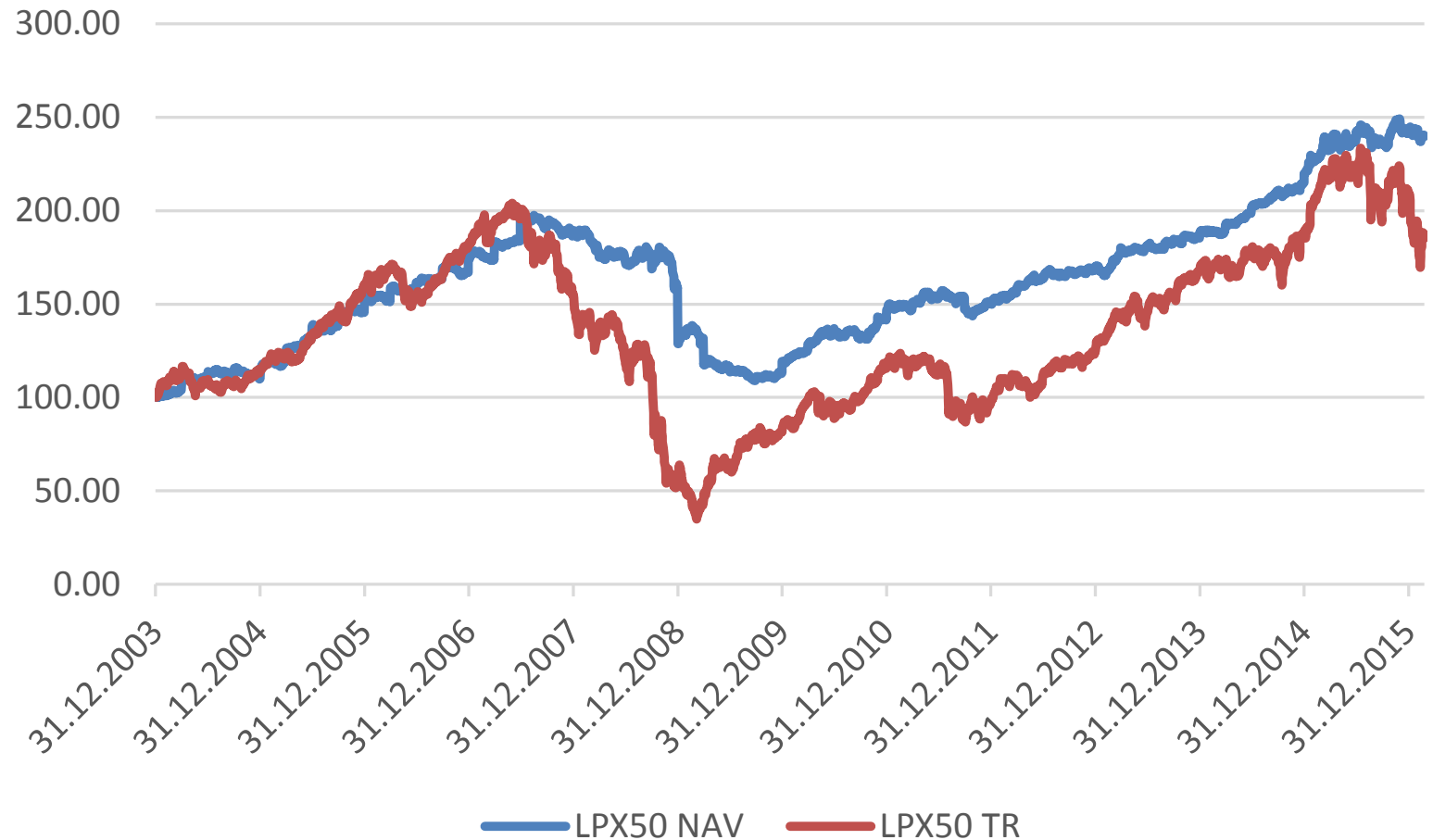


Global Private Equity Investments (EUR)

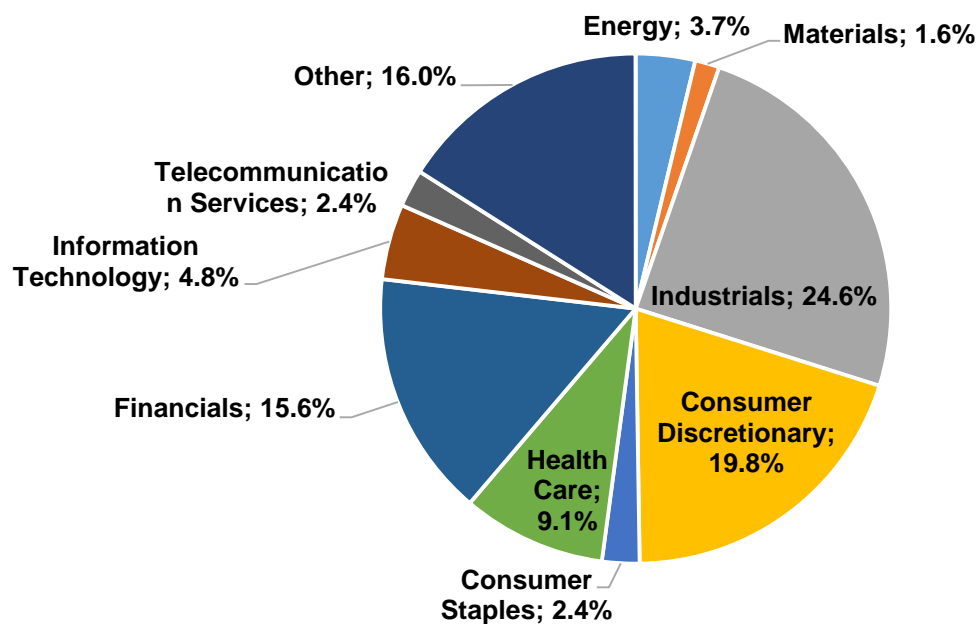




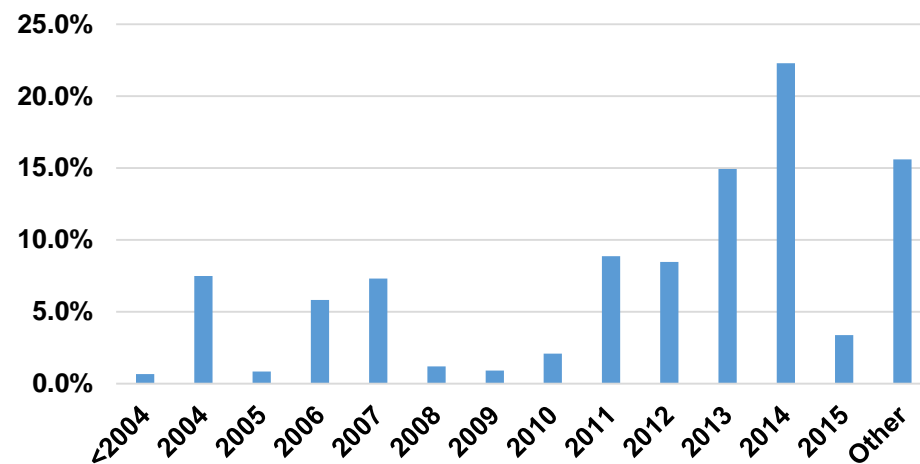
Return p.a.		
31.12.2009 - 31.12.2015	LPX50 TR	MSCI World
	21.08%	15.83%



Characteristics of Underlying Holdings



Vintage Years



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2008-2009

- High degree of leverage and over-commitments
- Discounts on a historical high level
- Refinancing risks

2009-2010

- *Performance drivers:* quantitative easing, low interest rates, stimulus packages
- Highly levered LPE-companies profited from this environment; LPE companies with cash increased their investment activities

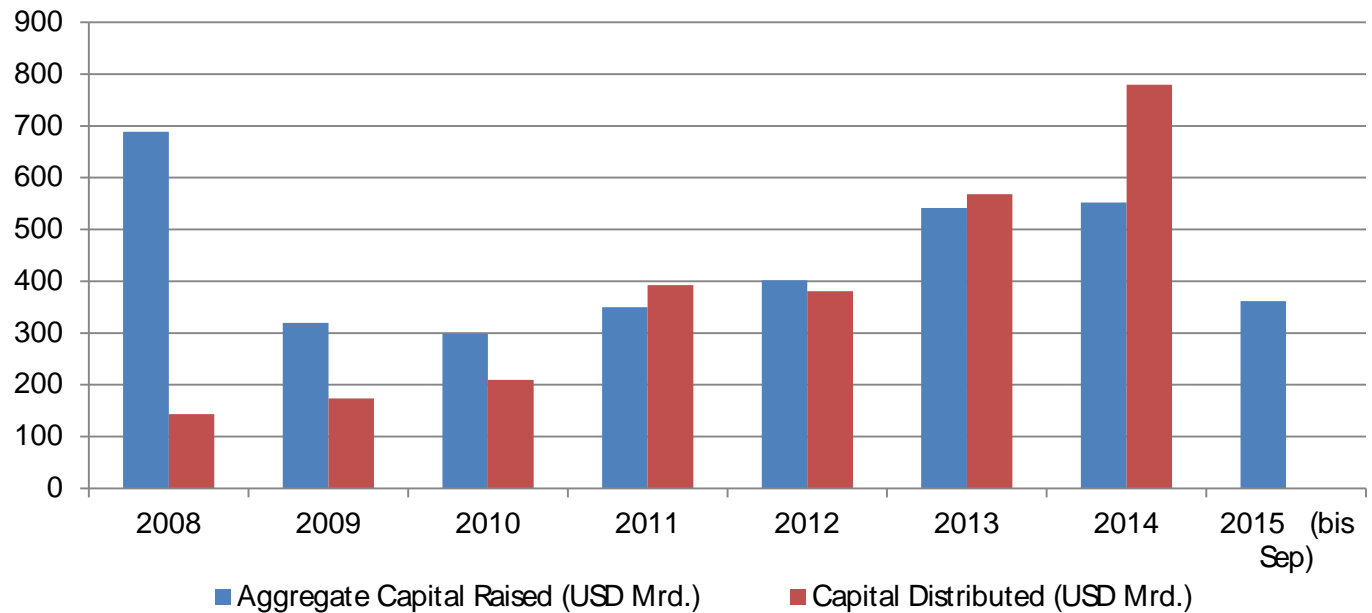
2011-2012

- *Performance drivers:* Moderate global economic growth & European debt crisis
- 2011: Private equity companies with an experienced management team with cash at hand use the high volatility for exits and selectively targeted new investments
- 2012: Private equity companies with the necessary financial resources carried out new deals at attractive rates

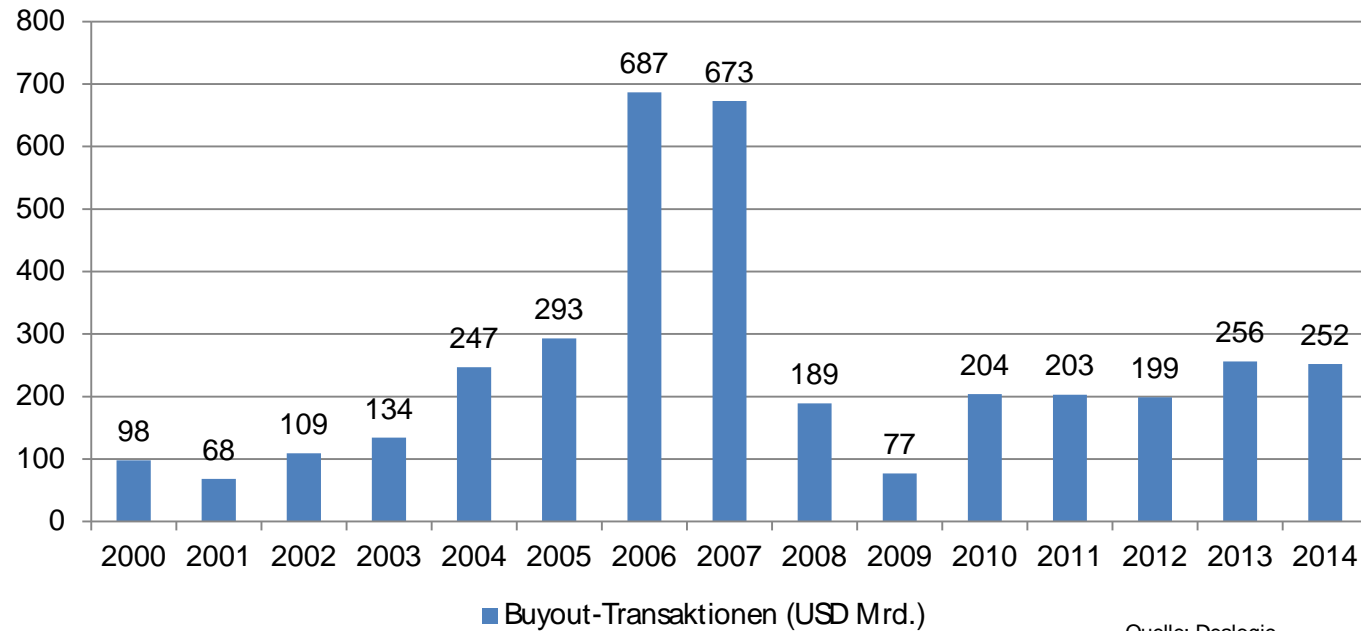
since 2013:

- *Performance drivers:* Exit routes for high-quality companies intact, which should lead to increasing NAVs; discounts should further decrease

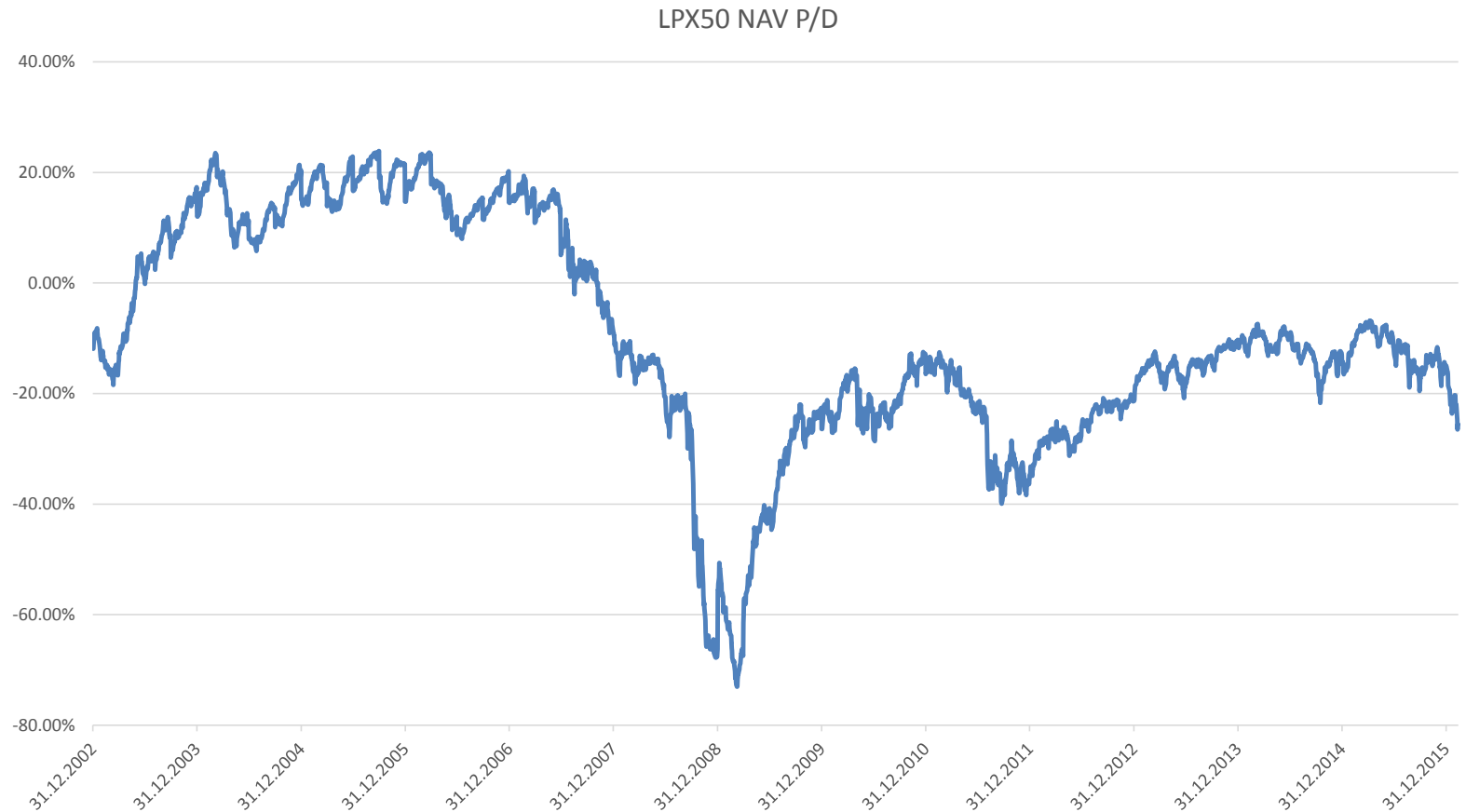
➔ **This trend continues**



Quelle: Preqin



Quelle: Dealogic





In the current environment managing the discount is a key performance driver for listed private equity companies

There are several **options to manage the discount**:

- **Introducing a dividend policy**
 - Paying a regular dividend
 - Every year (in case of need from the reserves)
 - Only when there is a profit
 - Paying special dividends
 - Based on capital gains of a single private equity transaction
 - Based on profits
- **Introducing share buy backs**
 - Share buy backs
 - Tender offers (share buy backs at a premium to the market price)



Option 1		Effect on discount
Regular dividend	every year	very high
	only when profit	medium
Option 2		Effect on discount
Special dividend	based on every capital gain	high
	based on profits	medium
Option 3		Effect on discount
Share buybacks	based on market price	medium
	at a premium to the market price	high



- **Investment at a discount:** Most of the Listed Private Equity vehicles trade below their fundamental value
- **Immediate access:** Listed Private Equity ensures for immediate access to a highly diversified Private Equity portfolio
- **Diversification:** Listed Private Equity companies are highly diversified across regions, investment styles, vintages and currencies and gives access to more than 2000 direct investments and 500 private equity funds
- **Return potential:** Due to the current valuation level investors will profit from the close of the discounts in the short to medium term. Historical analysis indicates that LPE outperforms traditional asset classes when discounts are above long-run historical average

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The infrastructure asset class offers investors a broad array of unique characteristics:

Infrastructure characteristics	Implications:
Long term and predictable cash flows	Predictable returns on investments
Inelastic demand for infrastructure services	Comparative low return volatility
Long-term nature of underlying assets and natural monopoly characteristics	Low technology risk and high barriers of market entry
Comparative low correlation to other asset classes	High diversification potential especially for investors with high risk aversion
Infrastructure service fees and rents are typically indexed to inflation measures	Natural inflation hedge for investors

- Since infrastructure instruments are not classified consistently by major industry taxonomies (e.g. GICS, ICB), LPX Group has established a research process in order to identify and classify a global universe of listed infrastructure instruments
- The research process ensures that only instruments are chosen, which exhibit a significant degree of infrastructure network characteristics
- The LPX Group infrastructure research is used by a broad array of investment professionals for the implementation of active & passive indexing strategies and benchmarking

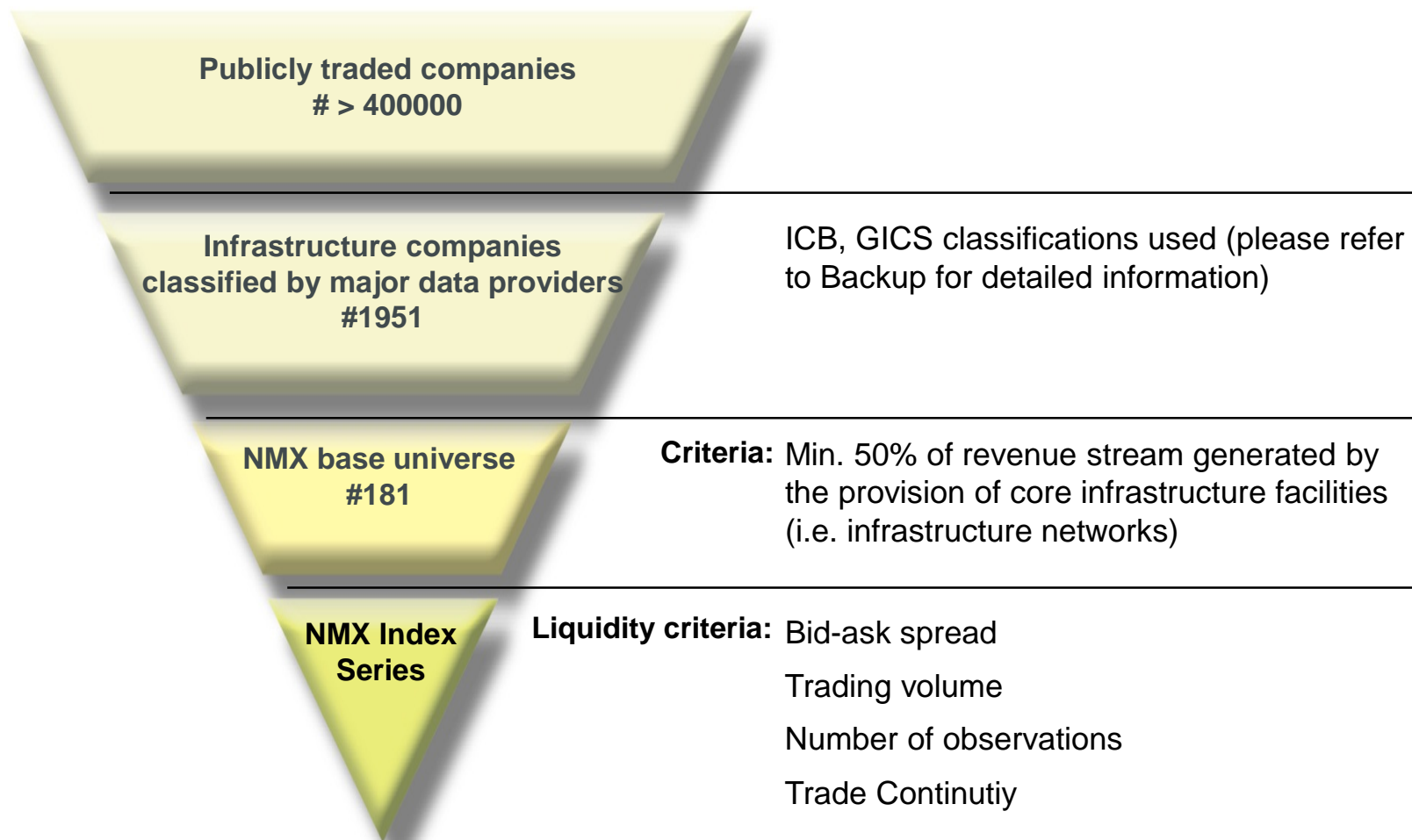
Sector	Subsector	Basic Infrastructure	Infrastructure Related
Energy	Energy Network	Grid networks	Gas-Oil extraction and refinery, maintenance services
	Energy Distribution	Gas-oil pipelines	Electricity generation, construction and maintenance
Transport	Airport	Airport site, runways	Airlines, passenger, cargo, and ground handling services
	Port	Berth, harbor facilities	Shipping lines, cargo services
	Toll Road	Roads, tunnels, bridges	Passenger/freight transportation, cleaning services
Water	n/a	Water pipes, sewer lines	Sanitation supplies, water chemicals
ICT	n/a	ICT networks, towers, satellites	ICT service providers, ICT supplies



NMX Base Universe



Not considered



Energy Conglomerates (Utilities)

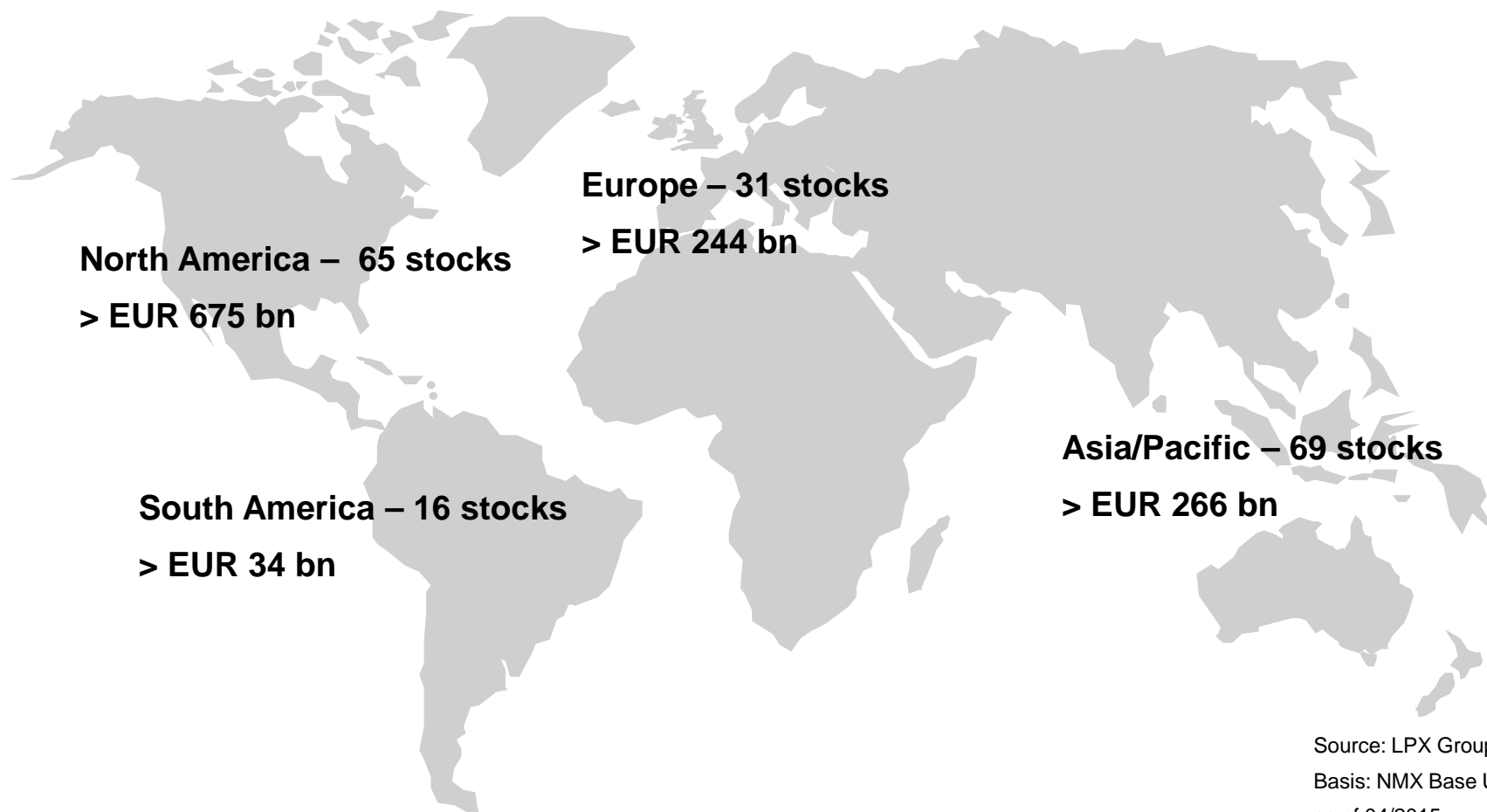
Business Lines	Power plant	Extraction Oil / Gas	Refinery	Network	Sale of supplies	Real Estate	Other Business Lines	
Energy-Conglomerate (e.g. E-on)	-	-	-	+	-	-	-	-

Basic Infrastructure: Energy

Business Lines	Power plant	Extraction Oil / Gas	Refinery	Network	Sale of supplies	Real Estate	Other Business Lines	
Grid-Operator (e.g. Terna)				+		-	-	+

- NMX Base Universe: At least 50% of revenue generated by the provision of basic infrastructure (network operations)
- Requirement: measurable basic infrastructure revenue contribution

+ basic infrastructure revenue contribution - Other revenues



Source: LPX Group
Basis: NMX Base Universe
as of 04/2015

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