

**Is an increase in Private Equity dry powder due to a lack of Private  
Equity investment opportunities or increased interest in Private  
Equity as an asset class?**

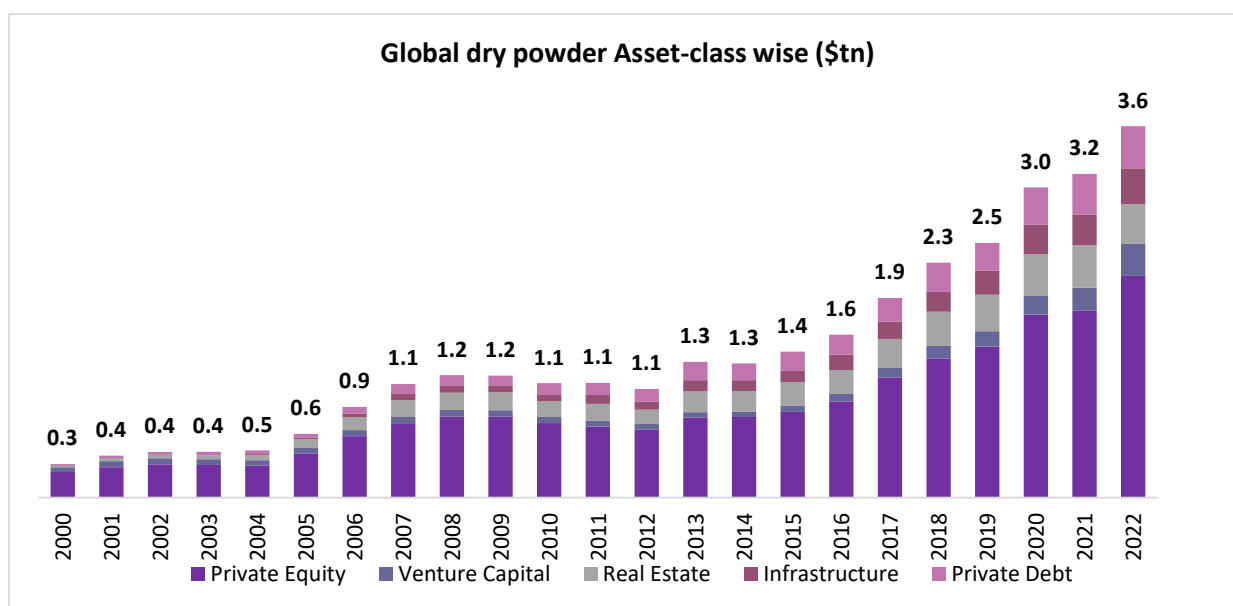
Rakesh Bawari

The Leonard N. Stern School of Business  
Glucksman Institute for Research in Securities Markets  
Faculty Adviser: Gustavo Schwed  
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## I. Introduction

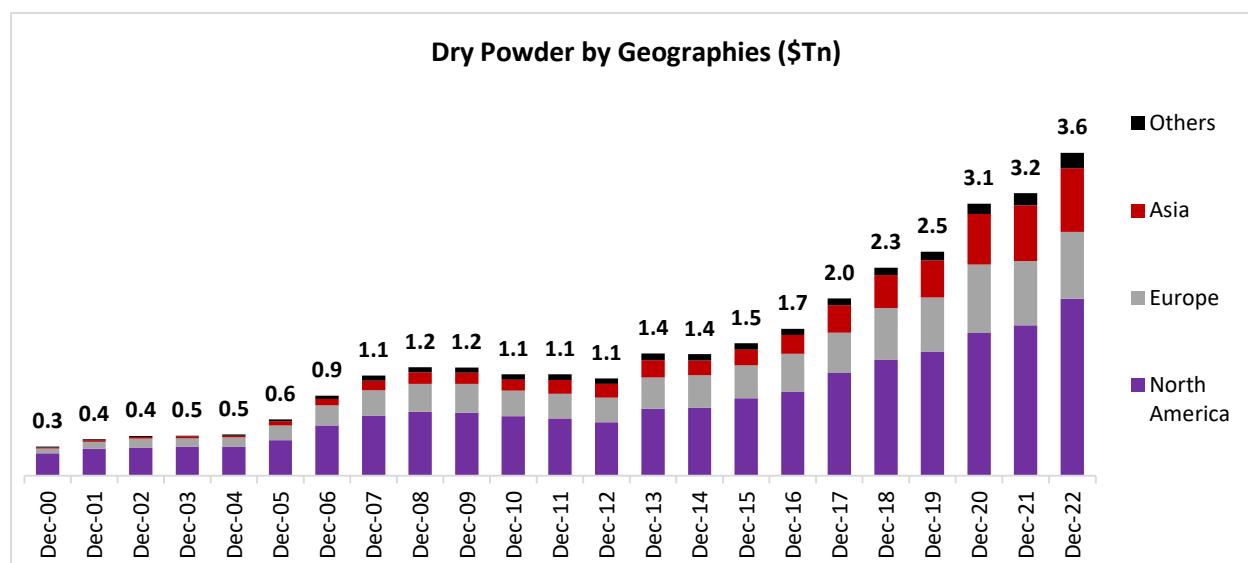
Dry powder is defined as capital committed by the limited partners (LPs) of investment firms like venture capital (VC) firms and traditional buyout private equity firms that remain undeployed and sitting in the hands of the firm.

Recently, the dry powder with alternative investment firms has reached its historical maximum at \$3.6Tn. Dry powder has increased consistently over the past 22 years with marginal declines seen during 2008 to 2012; However, even during COVID pandemic, we saw a consistent and gradual increase in dry powder from \$2.5Tn in 2019 to \$3.6Tn in 2022. The largest share of the dry powder is in the private equity asset class, which has increased from \$1.2Tn to \$2.2Tn in the past five years growing at 13% CAGR.



Source: Preqin

Further, the increase in dry powder has been across geographies. North America has the highest concentration of dry powder at 55%. However, other major geographies such as Europe and Asia also have 20-21% of dry powder each, as reflected below.



Source: Preqin

This paper aims to focus only on Private Equity asset class which comprises the largest portion of dry powder. Further, this paper aims to determine whether the increase in dry powder in private Equity is significant and if it is, then the reasons for the increase in dry powder.

Firstly, this research paper looks into whether the increase in the private Equity as an asset class is in line with the increase in total capital (private and public) or has the increase in Private Equity asset class more than the other traditional asset classes viz. Equity and Debt.

Secondly, this research paper will investigate whether the dry powder has increased disproportionate to the AUM (which includes both unrealized value and dry powder) or is the dry powder increase higher than the AUM increase, which signifies among other things, an increase in interest in Private Equity, and/or decrease in investment opportunities.

## II. Data & Methodology

To explore the above questions, we obtained data from various sources like Preqin, S&P Capital IQ, Bank for International Settlements, Sibilis Research, etc. The data on Private Equity industry returns, dry powder, capital raised, AUM etc were obtained from Preqin. Preqin compiles comprehensive data on Private Equity

Industry AUM, capital raised, and performance metrics such as net IRR and TVPI. In addition to providing data on private equity funds, Preqin also tracks the performance of private equity-backed companies and their exits, as well as the fundraising activity of limited partners and the investment activity of general partners. Preqin's data is used by investors, fund managers, and service providers to the private equity industry to make informed investment decisions, evaluate the performance of their portfolios, and gain insights into the trends shaping the industry.

For Private Equity returns, data has been obtained from Preqin. The Preqin Private Equity Quarterly Index is a widely recognized benchmark for private equity returns. The index measures the performance of buyout, venture capital, growth, and other private equity strategies globally. It provides investors with an overview of the private equity market and helps them track the performance of their investments. The Preqin Private Equity Quarterly Index is based on data collected from more than 8,500 private equity funds, representing over \$4.5 trillion of committed capital. The index is calculated using a modified public market equivalent (mPME) methodology, which adjusts for differences in the timing and size of cash flows between private equity and public market investments. The index is published on a quarterly basis and includes information on fund-level returns, regional performance, and sector performance. Investors can use the Preqin Private Equity Quarterly Index to compare the performance of their private equity investments to the broader market and make informed decisions about their investment strategies. The data on horizon pooled returns for Private Equity and Venture Capital was obtained from Cambridge Associates.

The data on bank debt was available from BIS, and the data on Equity capital market was obtained from Sibilis Research, and S&P Capital IQ. The S&P 500 valuation data is obtained from Bloomberg S&P 500 Index, valuations tab. The data for investor allocation to Private Equity has been obtained from CEM Benchmarking's report titled "Benchmarking the Performance of Private Equity Portfolios of the World's Largest Institutional Investors: A View from CEM Benchmarking" dated December 2018.

### **III. Literature Review**

The increase in the amount of dry powder in private Equity in the United States has been the subject of numerous research papers and articles. Private equity firms have raised record amounts of capital in recent years, resulting in significant amounts of uninvested capital on hand. This literature review examines the various reasons for the increase in dry powder in the US, as well as the potential implications for investors and the broader economy.

There has been some research on the reasons for the increase in dry powder in private Equity in the US. According to a research paper by Bain & Company, the increase in dry powder can be attributed to a combination of factors, including the growth in the size of the private equity industry, the increasing number of institutional investors, and the strong performance of private equity investments. (Bain & Company, 2019)

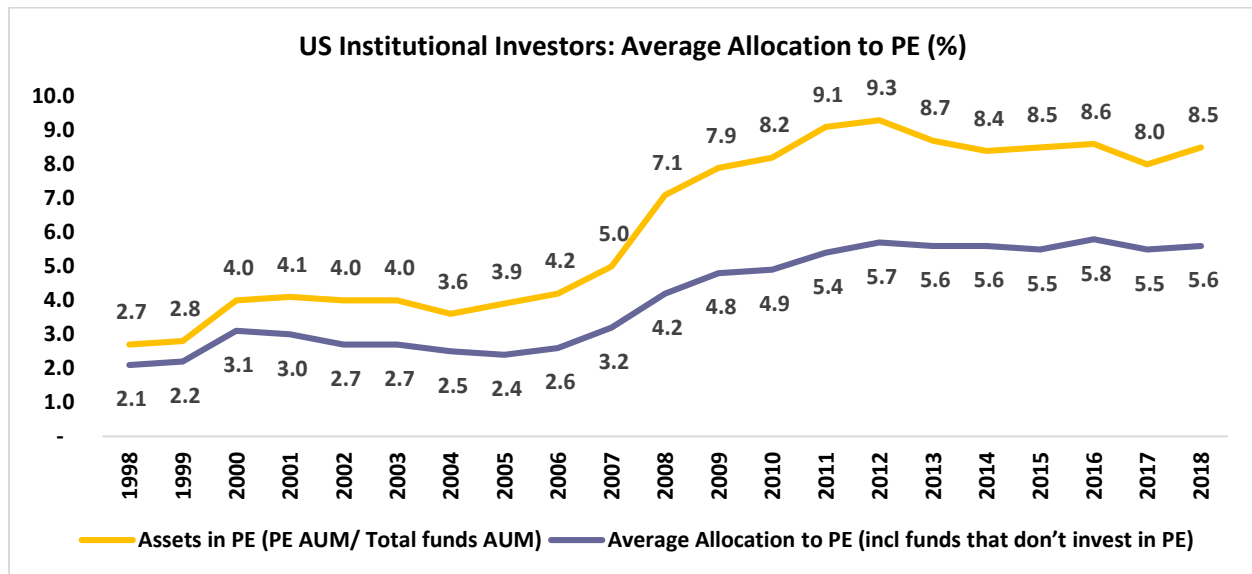
Another research paper by Harvard Business School points to the regulatory environment as a factor driving the increase in dry powder. The paper argues that regulatory changes have made it more expensive and burdensome for companies to go public, resulting in more companies relying on private Equity to finance their growth and operations. (Lerner, 2019)

Additionally, a report by Preqin suggests that the increase in dry powder can be attributed to the high level of confidence that investors have in the private equity asset class. The report argues that the strong performance of private equity investments, combined with the low-interest rate environment, has resulted in significant amounts of capital flowing into the asset class. (Preqin, 2020)

### **IV. Increased allocation to Private capital by Institutional investors**

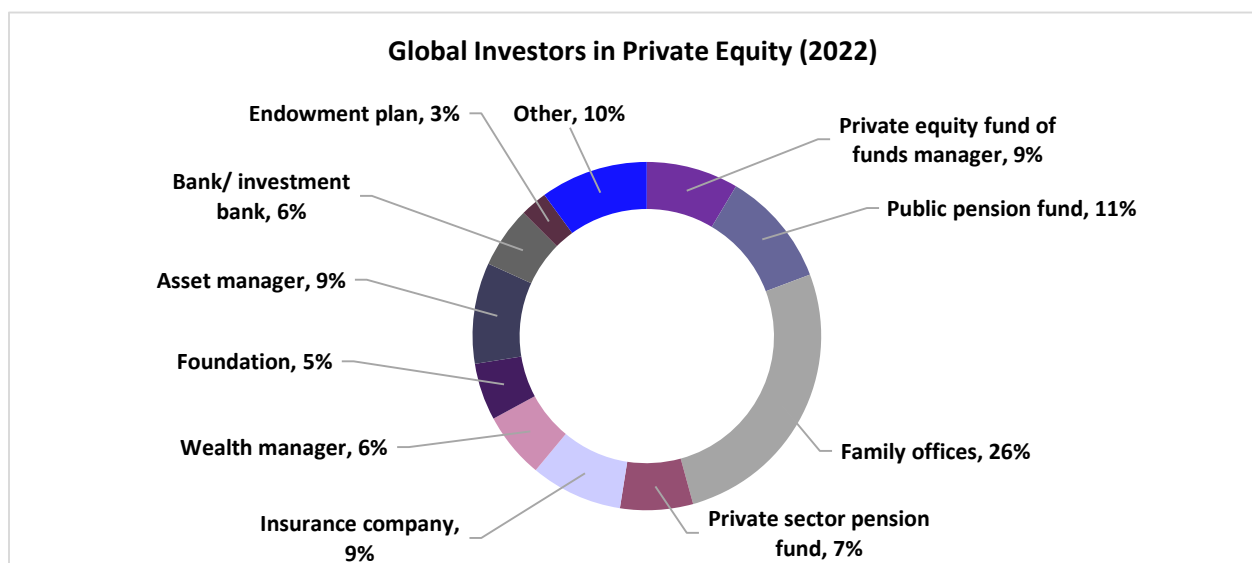
The major investors in private equity are typically institutional investors such as pension funds, endowments, foundations, sovereign wealth funds, and insurance companies. As noted by McKinsey in its Global Private Equity Markets Review 2022, “Institutional investors have continued to increase allocations

to private markets at the expense of public markets, driven principally by private markets' outperformance. CEM Benchmarking notes an average allocation to private markets of 18.5 percent as of 2020, up nearly five percentage points since 2012". The Allocation to PE by US institutional investors has increased significantly during 1998 to 2011; However has remained broadly flat since then till 2022. The below chart provides details of allocation to PE by US Institutional investors.



Source: CEM Benchmarking

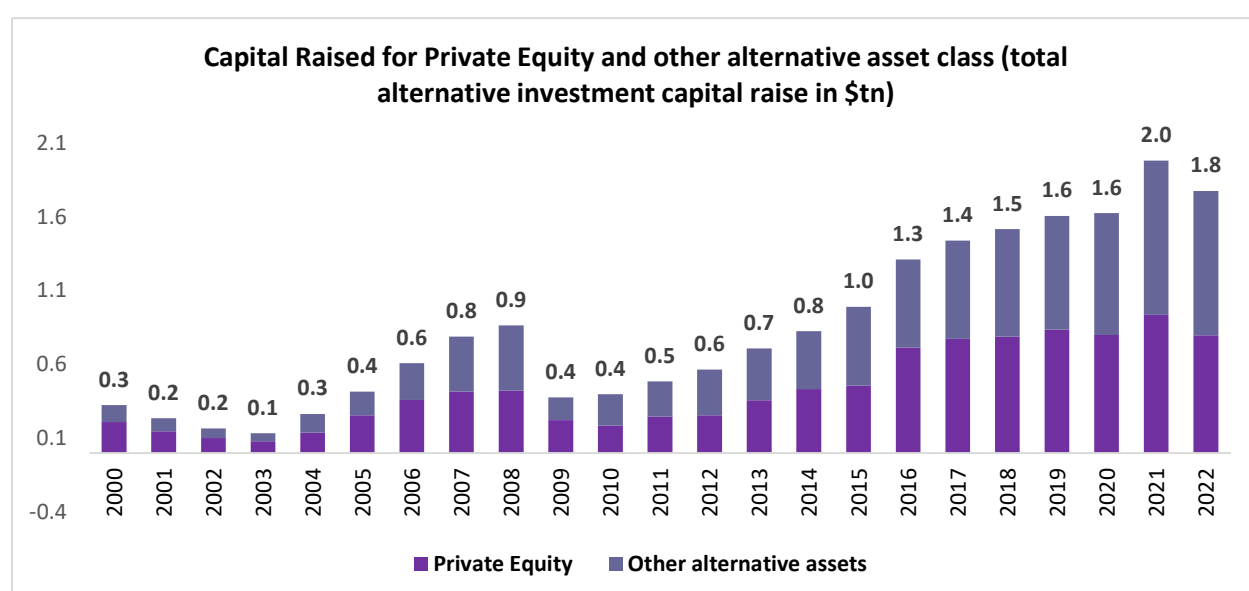
The below chart provides details of investors in global private equity by investor type in 2022.



Source: Preqin

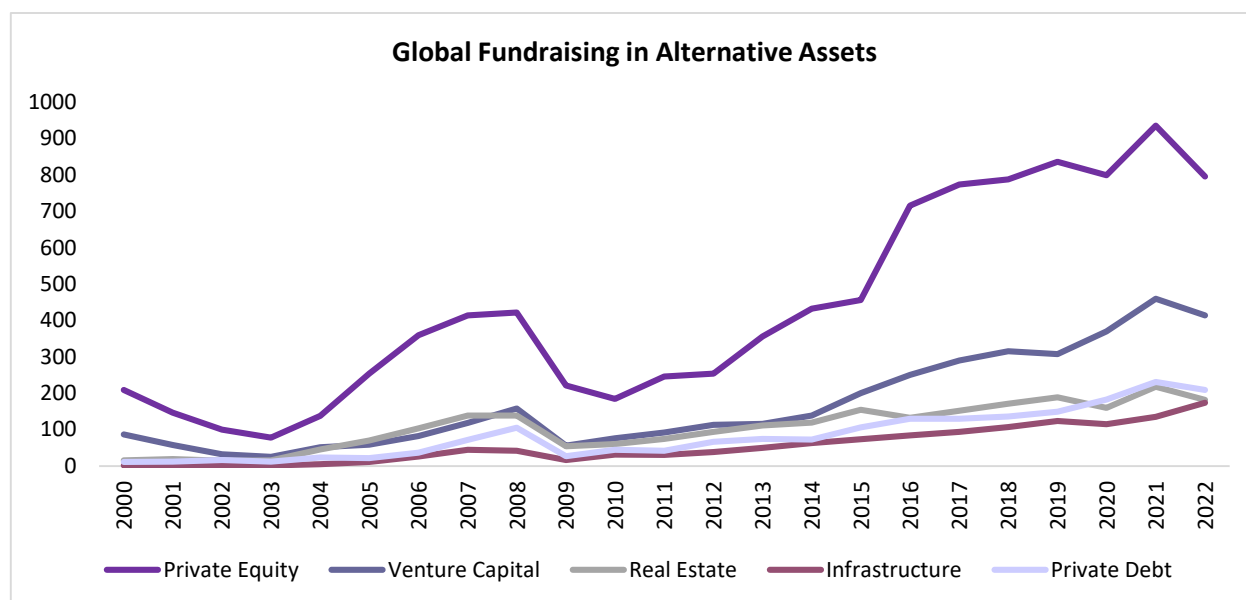
Earlier in 2000, capital raised for alternative investing was very small at 0.3tn, which increased to \$1.8tn in 2022 (CAGR of 8.0%). This has largely been due to increased allocation to PE by investors (as percent of portfolio). Institutional investors have increased their allocation to Privat Equity asset class over the past 20 years from 2.7% of fund size to 8.5% of fund size.

In the past five years, the capital raised for alternative investing has increased by 4.3%. Private Equity has the largest share of this capital raised. Capital Raised by Private Equity funds has increased from 0.2tn to 0.8tn in 2022, a CAGR of 6.3%.



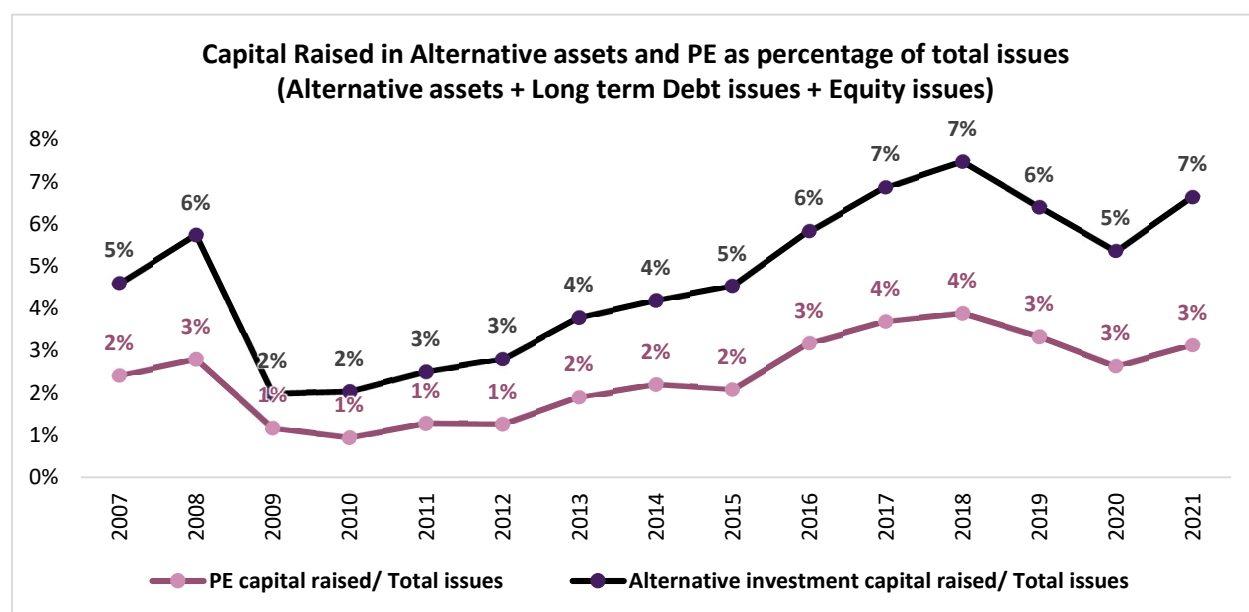
Source: Preqin

The capital raised for Private Equity investment has increased over the years as compared to traditional assets like debt (treasury securities, municipal bonds, federal agency securities, mortgage-backed securities, asset backed securities, and corporate bonds) and Equity (common and preferred equity issued in IPO and follow-on offerings). Further, the proportion of Private Equity has been the highest in the total capital raised in Alternative investment asset class, as given in the chart below:



Source: Preqin

Due to the strong interest in alternative investments, the proportion of alternative assets and particularly private equity in investor's portfolio has consistently increased.



Source: Preqin, Bank for International Settlements, and Sibilis Research

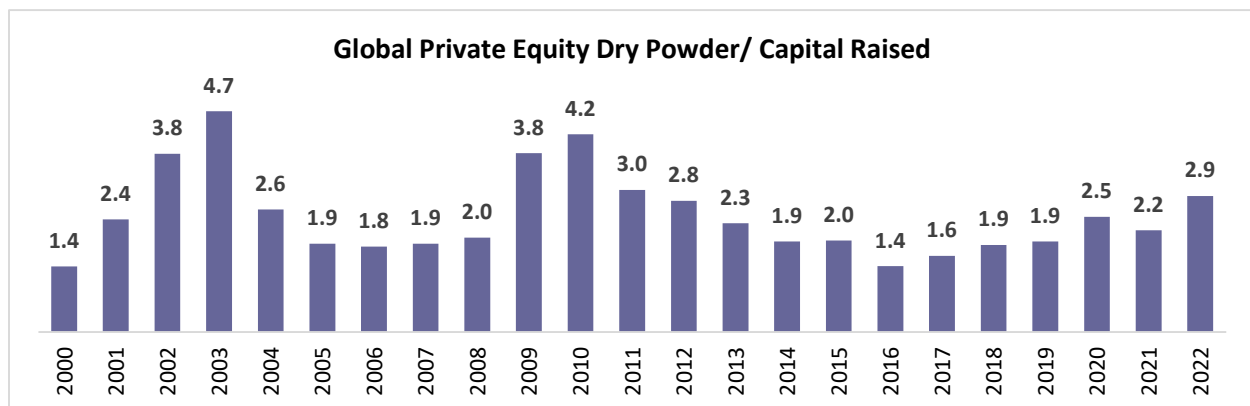
Further, regulatory changes have made it easier for institutional investors to invest in private equity funds. For example, in the United States, the Pension Protection Act of 2006 allowed pension funds to invest up to 25% of their assets in private equity funds, up from a previous limit of 10%.



In conclusion, Private Equity as an asset class has increased more than the traditional assets Debt and Equity, led by strong investments by institutional investors, primarily due to better returns than traditional asset classes.

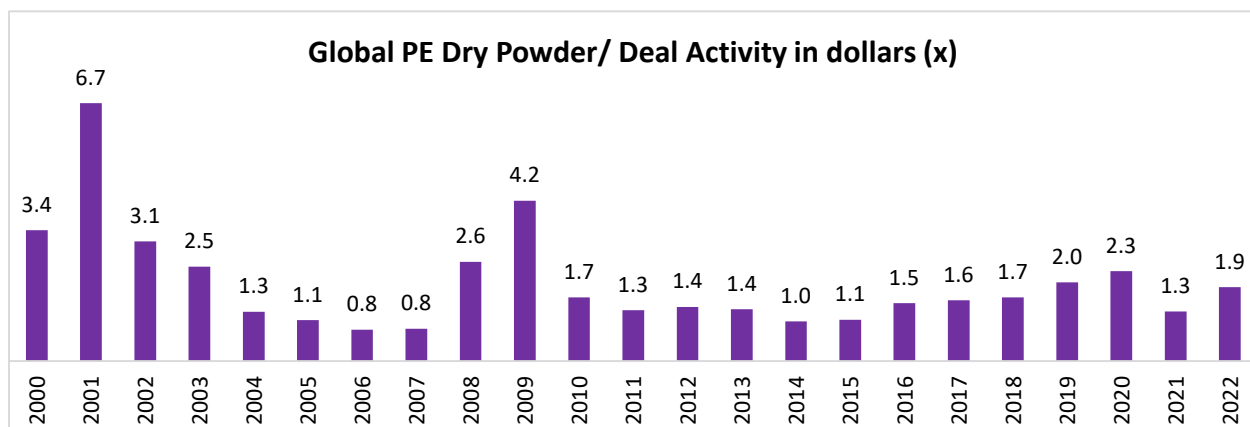
## V. Increase in deal activity in Private Equity

Private Equity has a large amount of dry powder which is 2.9x the capital raised in 2022.



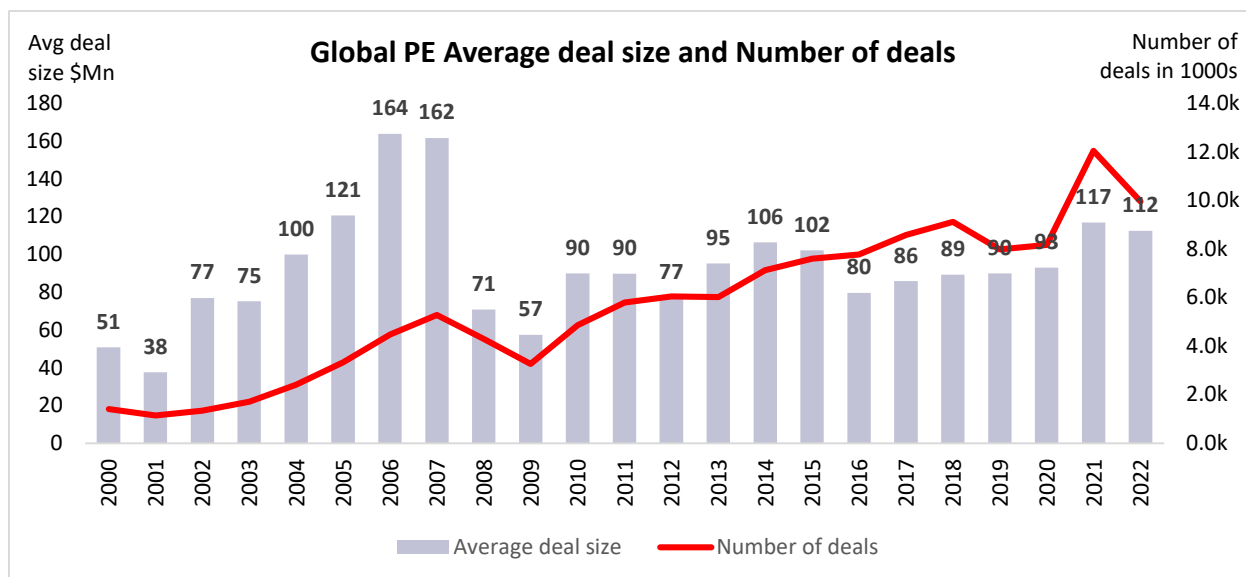
Source: Preqin

However, this is likely due to an increase in deal activity. The PE Dry Powder/ Deal Activity has been broadly stable over the past 10 years and declined compared to 2000, because of the increase in deal activity.



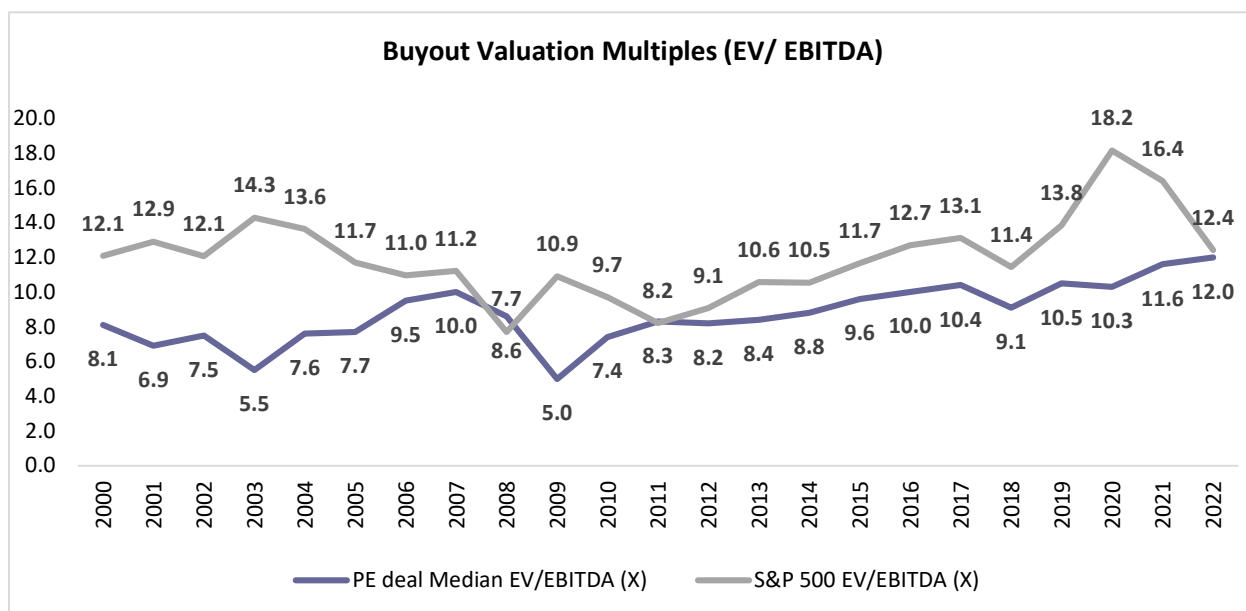
Source: Preqin

The increase in dry powder/ Deal activity has largely been on account of the increase in number of deals which increased by 9.3% CAGR from 1416 in 2000 to 9964 in 2022. The average deal size on the other hand increased by only 3.7% CAGR from \$51 Mn in 2000 to \$112Mn in 2022.

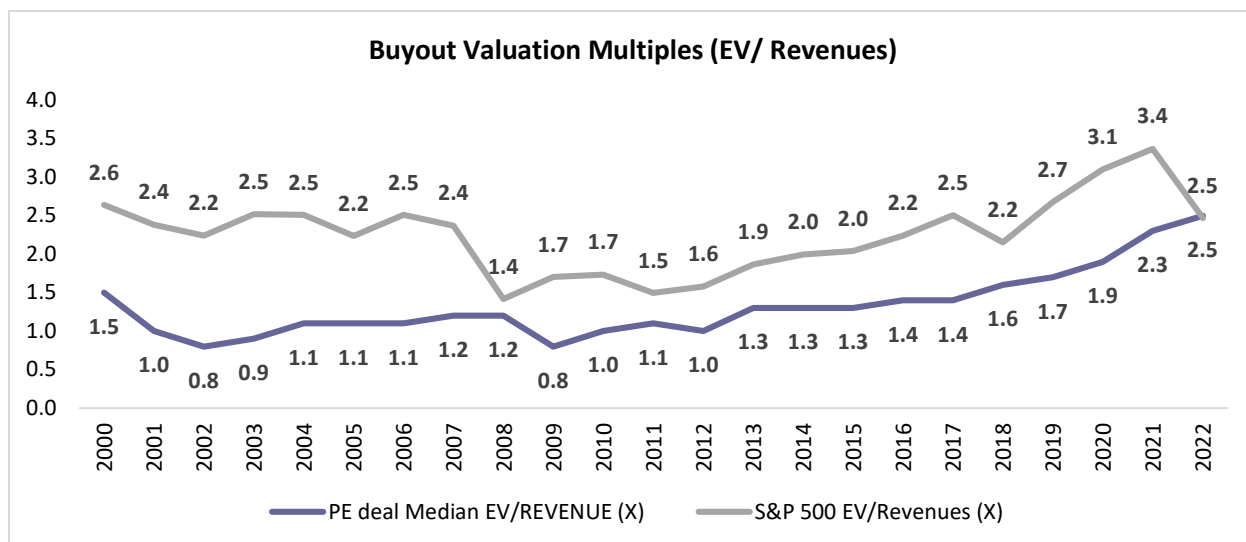


Source: Preqin

The increase in deal size by 3.7% CAGR has been partially on account of an increase in EV/EBITDA which increased from 8.1x in 2000 to 12.0x in 2022, in line with public company valuations. Further, the buyout valuation multiples are still lower than S&P 500 EV/EBITDA and EV/Revenues as mentioned in the charts below, implying that the Private Equity funds are not overpaying for the investments.



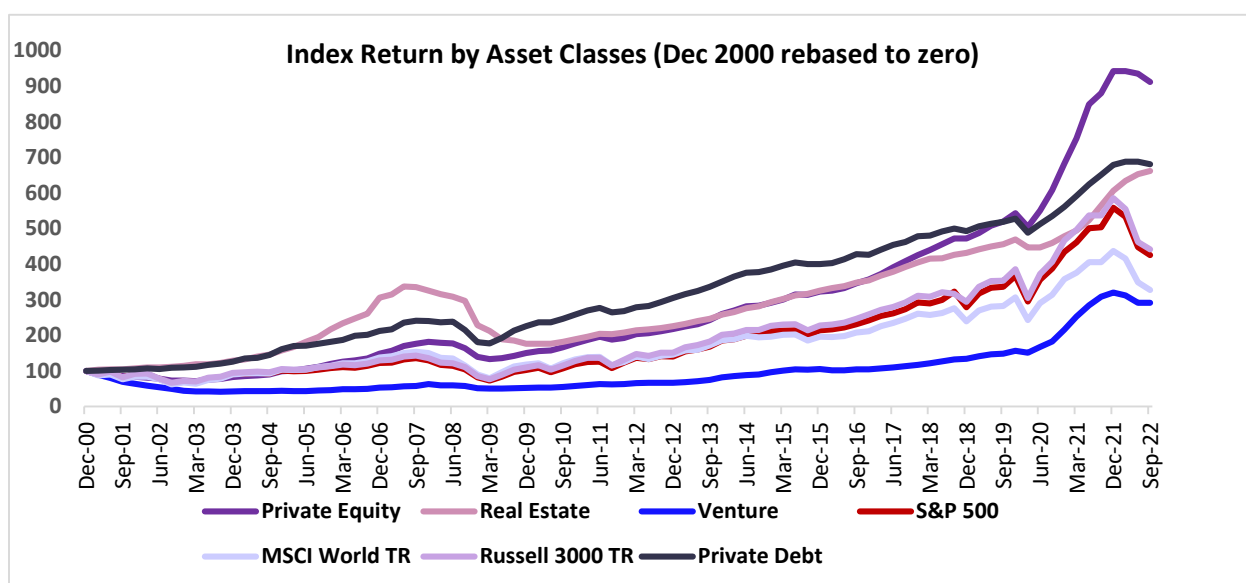
Source: Preqin, Bloomberg



Source: Preqin, Bloomberg

## VI. Private Equity has consistently provided higher returns than traditional asset classes.

Over the past 20 years, private equity has delivered strong returns compared to other asset classes such as debt and equity. According to data from Preqin, private equity funds have delivered an average annualized return of 13.5% over the past 20 years, compared to 9.8% for the S&P 500 index and 9.9% for the Russel 3000 TR index.



Source: Preqin

Alternative asset class horizon pooled returns are given below (as on Sep 2022):

<b>Index Returns (%)</b>	<b>1-Year</b>	<b>3-Year</b>	<b>5-Year</b>	<b>10-Year</b>	<b>15-Year</b>	<b>20-Year</b>	<b>25-Year</b>
<b>US Private Equity</b>	<b>0.24</b>	<b>22.21</b>	<b>19.64</b>	<b>17.45</b>	<b>12.56</b>	<b>15.16</b>	<b>13.56</b>
<b>US Venture Capital</b>	<b>(8.48)</b>	<b>30.11</b>	<b>24.49</b>	<b>19.19</b>	<b>13.35</b>	<b>12.10</b>	<b>24.68</b>
<b>Ex US developed market PE &amp; VC</b>	<b>(11.66)</b>	<b>18.55</b>	<b>16.00</b>	<b>14.47</b>	<b>8.94</b>	<b>14.78</b>	<b>14.23</b>
<b>Emerging Markets PE &amp; VC</b>	<b>(9.02)</b>	<b>10.99</b>	<b>10.06</b>	<b>10.91</b>	<b>9.76</b>	<b>11.18</b>	<b>9.87</b>
Constructed index: mPME MSCI World	(20.75)	3.20	4.26	7.71	4.88	7.47	5.87
mPME Russell 3000® Index	(17.92)	7.25	8.32	11.84	8.35	9.72	7.92
mPME Russell 2000® Index	(23.67)	3.58	3.18	9.18	7.07	9.34	7.50
NASDAQ Composite Price Index	(26.35)	11.64	11.92	15.04	11.14	12.59	9.79
mPME MSCI EAFE Index	(25.37)	(2.84)	(1.55)	3.80	1.31	4.05	3.28
mPME MSCI Europe Index	(25.09)	(2.69)	(1.87)	3.63	1.07	4.09	3.31
mPME Constructed Index: Global Financial Data Emerging Markets	(27.87)	(2.34)	(1.89)	1.05	1.01	4.05	3.38
mPME MSCI EAFE Index	(25.20)	(2.27)	(1.15)	2.85	1.67	2.97	2.48

Source: Cambridge Associates

From the above table we can see that Private equity has consistently outperformed the public market equivalent indexes in all time horizons under consideration, likely on account of a lower purchase multiple compared to S&P 500 index. The Private Equity returns have also been less volatile than public equity returns.

Another factor contributing to private equity's strong returns is the ability of private equity firms to add value to the companies in which they invest. Private equity firms often work closely with the management teams of their portfolio companies to improve operations, streamline processes, and identify new growth opportunities. This can lead to significant increases in revenue and profitability, which in turn can drive up the value of the companies and generate higher returns for investors.

Despite the strong performance of private equity over the past 20 years, it's important to note that investing in private equity comes with risks. Private equity investments are illiquid, which means that investors may not be able to access their capital for several years. Private equity investments are also subject to a high degree of uncertainty, as the success of a particular investment can be influenced by a wide range of factors, including changes in the economy, shifts in consumer preferences, and unforeseen competition.

In summary, private equity has delivered strong returns compared to other asset classes such as debt and equity over the past 20 years.

## **VII. Conclusion**

The increase in dry powder is primarily on account of the increase in deal activity in Private Equity due to higher returns compared to traditional asset class.

Over the past 20 years, private equity has delivered strong returns compared to other asset classes such as debt and equity, due to lower purchase multiples compared to listed companies and active management strategies employed by private equity firms. Private Equity has delivered a return of 15.2% over the 20-year horizon, which is higher than PME benchmark Russel 3000's 9.72% & Russel 2000's 9.34% over the comparable period.

Due to better returns, an increasing number of institutional investors, such as pension funds and endowments, have increased their allocation to Private Equity. The allocation to Private Equity by US institutional investors has increased from 2.8% in 1999 to 9.3% in 2012; However, the allocation has slightly reduced since then to 8.5% in 2022. The increase in PE AUM has since then been primarily in line with the increase in total investments (Public Equity and Debt).

Due to increased allocation, the industry has been able to raise a lot of capital, which has been broadly commensurate with global deal activity in Private Equity. This is also reflected in the reduction in Dry Powder to Deal activity ratio from 3.4x in 2000 to 1.7x in 2010; However, over the last 12 years Dry Powder to Deal Activity ratio has remained broadly at 1.3x-2.0x with exceptions in 3 years: 1x - 1.1x in 2014 and 2015, and 2.3x in 2020. This signifies that the increase in dry powder is commensurate with the deal activity, and there is no imbalance in dry powder.

## VIII. Appendix

### 1. Global dry powder by Asset Class (\$Bn)

Year	Private Equity	Venture Capital	Real Estate	Infrastructure	Private Debt	Total
2022	2161	312	388	347	413	3621
2021	1819	225	416	298	398	3157
2020	1783	189	398	289	365	3024
2019	1472	149	357	234	271	2482
2018	1351	125	334	194	287	2290
2017	1167	93	285	169	231	1945
2016	935	73	232	152	197	1589
2015	835	62	228	108	191	1424
2014	783	55	200	106	164	1308
2013	777	53	204	109	183	1325
2012	661	53	142	77	125	1059
2011	692	58	164	86	119	1118
2010	726	57	153	71	109	1116
2009	786	64	175	68	99	1191
2008	787	65	168	67	106	1193
2007	716	68	164	66	91	1104
2006	597	59	126	37	65	885
2005	429	51	88	13	41	622
2004	310	52	51	10	37	459
2003	317	56	34	3	37	447
2002	323	59	33	2	27	444
2001	293	61	30	2	23	409
2000	246	48	18	2	14	327

Source: Preqin

### 2. Global Capital Raised for alternative asset class (\$Bn)

Capital Raised	Private Equity	Other alternative assets	Total
2000	209	115	324
2001	147	89	236
2002	100	65	165
2003	79	54	132
2004	138	125	262
2005	253	162	415

2006	359	249	608
2007	414	374	788
2008	422	443	865
2009	222	154	376
2010	185	213	397
2011	246	238	484
2012	254	312	565
2013	356	351	707
2014	432	393	825
2015	456	534	990
2016	715	596	1311
2017	773	665	1439
2018	788	729	1517
2019	836	769	1605
2020	799	827	1626
2021	936	1045	1981
2022	796	979	1775

Source: Preqin

### 3. Capital Allocation to PE by institutional investors in the US

Year	Assets in PE (PE AUM/ Total funds AUM)	Average Allocation to PE (incl funds that don't invest in PE)
1998	2.7	2.1
1999	2.8	2.2
2000	4.0	3.1
2001	4.1	3.0
2002	4.0	2.7
2003	4.0	2.7
2004	3.6	2.5
2005	3.9	2.4
2006	4.2	2.6
2007	5.0	3.2
2008	7.1	4.2
2009	7.9	4.8
2010	8.2	4.9
2011	9.1	5.4
2012	9.3	5.7
2013	8.7	5.6
2014	8.4	5.6
2015	8.5	5.5
2016	8.6	5.8
2017	8.0	5.5
2018	8.5	5.6

Source: CEM Benchmarking

#### 4. Capital raised as a percentage of total assets (\$Bn)

Year	Private Equity	Other alternative assets	Equity	Debt	Total	PE capital raised/ Total issues	Alternative investment capital raised/ Total issues
2007	414	374	611	15,697	17,096	2%	5%
2008	422	443	346	13,852	15,063	3%	6%
2009	222	154	575	17,925	18,876	1%	2%
2010	185	213	656	18,467	19,520	1%	2%
2011	246	238	474	18,277	19,235	1%	3%
2012	254	312	531	19,015	20,111	1%	3%
2013	356	351	648	17,305	18,660	2%	4%
2014	432	393	718	18,093	19,636	2%	4%
2015	456	534	730	20,112	21,832	2%	5%
2016	715	596	586	20,555	22,452	3%	6%
2017	773	665	670	18,794	20,903	4%	7%
2018	788	729	545	18,194	20,256	4%	7%
2019	836	769	540	22,918	25,063	3%	6%
2020	799	827	830	27,796	30,252	3%	5%
2021	936	1,045	1,042	26,769	29,792	3%	7%

Source: Preqin

#### 5. Global Private Equity dry powder by Capital raised

Year	Capital Raised	Dry Powder	AUM	Capital Raised/ AUM	Dry Powder/AUM	Dry Powder/ Capital Raised
2000	209	294	421	50%	70%	1.4
2001	147	354	441	33%	80%	2.4
2002	100	382	463	22%	83%	3.8
2003	79	373	523	15%	71%	4.7
2004	138	361	580	24%	62%	2.6
2005	253	480	755	34%	64%	1.9
2006	359	657	1,009	36%	65%	1.8
2007	414	784	1,292	32%	61%	1.9
2008	422	852	1,264	33%	67%	2.0
2009	222	850	1,403	16%	61%	3.8
2010	185	783	1,518	12%	52%	4.2
2011	246	749	1,562	16%	48%	3.0
2012	254	714	1,696	15%	42%	2.8
2013	356	830	1,844	19%	45%	2.3
2014	432	839	1,848	23%	45%	1.9
2015	456	896	1,874	24%	48%	2.0
2016	715	1,008	1,978	36%	51%	1.4



2017	773	1,261	2,350	33%	54%	1.6
2018	788	1,472	2,619	30%	56%	1.9
2019	836	1,622	3,105	27%	52%	1.9
2020	799	1,971	3,960	20%	50%	2.5
2021	936	2,042	4,805	19%	42%	2.2
2022	796	2,321	5,188	15%	45%	2.9

Source: Preqin

## 6. Global Buyout Valuation multiples & S&P 500 valuation multiples

Date	Global PE Buyout multiples			S&P 500 valuation multiples	
	Number of Deals	Median EV/EBITDA (X)	Median EV/Revenue(X)	S&P 500 EV/EBITDA (X)	S&P 500 EV/Revenues (X)
2000	25	8.1	1.5	12.1	2.6
2001	41	6.9	1.0	12.9	2.4
2002	52	7.5	0.8	12.1	2.2
2003	79	5.5	0.9	14.3	2.5
2004	120	7.6	1.1	13.6	2.5
2005	149	7.7	1.1	11.7	2.2
2006	249	9.5	1.1	11.0	2.5
2007	300	10.0	1.2	11.2	2.4
2008	176	8.6	1.2	7.7	1.4
2009	99	5.0	0.8	10.9	1.7
2010	222	7.4	1.0	9.7	1.7
2011	343	8.3	1.1	8.2	1.5
2012	322	8.2	1.0	9.1	1.6
2013	345	8.4	1.3	10.6	1.9
2014	334	8.8	1.3	10.5	2.0
2015	317	9.6	1.3	11.7	2.0
2016	395	10.0	1.4	12.7	2.2
2017	366	10.4	1.4	13.1	2.5
2018	433	9.1	1.6	11.4	2.2
2019	377	10.5	1.7	13.8	2.7
2020	414	10.3	1.9	18.2	3.1
2021	368	11.6	2.3	16.4	3.4
2022	101	12.0	2.5	12.4	2.5

Source: Preqin (for buyout multiples), Bloomberg (for S&P 500 multiples)

## 7. Total Public and Private capital outstanding at year ends in the US (USD Tn)

Year	Equity Market Cap	Debt	Private Capital	PC / Total Capital
2000	15.10	14.54	0.59	2.0%
2001	13.86	15.77	0.61	2.0%
2002	11.10	17.04	0.61	2.1%
2003	14.27	18.52	0.69	2.1%
2004	16.32	20.69	0.75	2.0%
2005	16.97	22.10	0.93	2.3%

2006	19.43	23.87	1.26	2.8%
2007	19.92	26.10	1.65	3.5%
2008	11.59	27.89	1.68	4.1%
2009	15.08	28.58	1.82	4.0%
2010	17.28	29.67	1.98	4.1%
2011	15.64	30.44	2.11	4.4%
2012	18.67	31.69	2.25	4.3%
2013	24.03	32.72	2.55	4.3%
2014	26.33	33.76	2.62	4.2%
2015	25.07	34.84	2.75	4.4%
2016	27.35	36.05	2.92	4.4%
2017	32.12	37.28	3.18	4.4%
2018	30.44	38.77	3.58	4.9%
2019	34.09	40.60	4.12	5.2%
2020	41.57	46.59	4.96	5.3%
2021	52.24	49.28	6.20	5.8%
Q2 2022	46.46	50.62	6.95	6.7%

Source: Preqin, Bank for International Settlements, Sibilis Research

## 8. Index Returns

Date	Private Equity	Real Estate	Venture	S&P 500	MSCI World TR	Russell 3000 TR	Private Debt
Sep-22	911.5	662.0	291.6	425.7	327.7	441.9	680.4
Dec-21	942.5	606.3	320.4	559.2	437.7	586.2	679.2
Dec-20	682.4	478.7	215.8	434.5	357.8	466.5	561.5
Dec-19	543.2	469.4	156.1	367	307.1	385.9	528.2
Dec-18	471.7	431.9	133.7	279.1	239.2	294.5	492.5
Dec-17	425.3	404.5	117.3	291.9	260.5	310.8	478.7
Dec-16	356.8	354.1	104.5	241.6	211.7	258.7	426.6
Dec-15	322.8	325.5	105.1	214	195.7	227.6	400.3
Dec-14	291.7	292.8	96.6	211.1	196.4	226.5	384.9
Dec-13	260.1	257.8	81.5	185.7	186.1	201.3	350.5
Dec-12	217.6	225.6	66.9	140.2	146.1	150.7	304.5
Dec-11	192.4	208.1	62.6	122.8	125.4	131.4	268
Dec-10	177.5	188.6	57.7	118.4	132	128.1	258.1
Dec-09	150.2	176.7	52.5	102.9	117.5	109.6	225.6
Dec-08	139.2	228.3	51.2	81.4	89.9	85.4	181
Dec-07	181.4	325.5	62.5	129.1	150.6	136.2	240.2
Dec-06	148.2	306	52.6	122.3	137.4	129.5	212.6
Dec-05	120	216.9	46.1	107.5	113.9	113.7	181.5
Dec-04	98.9	157.2	44.2	100.8	103.5	105.5	160.7
Dec-03	83.1	128.4	42.1	90.9	89.8	94.2	125.7
Dec-02	72.7	114.1	44.3	70.6	67.2	71.9	109.4
Dec-01	83.2	107.2	64.2	90.7	83.5	91.6	103.9
Dec-00	100	100	100	100	100	100	100

Source: Preqin

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