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JPEA Private Equity Performance Measurement Survey (2022)

March 2024

The Japan Private Equity Association
PricewaterhouseCoopers Japan LLC

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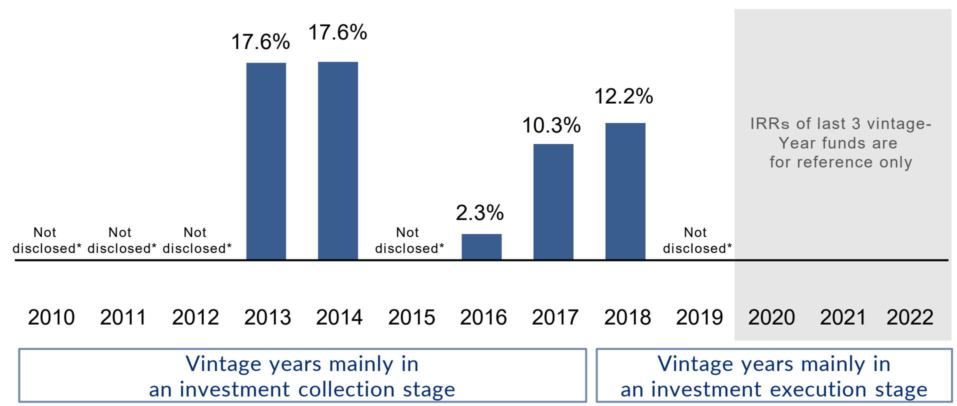
Highlights (1/2): Since-inception net IRRs

The since-inception net IRR through the end of 2022 for the funds surveyed in the 2010-19 vintage years was 12.9%

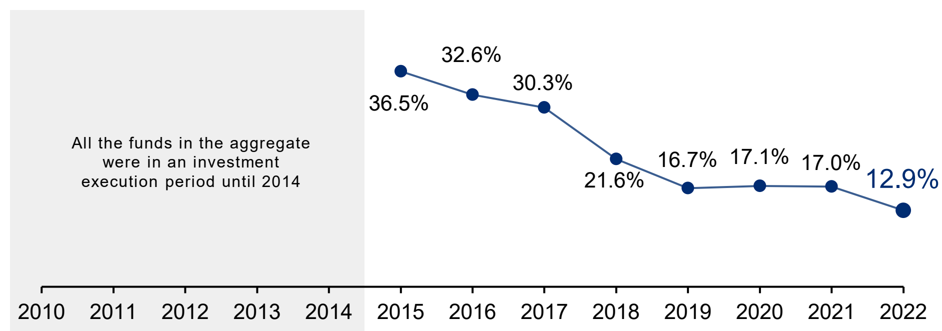
- The net IRRs through the end of 2022 for each fund group, where the funds surveyed are grouped by fund inception year (vintage year), are shown in the upper right-hand chart
  - Considering that the investment period of most funds is 10 years, with the first five years generally being the investment execution period and the second five years being the investment collection period, the IRRs of the most recent three-year vintages are shown for reference purpose only as they are not very meaningful.
- Aggregating the funds of the 2010-19 vintage, the net IRR since inception is calculated as 12.9% through the end of 2022. The IRRs since inception through the end of each year are shown in the lower right-hand chart.

Since-inception net IRRs by vintage year through 2022



*IRRs for vintage year groups with fewer than three funds surveyed are not disclosed

Trends of since-inception net IRR through the end of each year (Aggregate value of the funds of 2010-19 vintage years)

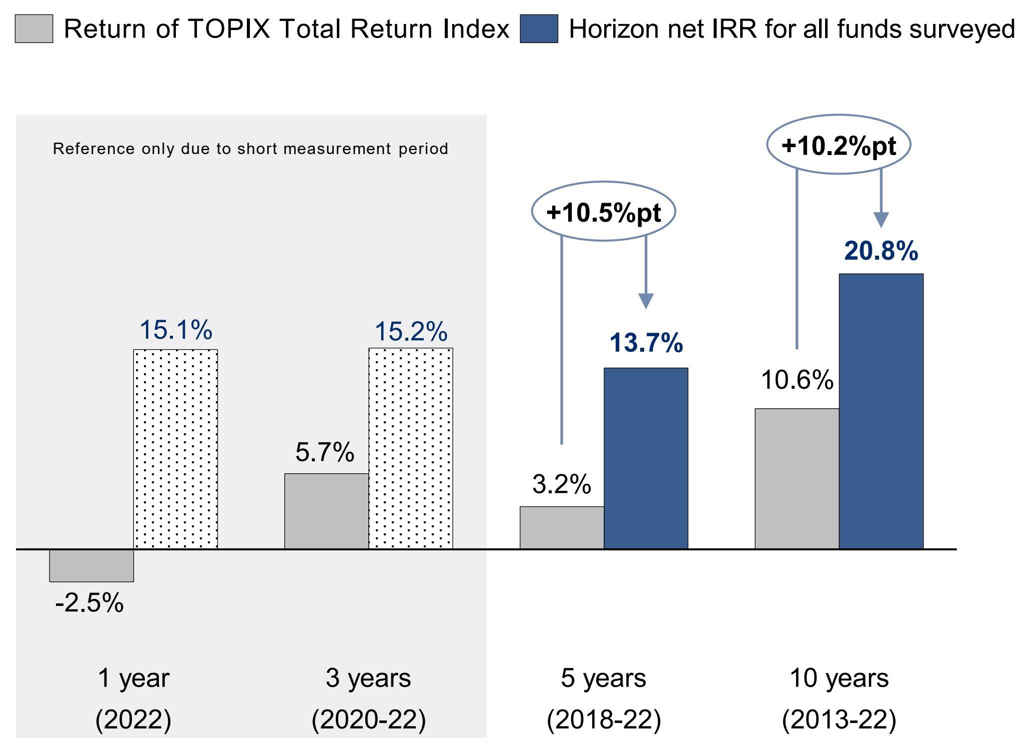


Highlights (2/2): Horizon net IRRs

The ten-year horizon net IRR (2013-22) for the funds surveyed was 20.8%, which outperformed the TOPIX over the same period by +10.2%.

- The net IRRs of the funds surveyed over certain time frames, calculated by aggregating the net assets at the beginning and end of the measurement period and the cash flows during the measurement period to enable a comparison with benchmarks such as TOPIX, are shown on the right. The IRRs of the funds surveyed outperformed the TOPIX Total Return Index for each measurement period
  - The net IRR for each measurement period includes the performance of the funds which were in existence at the beginning of the measurement period
  - Given the life cycle of private equity funds, if the measurement period is short, the IRR is likely to be affected by investment collections on a specific few deals that occur during that period, and the IRR will be highly skewed. Therefore, please refer mainly to the IRRs over 5 years and 10 years in the chart on the right. 1-year and 3-year IRRs are calculated for reference purpose only.

Horizon net IRRs as at the end of 2022



Survey overview

1. Companies responding to current year's survey

31 of the full members of the Japan Private Equity Association (hereinafter referred to as the "JPEA"), not including companies which had previously responded to the survey

2. Funds surveyed

Private equity funds managed by the responding companies (including companies which had previously responded to the survey), mainly invested in Japan, which were in existence between January 2008 and December 2022 (including funds liquidated on or before 31 December 2022), 131 funds in total

3. Periods for performance measurement

Fiscal periods ended through December 2022 of the funds surveyed, including liquidated funds

4. Method of survey

- PricewaterhouseCoopers Japan LLC, commissioned by JPEA, asked the responding companies to provide the necessary data
- The responding companies provided PricewaterhouseCoopers Japan LLC with the basic information, cash flow data and net asset value data at the end of each fiscal period of the funds surveyed
- PricewaterhouseCoopers Japan LLC calculated the net internal rate of returns since inception of each fund (hereinafter referred to as the "since-inception net IRRs", the net internal rate of returns for 1, 3, 5 and 10 year horizons through the end of 2022 (hereinafter referred to as the "horizon net IRRs") and the net total value to paid-in (TVPI) multiples

Survey results: Since-inception net IRRs

Since-inception net IRRs of the surveyed funds grouped by fund inception year (vintage year) through each end of year are shown in the table below (the bottom row of each vintage year column shows the number of funds included in each group)

	Measurement Group	Number of funds surveyed	Net IRRs for the year ended									
			2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Vintage year	Up to v.2009 Total	31	3.50%	3.60%	4.10%	4.89%	5.89%	8.70%	9.96%	10.23%	10.09%	8.26%
			3	4	5	7	9	16	20	26	27	31
	v.2010	1	Not disclosed									
			1	1	1	1	1	1	1	1	1	1
	v.2011	4	Not disclosed			12.81%	38.28%	37.76%	38.54%	40.09%	37.12%	29.19%
			1	1	2	3	4	4	4	4	4	4
	v.2012	4	Not disclosed		14.67%	15.83%	12.24%	22.21%	18.68%	28.75%	24.38%	13.43%
			2	2	3	3	3	4	4	4	4	4
	v.2013	8	17.57%	16.30%	16.02%	18.57%	20.86%	21.68%	19.66%	5.90%	-1.28%	-32.95%
			7	7	7	7	7	7	8	8	8	8
	v.2014	6	17.65%	13.74%	17.83%	19.70%	22.85%	41.02%	51.88%	67.49%	83.97%	
			4	5	5	5	5	6	6	6	6	
	v.2015	3	Not disclosed		16.68%	16.13%	11.41%	16.03%	-11.32%	-6.15%		
			2	2	3	3	3	3	3	3		
	v.2016	9	2.34%	0.50%	-1.12%	-2.45%	-13.62%	-17.72%	-15.80%			
			8	9	9	9	9	9	9			
	v.2017	12	10.31%	28.55%	27.02%	24.53%	12.87%	37.94%				
			11	12	12	12	12	12				
	v.2018	10	12.22%	11.97%	11.67%	2.78%	24.90%					
			10	10	10	10	10					
	v.2019	2	Not disclosed									
			2	2	2	2						
	v.2010-19 Total	59	12.94%	16.99%	17.08%	16.69%	21.61%	30.34%	32.55%	36.51%	34.29%	19.29%
			48	51	54	55	54	46	35	26	23	17
	Up to v.2019 Total	90	10.00%	11.28%	10.75%	10.02%	11.00%	12.34%	12.74%	12.24%	11.21%	8.51%
			51	55	59	62	63	62	55	52	50	48
	(Reference only) v.2020	7	23.20%	7.29%	-13.35%							
			7	7	7							
	(Reference only) v.2021	13	18.98%	22.98%								
			12	13								
	(Reference only) v.2022	9	-2.84%									
			9									

Please consider the following when viewing the since-inception net IRRs

General explanation of since-inception net IRRs

- In this survey, the "since-inception net IRR" means the net annualized internal rate of return since inception of each fund. Since most private equity funds are closed-end, the since-inception net IRR is the most meaningful way to measure the performance.
- The since-inception net IRR is calculated by grouping the funds by vintage year, and aggregating the cash flows and the net assets at the end of the evaluation period of the funds surveyed.
- The since-inception net IRR for vintage year groups with fewer than three funds surveyed is not disclosed to avoid identification of individual funds.
- The since-inception net IRRs for the most recent three vintage years are calculated for reference purpose only. This is to take into account the nature of private equity investments and the "J curve".
- The since-inception net IRR for each year end includes the performance of the funds that started or ended in the middle of each year. However, the performance of the funds liquidated before the previous year are not included in the rates of each year. For example, the performance of the fund, which ended in September 2019, is included in the IRR in and before "2019" and is not included in and after "2020".
- The since-inception net IRR is calculated by vintage year, grouping the funds started in the same year as if they were one large fund. For example, the since-inception net IRR for a group with a vintage year of 2013 is calculated by grouping the funds that had their first cash flow in 2013 as if they were one fund.
- The since-inception net IRR of each vintage year group for each year is calculated for the funds for which fiscal year ended in each calendar year (January 1 through December 31). However, the IRR of the funds for which fiscal year ends in January, February or March is included in the performance of the previous calendar year of the year in which the fiscal year end belongs.

Since-inception net IRRs of grouped funds in multiple vintage years

- The since-inception net IRR of a fund group with vintage years 2010-19 is calculated by assuming the funds started between 2010 and 2019 as once fund, not using a weighted-average method of funds or vintage years.
- In general, the calculation of the since-inception net IRR for a grouping of funds with multiple vintage years is greatly affected by the performance of funds with older vintage years.

Fair value measurement of portfolio investments

- Whether or not the portfolio investments held are measured at fair value will affect the calculation of the since-inception net IRR through the amount of fund net assets at year-end.
- For example, if you invest in 100 units at the beginning of a year and sell them at the end of 5 years after they have increased in value by 8% each year, the since-inception net IRR for each year will be calculated as 8% if you measure the investments at fair value. However, if you measure the investments at acquisition cost, the since-inception net IRR would be 0% for the 1st to 4th year, and only in the 5th year is the starting net IRR calculated to be 8%. Therefore, the since-inception net IRR of an existing fund may be calculated lower if the fair value measurement of portfolio investments that earn a positive return has not been performed.
- Of the surveyed funds under management as of the end of 2022, the net assets of those funds that measure portfolio investments at fair value accounted for 79% of the net assets of all the surveyed funds as of the end of 2022.

Comparison with benchmarks

- It is difficult to compare the performance of closed-end private equity funds to benchmarks of other assets using since-inception net IRRs. For this reason, this survey intends to calculate the IRRs over a given time frame ("horizon net IRRs") to help you compare the performance of closed-end private equity funds to the benchmarks. Please refer to the next page and beyond for more information on horizon net IRRs.

Horizon net IRRs through the end of 2022 of the surveyed funds grouped by fund inception year (vintage year) shown in the table below (the bottom row of each vintage year column shows the number of funds included in each group)

	Measurement Group	Number of funds surveyed	(Reference only) 1 year: 2022	(Reference only) 3 years: 2020-22	5 years: 2018-22	10 years: 2013-22
Vintage year	Up to v. 2009 Total	31	3.25% 3	10.50% 5	-5.00% 9	18.00% 31
	v. 2010	1	Not disclosed 1	 1	 1	 1
	v. 2011	4	Not disclosed 1	 2	83.62% 4	42.63% 4
	v. 2012	4	Not disclosed 2	2.76% 3	6.47% 3	20.33% 4
	v. 2013	7	67.54% 7	13.12% 7	12.17% 7	
	v. 2014	5	37.02% 4	1.99% 5	4.66% 5	
	v. 2015	3	Not disclosed 2	35.85% 3	25.26% 3	
	v. 2016	9	8.67% 8	4.81% 9	4.13% 9	
	v. 2017	12	6.78% 11	28.31% 12	25.67% 12	
	v. 2018	10	12.88% 10	15.06% 10		
	v. 2019	2	Not disclosed 2	 2		
	v. 2020	7	36.29% 7			
	v. 2021	12	18.66% 12			
	v. 2022	-				
	Total	107	15.07% 70	15.18% 59	13.69% 53	20.78% 40
Return of TOPIX Total Return Index		-	-2.45%	5.70%	3.23%	10.61%

Considerations for horizon net IRRs

Please consider the following when viewing the horizon net IRRs

General explanation of horizon net IRR

- In this survey, the “horizon net IRR” means the net annualized internal rate of return of funds surveyed, grouped by vintage year, over 1 year (2022), 3 years (2020-22), 5 years (2018-22) and 10 years (2013-22) up to the end of 2022. Calculating IRRs over a certain time frame, while not very rigorous, enables the performance of private equity funds, many of which are closed-end, to be compared to the performance of other assets and benchmarks.

- The horizon net IRR for each group of vintage years is calculated by aggregating the net assets at the beginning and end of the measurement period and the cash flows during the measurement period for the funds in each group.

- The horizon net IRR for vintage year groups with fewer than three funds surveyed is not disclosed to avoid identification of individual funds.

- “Number of funds surveyed” by vintage year includes the number of funds which ceased operations before the end of the measurement period (i.e. the end of 2022).

- Given the life cycle of private equity funds, most of which are operated for a period of about 10 years, if the measurement period is short, the IRR is likely to be affected by investment collections on a specific few deals that occur during that period, and the net IRR will be highly skewed. Therefore, net IRRs for one-year and three-year horizons are calculated for reference purpose only. (However, if fair value measurement is appropriately performed at every year-end as described on the right, the horizon net IRRs for shorter measurement periods will be more meaningful.)

- The horizon net IRR of each vintage year group for each year is calculated for the funds for which fiscal year ended in each calendar year (January 1 through December 31). However, the IRR of the funds for which fiscal year ends in January, February or March is included in the performance of the previous calendar year of the year in which the fiscal year end belongs.

- TOPIX Total Return Index is obtained from Bloomberg.

Difference and relationship between since-inception and horizon net IRRs

- The since-inception net IRR is calculated by aggregating each fund’s all cash flows since inception and the net assets at the end of the measurement period. The horizon net IRR is calculated by aggregating each fund’s net assets at the beginning and the end of the measurement period and the actual cash flows during the measurement period, where it is assumed the cash flow in the amount of the net assets occurred at the beginning of measurement period. Thus, the starting point of the calculation differs between the since-inception net IRR and the horizon net IRR.

Fair value measurement of portfolio investments

- The horizon net IRR is calculated as if there were cash flow in the amount of the fund's net assets at the beginning of the measurement period, which may result in distortions of the IRR depending on whether portfolio investments are measured at fair value as of the beginning date.

- For example, if a fund group includes a large number of funds which are performing well but the portfolio investments are not measured at fair value, the horizon net IRR of the group tends to be calculated relatively high. This is because the cash flows deemed to have occurred at the beginning of the valuation period are the amount of fund net assets based on acquisition cost, not fair value, while fair value measurement does not affect the actual cash flows generated during the period (e.g. sales proceeds of investments).

- As an example of the specific horizon net IRR, the 5-year IRR to the end of 2022 for the entire group of 53 surveyed funds (13.69%) is calculated by aggregating the net assets at the end of 2017 for all surveyed funds, assuming that cash flows in that amount occurred on 1 January 2018, the beginning of the measurement period, and aggregating the actual cash flows of the funds from 2018 to 2022, and the net assets as at 31 December 2022, the end of the measurement period. Whether or not the portfolio investments held are measured at fair value will affect both the amount of fund net assets at the beginning and end of the valuation period.

- Of the surveyed funds under management as of the end of 2022, the net assets of those funds that measure portfolio investments at fair value accounted for 79% of the net assets of all the surveyed funds as of the end of 2022.

Survey results: Net total value to paid-in multiples

Net total value to paid-in (TVPI) multiples as at the end of 2022 of the surveyed funds grouped by fund inception year (vintage year) shown in the table

	Measurement Group	Number of funds surveyed	Net TVPI as at the end of 2022
Vintage year	Up to v.2009 Total	43	1.48
	v. 2010	1	Not disclosed
	v. 2011	4	1.91
	v. 2012	4	1.55
	v. 2013	8	1.91
	v. 2014	6	1.38
	v. 2015	3	1.90
	v. 2016	9	1.08
	v. 2017	12	2.05
	v. 2018	10	1.40
	v. 2019	2	Not disclosed
	v. 2010-19 Total	59	1.56
	Up to v. 2019 Total	102	1.53
	(Reference only) v.2020	7	1.32
	(Reference only) v.2021	13	1.15
	(Reference only) v.2022	9	0.99

Considerations for net total value to paid-in multiples

Please consider the following when viewing the net TVPI multiples

General explanation of net TVPI multiples

- The net TVPI multiple as of the end of 2022 by vintage year is calculated using the following method. The net TVPI of the funds which ceased operations before the end of 2022.

(1) Calculate the net TVPI multiple of each fund using the following formula:

$$\text{Net TVPI multiple} = \frac{\text{Accumulated distributions} + \text{Residual value at the period end}}{\text{Accumulated paid-in capital}}$$

(2) Calculate the TVPI multiple by vintage year by weighting the TVPI multiple of each fund with the accumulated paid-in capital

- The total figures are based on the funds of which vintage year is up to 2019 (i.e. the funds that were more than three years old), aligning with the nature of private equity funds that are designed to obtain medium-to-long-term returns. The net TVPI multiples for the funds launched in 2020 and thereafter are also presented for reference.

- The net TVPI multiples for vintage year groups with fewer than three funds surveyed is not disclosed to avoid identification of individual funds.

- Since the calculation of the net TVPI multiples is not affected by time value of money, net TVPI multiples for a certain time frame are not calculated, while the horizon returns are calculated for net IRRs which are affected by time value of money.

1. PricewaterhouseCoopers Japan LLC, commissioned by JPEA, requested the responding companies to provide the following data:
   - Basic information of the funds surveyed
     - Fund name
     - Investment strategy and targets
     - Size (commitment amount)
     - Fiscal year end date
     - Accounting standards
     - Audit requirement
     - Valuation method of portfolio investments
   - Cash flow data of the funds from inception to the end of the most recent fiscal period (for the liquidated or closed funds, to the end of the final fiscal period or liquidation)
   - Net asset value data of the funds as of the end of each fiscal period from inception to the most recent fiscal period (for the liquidated or closed funds, to the final fiscal period or liquidation)

2. The internal rate of return (hereinafter referred to as “IRR") is calculated using the following formula.

$$0 = \left[\sum_{i=1}^{I} CF_i \, (1+r)^{-\left(\frac{t_i}{365}\right)}\right] + \left[V_E (1+r)^{-\left(\frac{TD}{365}\right)}\right]$$

CF_i : i-th cash flow (-: inflow into the fund, +: outflow from the fund)
i : Sequence of cash flow during the valuation period (1, 2, •••, I)
r : IRR
t_i : Number of days from the first day of the valuation period to the i-th cash flow date
V_E : Value of the fund at the end of the valuation period
TD : Number of total days in the evaluation period

Supplementary information: Considerations for use of this survey

1. This report does not disclose performance of any individual responding company or fund, and the information used in the preparation of this report will not be disclosed to any other JPEA members and third parties other than PricewaterhouseCoopers Japan LLC, a contractor for preparation of this report, except as set forth in the Confidentiality Agreement between PricewaterhouseCoopers Japan LLC and each responding company.
2. The performance measurement made by PricewaterhouseCoopers Japan LLC does not constitute an audit or assurance service, and PricewaterhouseCoopers Japan LLC has not verified, validated or audited the reliability or accuracy of data obtained from the responding companies.
3. The funds in scope of this report are mainly the funds that invest in Japan, but include also the funds that invest mainly in Japan but have some foreign companies. The funds also include carve-outs from global funds that have investments in Japan. However, the funds which invest in Japan as a small proportion of their investment portfolio in comparison to global territories, for which the Japan portion cannot be carved out, are therefore excluded from the scope of this report.
4. For funds managed by the companies which had previously responded to the survey, the performance of the period for which the data was provided for is reflected in this report.
5. Portfolio investments are measured at fair value under International Financial Reporting Standards or U.S. GAAP, however, some funds measure the portfolio investments at cost (minus impairment) or using certain valuation method specified in limited partnership agreements. Of the surveyed funds under management as of the end of 2022, the net assets of those funds that measure portfolio investments at fair value accounted for 79% of the net assets of all the surveyed funds as of the end of 2022. Also, some funds may have investments in the portfolio companies for which audited financial data is not available.
6. The net asset value of each fund at the end of each period used to calculate the net IRR and the net TVPI is after deduction of the estimated carried interest and additional costs that would be incurred if the portfolio investments were sold at the end of each period. However, these are not deducted for the funds for which such data are not available.
7. The vintage year is generally defined as the year in which the first cash flow (initial drawdown) occurs. However, if it is impossible to calculate the IRR for the year, such as when the first cash flow is close to the end of the year and/or only costs and expenses are paid in the first year, then the year in which the IRR is first calculatable is the vintage year.
8. the net IRR and the net TVPI are not disclosed if the number of the funds in each vintage year is less than three or if the number of the funds in each vintage year is three or more, but all of these funds are managed by a single responding company. In addition, if the net IRR and the net TVPI of another fund can be estimated by disclosing the net IRR and the net TVPI, they are also not disclosed.
9. The net IRR is calculated and presented on an annualised basis in principle. However, the net IRR for the fund with a measurement period of less than one year is not annualised.

List of companies responding to current year's survey

Companies responding to current year's survey (in alphabetical order)

Advantage Partners Inc.	Marunouchi Capital Inc.
Ant Capital Partners Co., Ltd.	MBK Partners K.K.
Basic Capital Management, Limited	MCP Capital Co., Ltd.
Carlyle Japan, L.L.C.	Mercuria Investment Co., Ltd.
CAS Capital, Inc.	New Horizon Capital Co., Ltd.
CLSA Capital Partners (Japan) K.K.	Nomura Capital Partners Co., Ltd.
D Capital, Inc.	PAG Japan Limited
Endeavor United Co., Ltd.	Ping An Japan Investment Co., Ltd.
Fukuoka Capital Partners Co., Ltd.	Polaris Capital Group Co., Ltd.
iSigma Capital Corporation	Rising Japan Equity, Inc.
Iwakaze Capital, Inc.	SMBC Capital Partners Co., Ltd.
J Will Partners, K.K.	T Capital Partners Co., Ltd.
Japan Industrial Solutions Co., Ltd.	Trustar Capital Partners Japan Limited
J-STAR Co., Ltd.	Unison Capital, Inc.
Karita & Company Inc.	Yukon Capital Partners Co. Ltd.
The Longreach Group, Inc.	

Disclaimer

The data within this report was measured by PricewaterhouseCoopers Japan LLC, which was commissioned by the Japan Private Equity Association (hereinafter referred to as the "JPEA"), based on the data provided by the responding companies and the assumptions stated in "Supplementary information: Considerations for use of this survey". The JPEA and PricewaterhouseCoopers Japan LLC do not assume any responsibility for any inaccuracy in the data included in this report nor for the accuracy of the underlying amounts submitted by the responding companies.
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