Japan Private Equity Association

JPEA

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JPEA Private Equity Performance Measurement Survey (2020)

May 2022

The Japan Private Equity Association
PricewaterhouseCoopers Aarata LLC

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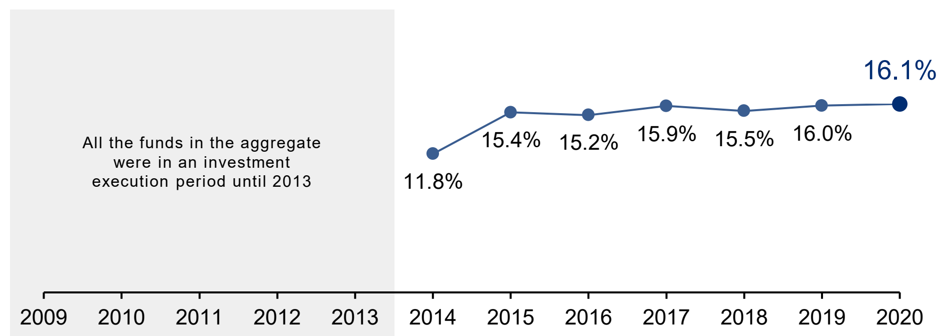
Highlights (1/2): Since-inception IRRs

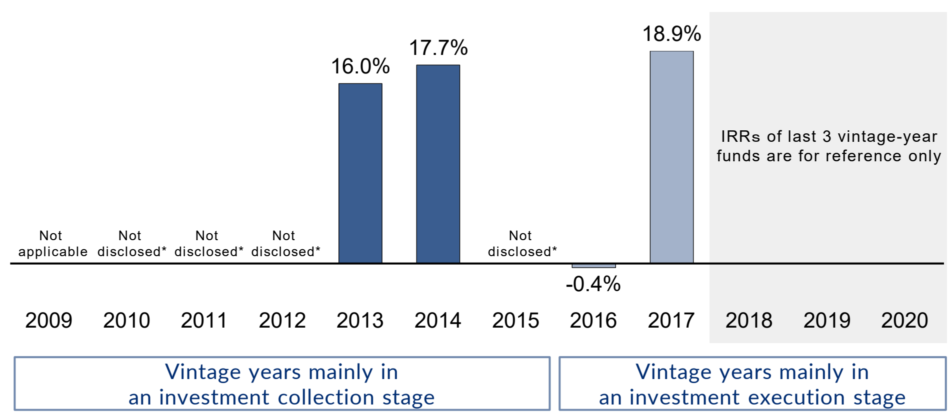
The since-inception IRR through the end of 2020 for the funds surveyed in the 2009-17 vintage years was 16.1%

- The IRRs through the end of 2020 for each fund group, where the funds surveyed are grouped by fund inception year (vintage year), are shown in the lower 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 2009-17 vintage, the IRR since inception of the funds is calculated to be 16.1% through the end of 2020. The IRRs since inception through the end of each year are shown in the upper right-hand chart.

Trends of since-inception IRR through the end of each year (Aggregate value of the funds of 2009-17 vintage years)



Since-inception IRRs by vintage year through 2020



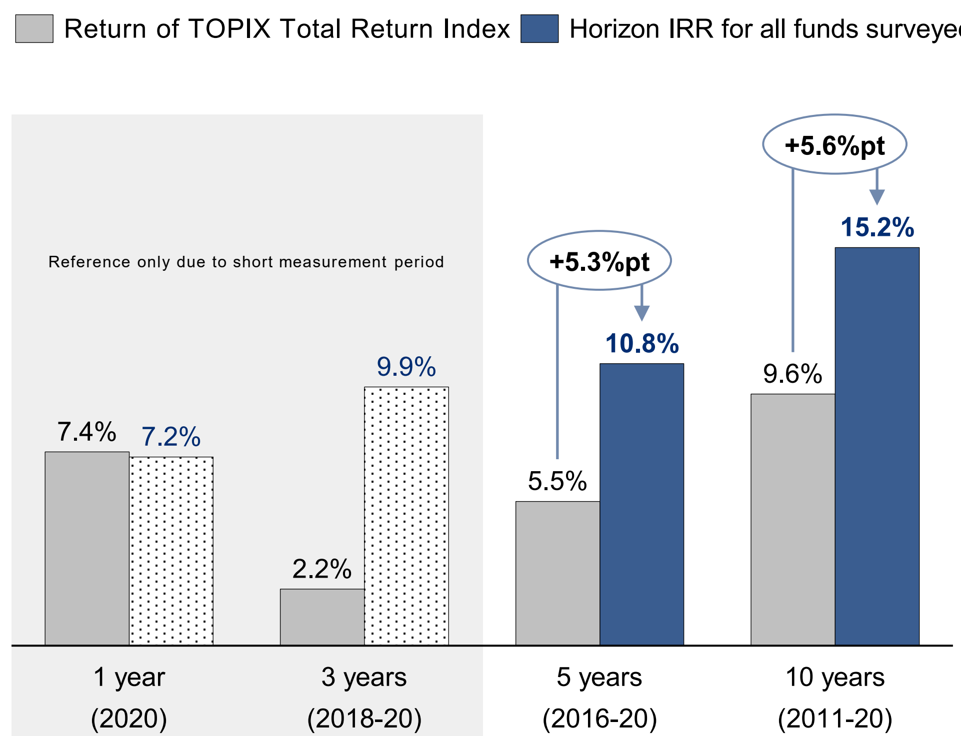
*IRRs for vintage year groups with fewer than three funds surveyed are not disclosed

Highlights (2/2): Horizon IRRs

The ten-year horizon IRR (2011 to 2020) for the funds surveyed was 15.2%, which outperformed the TOPIX over the same period by +5.6%.

- The 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 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 IRRs as at the end of 2020



Survey overview

1. Companies participating in the survey

27 of the full members of the Japan Private Equity Association (hereinafter referred to as the "JPEA")

2. Funds surveyed

Private equity funds managed by the participating companies, mainly invested in Japan, which were in existence between January 2008 and December 2020 (including funds liquidated on or before 31 December 2020), 94 funds in total

3. Periods for performance measurement

Fiscal periods ended in the 10 years from January 2011 to December 2020 of the funds surveyed, including liquidated funds

4. Method of survey

- PricewarterhouseCoopers Aarata LLC (hereinafter referred to as “PwC Aarata”), commissioned by JPEA, asked the participating companies to provide the necessary data
- The participating companies provided PwC Aarata with the basic information, cash flow data and net asset value data at the end of each fiscal period of the funds surveyed
- PwC Aarata calculated the internal rate of returns since inception of each fund (hereinafter referred to as the “since-inception IRRs”, the internal rate of returns for 1, 3, 5 and 10 year horizons through the end of 2020 (hereinafter referred to as the “horizon IRRs”) and the total value to paid-in (TVPI) multiples

Survey results: Since-inception IRRs

Since-inception 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	IRRs for the year ended									
			2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Vintage year	Up to v.2008 Total		4.10%	4.23%	5.35%	6.28%	8.05%	9.48%	9.87%	8.11%	6.80%	3.84%
		35	5	6	8	13	17	22	23	27	33	35
	v.2009		-	Not disclosed								
		2	0	1	1	2	2	2	2	2	2	2
	v.2010		Not disclosed									
		1	1	1	1	1	1	1	1	1	1	1
	v.2011		Not disclosed		13.62%	12.38%	10.57%	9.08%	5.41%	-1.26%	-11.98%	-98.34%
		3	1	2	3	3	3	3	3	3	3	3
	v.2012		Not disclosed			23.78%	20.14%	31.55%	26.48%	16.18%	-10.82%	
		3	2	2	2	3	3	3	3	3	3	
	v.2013		16.02%	18.57%	20.86%	21.68%	19.66%	6.13%	-1.28%	-32.95%		
		8	7	7	7	7	8	8	8	8		
	v.2014		17.67%	19.70%	22.85%	29.29%	38.60%	44.77%	50.30%			
		5	5	5	5	5	5	5	5			
	v.2015		Not disclosed									
		2	2	2	2	2	2	2				
	v.2016		-0.37%	-1.66%	-13.64%	-18.26%	-15.49%					
		7	7	7	7	7	7					
	v.2017		18.91%	22.96%	12.18%	-9.72%						
		9	9	9	9	9						
	v.2009-17 Total		16.10%	15.96%	15.51%	15.93%	15.15%	15.38%	11.83%	1.89%	-5.53%	-8.04%
		40	34	36	37	39	31	24	22	17	9	6
	Up to v.2017 Total		9.71%	9.89%	9.58%	9.21%	9.79%	10.49%	10.12%	7.60%	6.14%	3.41%
		75	39	42	45	52	48	46	45	44	42	41
	(Reference only) v.2018		-1.10%	-16.73%	31.13%							
		8	8	8	8							
	(Reference only) v.2019		Not disclosed									
		1	1	1								
	(Reference only) v.2020		-12.66%									
		6	6									

Please consider the following when viewing the since-inception IRRs

General explanation of since-inception IRRs

- In this survey, the “since-inception IRR” means the annualized internal rate of return since the inception of each fund. Since most private equity funds are closed-end, the since-inception IRR is the most meaningful way to measure the performance.
- The since-inception 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 IRR for vintage year groups with fewer than three funds surveyed is not disclosed to avoid identification of individual funds.
- The since-inception 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 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 “To 2019” and is not included in and after “To 2020”.
- From this 2020 Performance Survey, a new return calculation method has been adopted, whereby the since-inception 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 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. See page 15 for a comparison of the old method used in the reports through 2019 and the new method.
- The since-inception 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 IRRs of grouped funds in multiple vintage years

- The since-inception IRR of a fund group with vintage years 2009-17 is calculated by assuming the funds started between 2009 and 2017 as once fund, not using a weighted-average method of funds or vintage years.
- In general, the calculation of the starting 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 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 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 IRR would be 0% for the 1st to 4th year, and only in the 5th year is the starting IRR calculated to be 8%. Therefore, the since-inception 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.

Comparison with benchmarks

- It is difficult to compare the performance of closed-end private equity funds to benchmarks of other assets using since-inception IRRs. For this reason, this survey intends to calculate the IRRs over a given time frame (“horizon 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 IRRs.

Horizon IRRs through the end of 2020 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: 2020	(Reference only) 3 years: 2018-20	5 years: 2016-20	10 years: 2011-20
Vintage year	Up to v. 2008 Total		4.24%	-17.29%	-3.38%	15.57%
		35	5	8	17	35
	v. 2009		-	Not disclosed		
		2	0	1	2	2
	v. 2010		Not disclosed			
		1	1	1	1	1
	v. 2011		Not disclosed	82.94%	25.78%	
		3	1	3	3	
	v. 2012		Not disclosed		7.88%	
		3	2	2	3	
	v. 2013		-4.86%	6.63%	20.49%	
		8	7	7	8	
	v. 2014		7.63%	7.43%	12.47%	
		5	5	5	5	
	v. 2015		Not disclosed			
		2	2	2	2	
	v. 2016		1.69%	2.68%		
		7	7	7		
	v. 2017		12.96%	20.94%		
		9	9	9		
	v. 2018		12.01%			
		8	8			
	v. 2019		Not disclosed			
		1	1			
	v. 2020	-				
	Total		7.19%	9.87%	10.76%	15.19%
		84	48	45	41	38
Return of TOPIX Total Return Index		-	7.39%	2.15%	5.50%	9.60%

Considerations for horizon IRRs

Please consider the following when viewing the horizon IRRs

General explanation of horizon IRR

- In this survey, the "horizon IRR" means the annualized internal rate of return of funds surveyed, grouped by vintage year, over 1 year (2020), 3 years (2018-20), 5 years (2016-20) and 10 years (2011-20) up to the end of 2020. 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 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 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 2020).

- 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 IRR will be highly skewed. Therefore, 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, IRRs for shorter measurement periods will be more meaningful.)

- The horizon 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 IRRs and horizon IRRs

- The since-inception 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 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 IRR and the horizon IRR.

Fair value measurement of portfolio investments

- The horizon 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 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 IRR, the 5-year IRR to the end of 2020 for the entire group of 41 target funds (10.76%) is calculated by aggregating the net assets at the end of 2015 for all 41 target funds, assuming that cash flows in that amount occurred on 1 January 2016, the beginning of the measurement period, and aggregating the actual cash flows of the funds from 2016 to 2020, and the net assets as at 31 December 2020, 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.

Survey results: Total value to paid-in multiples

Total value to paid-in (TVPI) multiples as at the end of 2020 of the surveyed funds grouped by fund inception year (vintage year) shown in the table

	Measurement Group	Number of funds surveyed	TVPI as at the end of 2020
Vintage year	Up to v.2008 Total	39	1.50x
	v. 2009	2	Not disclosed
	v. 2010	1	Not disclosed
	v. 2011	3	1.40x
	v. 2012	3	1.56x
	v. 2013	8	1.75x
	v. 2014	5	1.79x
	v. 2015	2	Not disclosed
	v. 2016	7	0.99x
	v. 2017	9	1.43x
	v. 2009-17 Total	40	1.50x
	Up to v. 2017 Total	79	1.51x
	(Reference only) v.2018	8	1.23x
	(Reference only) v.2019	1	Not disclosed
	(Reference only) v.2020	6	0.94x

Considerations for total value to paid-in multiples

Please consider the following when viewing the TVPI multiples

General explanation of TVPI multiples

- The TVPI multiple as of the end of 2020 by vintage year is calculated using the following method. The TVPI of the funds which ceased operations before the end of 2020.

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

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

(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 prior to 2017 (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 TVPI multiples for the funds launched in 2017 and thereafter are also presented for reference.

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

Supplementary information: Data collected for this survey

1. PwC Aarata, commissioned by JPEA, requested the participating companies by sending the letter “Data Request for Fund Performance Measurement” 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 the investees
   - 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: Change of return calculation method

Some changes have been made to the return calculation method utilized in this FY2020 survey compared with that of prior years in light of global trends in investment performance measurement methods

Return calculation method through FY2019 (old method)

(1) Calculate IRR of each fund

(2) Calculate weighted average of IRR of the group by each fund's weight (*)

Return calculation method from FY2020 (new method)

(1) Assume one hypothetical fund where cash flows and valuations of the funds surveyed are pooled

(2) Calculate IRR of this hypothetical fund

Comparison of old and new methods

- In the new method, fund size affects the return calculation through the amount of cash flow, not the amount of the weight (*)
- If the return from one method is positive, the return from the other method can be negative
- Positive and negative returns from the new method are consistent with positive and negative TVPI multiples
- When individual funds post significantly higher or lower returns, returns under the new method generally tend to be more level

(*) Weight in the old method: each cash flow is weighted by the length of stay in the fund

- Weight of Fund A: 10,000 * 100% = 10,000
- Weight of Fund B: 5,000 * 100% + 5,000 * 50% = 7,500

(1st cash flow stayed in the fund for 4 years, and 2nd cash flow stayed in the fund for 2 years)

Calculation examples based on the old and new methods

Date	Fund A	Fund B	IRR (New method)
2017/1/1	(10,000)	(5,000)	(15,000)
2019/1/1	0	(5,000)	(5,000)
2020/12/31	12,000	8,200	20,200
IRR	4.66%	(6.47%)	0.28%

IRR (Old method)		
IRR of each fund	4.66%	(6.47%)
Weight (*)	10,000	7,500

IRR (Old method): (0.11%)

Supplementary information: Considerations for use of this survey

1. This report does not disclose performance of any individual participating 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 PwC Aarata, a contractor for preparation of this report, except as set forth in the Confidentiality Agreement between PwC Aarata and each participating company.
2. The performance measurement made by PwC Aarata does not constitute an audit or assurance service, and PwC Aarata has not verified, validated or audited the reliability or accuracy of data obtained from the participating 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 investees. 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. Valuation of investee companies are measured at fair value under International Financial Reporting Standards or U.S. GAAP, however, some funds measure the investee companies at cost (minus impairment) or using certain valuation method specified in limited partnership agreements. Some funds may have investments in the companies for which audited financial data is not available.
5. The net asset value of each fund at the end of each period used to calculate the IRR is after deduction of the estimated carried interest and additional costs that would be incurred if the investee were sold at the end of each period. However, these are not deducted for the funds for which such data are not available.
6. 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.
7. The IRR is 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 participating company. In addition, if the IRR of another fund can be estimated by disclosing the IRR, it is also not disclosed.
8. The IRR is calculated and presented on an annualised basis in principle. However, the IRR for the fund with a measurement period of less than one year is not annualised.

List of participating companies

Participating companies (in alphabetical order)

Advantage Partners Inc.	Marunouchi Capital Inc.
Ant Capital Partners Co., Ltd.	MCP Partners Co., Ltd. (Formerly Mizuho Capital Partners Co., Ltd.)
Basic Capital Management, Limited	Mercuria Investment Co., Ltd.
Carlyle Japan, L.L.C.	New Horizon Capital Co., Ltd.
CAS Capital, Inc.	Nomura Capital Partners Co., Ltd.
CLSA Capital Partners (Japan) K.K.	Permira Advisors K.K.
Endeavor United Co., Ltd.	Ping An Japan Investment Co., Ltd.
iSigma Capital Corporation	Polaris Capital Group Co., Ltd.
Iwakaze Capital, Inc.	Rising Japan Equity, Inc.
J Will Partners, K.K.	T Capital Partners Co., Ltd.
Japan Industrial Solutions Co., Ltd.	Trustar Capital Partners Japan Limited (Formerly CITIC Capital Partners Japan Limited)
J-STAR Co., Ltd.	Unison Capital, Inc.
KKR Japan Limited	Yukon Capital Partners Co. Ltd.
The Longreach Group, Inc.	

Disclaimer

The data within this report was measured by PricewaterhouseCoopers Aarata LLC (hereinafter referred to as “PwC Aarata”), which was commissioned by the Japan Private Equity Association (hereinafter referred to as the "JPEA"), based on the data provided by the participating companies and the assumptions stated in "Supplementary information: Considerations for use of this survey". The JPEA and PwC Aarata 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 participating companies.
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