

# Quarterly GP Report

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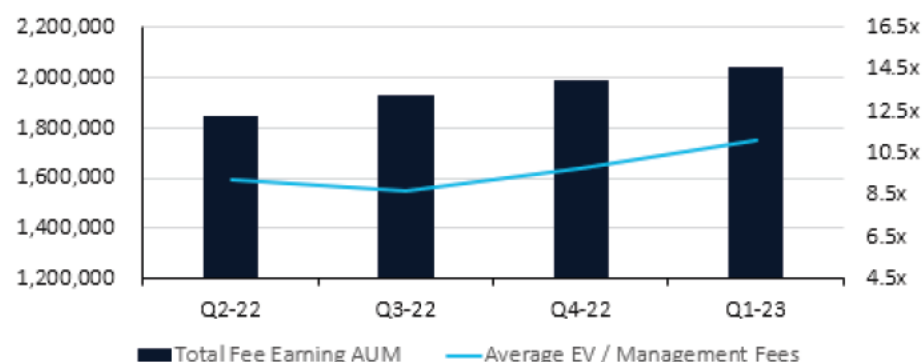
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## General Market Update

- In Q1 2023, average stock prices for the five publicly traded alternative investment managers (Public GPs) increased 12.5% over the prior quarter.
- Based on the most recent available financials (fourth quarter of 2022), the average total fee earning AUM increased 2.5% while management fees increased 0.7%, and performance fees decreased 65.0% quarter over quarter. We also observed an increase in average EV/management fee multiples of 1.4x.
- Operating income margin for the Public GPs was 21.9% which was lower compared to the 25.5% margin observed in the prior quarter.

FIGURE 1: EV / MANAGEMENT FEES AND FEE EARNING AUM (\$MM)



## Description of Report

- The report includes news, performance metrics, and our proprietary view on valuation multiples for the Public GPs. We perform detailed research on each investment manager and apply a consistent methodology to determine our view on valuation metrics to create a truly comparable set.

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### Notes:

Data above represents the BRG alternative asset manager focus group.

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day.

## BERKELEY RESEARCH GROUP

## QUARTERLY TRANSACTIONS UPDATES (\$M)

| Announced Date                  | Target                                                                               | Industry                           | Manager Role | Implied EV |
|---------------------------------|--------------------------------------------------------------------------------------|------------------------------------|--------------|------------|
| <b>Apollo Global Management</b> |                                                                                      |                                    |              |            |
| ** 3/14/23                      | Univar Solutions Inc.                                                                | Trading Companies and Distributors | Buyer        | \$8,112    |
| ** 2/22/23                      | John Wood Group PLC                                                                  | Energy Equipment and Services      | Buyer        | \$2,822    |
| 2/16/23                         | Blume Global, Inc.                                                                   | Software                           | Seller       | \$417      |
| <b>The Blackstone Group</b>     |                                                                                      |                                    |              |            |
| 3/31/23                         | Griffin Towers in Santa Ana                                                          | Real Estate                        | Seller       | \$82       |
| 3/17/23                         | Forest Hill Chase Shopping Centre and Adjacent Ancillary Four-Storey Office Building | Commercial Real Estate             | Seller       | \$172      |
| ** 3/14/23                      | Cvent Holding Corp.                                                                  | Software                           | Buyer        | \$4,576    |
| ** 2/22/23                      | Unregulated Renewables Assets of American Electric Power Company, Inc.               | Utilities                          | Buyer        | \$1,300    |
| 1/30/23                         | St Katharine Docks in Central London, United Kingdom                                 | Marine Ports and Services          | Seller       | \$471      |
| 1/3/23                          | Grand Prix Natural Gas Liquids Pipeline                                              | Oil, Gas and Consumable Fuels      | Seller       | \$4,200    |
| <b>The Carlyle Group</b>        |                                                                                      |                                    |              |            |
| 2/6/23                          | Iwasaki Electric Co., Ltd.                                                           | Electrical Equipment               | Buyer        | \$221      |
| <b>KKR &amp; Co.</b>            |                                                                                      |                                    |              |            |
| ** 1/17/23                      | Engineering Solutions Business of IHS Markit                                         | IT Services                        | Buyer        | \$975      |

**Notes:**

\*\*Represents transactions that have not closed as of the issuance of this report.

## BERKELEY RESEARCH GROUP

### REPORT METHODOLOGY

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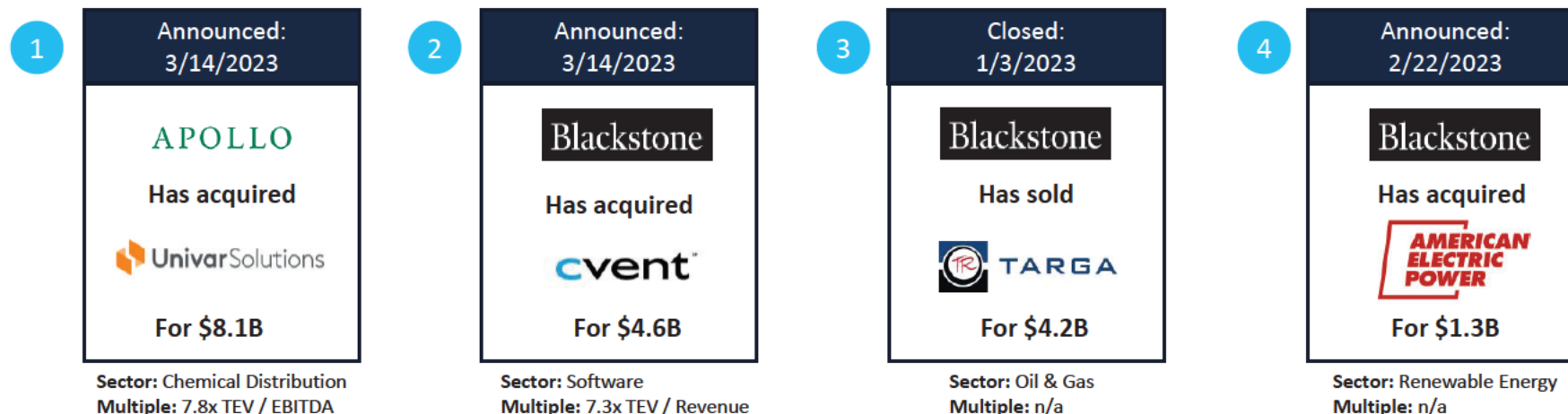
When performing a valuation of a private GP, determining basic indicators for comparable publicly traded GPs cannot be done solely using common technology platforms. An analyst must make certain adjustments to estimate the enterprise value associated with the operations of public GPs. As such, three primary adjustments were made:

1. **Direct investments:** the value associated with direct investments owned by the GP was excluded from the enterprise value. Direct investments typically include assets invested in funds managed by the GP that are commingled with the LPs.
2. **Operating debt:** the debt associated with variable interest entities (VIEs) was excluded from the enterprise value. When GPs set up levered funds, such as CLOs, they typically set them up as VIEs. Although the LPs contribute the overwhelming majority of capital to the VIE, the GP retains control over the VIE. As such, the GP may have to consolidate the debt held at the VIE level into their financials, even though the debt is not actually operating debt. Given the debt belongs to the investment vehicle and not the GP, we removed it to determine the enterprise value of the GP.
3. **Market capitalization:** the entire share count was included to capture the entire market capitalization of the enterprise. Public GPs often float only a certain amount of stock on the public markets, leaving the remaining portion in private hands. Given that the public indications only represent a portion of a company's equity, the public and private share counts must be included to capture the entire equity value.



## BERKELEY RESEARCH GROUP

## SELECTED MANAGER TRANSACTIONS



## Selected Commentary

1. A definitive agreement by **Apollo Global Management** to acquire Univar Solutions, Inc. in an all-cash transaction at an implied enterprise value of \$8.11B. The transaction includes a minority investment from a wholly owned subsidiary of the Abu Dhabi Investment Authority. As part of the agreement, Univar shareholders will receive \$36.15 per share in cash, representing a 20.6% premium to the undisturbed closing stock price on 11/22/2022. Univar is a leading global specialty chemical and ingredient distributor representing a premier portfolio of the world's leading producers.
2. An affiliate of private equity funds managed by **Blackstone, Inc.** has entered into a definitive agreement to acquire Cvent Holding Corp (Nasdaq:CVT) at an implied enterprise value of \$4.58B on March 14, 2023. As part of the transaction, Cvent shareholders will receive \$8.50 per share in cash, representing a premium of 52% over the 90-day VWAP of Unaffected Share Price. A wholly owned subsidiary of the Abu Dhabi Investment Authority will be a significant minority investor alongside Blackstone as part of the transaction. Cvent is an industry-leading meetings, events and hospitality technology provider that offers a comprehensive suite of technology solutions that powers the entire event management process.
3. Targa Resources has agreed to acquire the remaining stake in Grand Prix Natural Gas Liquids Pipeline from **Blackstone Energy Partners**. As part of the definitive agreement, Targa Resources will acquire the remaining 25% stake in an all-cash deal at an implied enterprise value of \$4.20B. Targa Resources acquired a 75% stake in the pipeline project in 2022. The Grand Prix Natural Gas Liquids Pipeline can transport up to one million barrels per day of Natural Gas Liquids to the market hub in Mont Belvieu, TX.
4. IRG Acquisition Holdings, a partnership owned by Invenergy, CDPQ and funds managed by **Blackstone Infrastructure** has entered into a definitive agreement to acquire a 1,365-megawatt unregulated, contracted renewable energy portfolio from American Electric Power (Nasdaq:AEP) at an implied enterprise value of \$1.30B. The deal is expected to close in the second quarter of 2023. The AEP portfolio includes 14 projects in 11 states and is comprised of 1,200 megawatts of wind generation and 165 megawatts of solar projects.



Source:  
S&P Capital IQ, Bloomberg, Company 10-K, 10-Q, Investor Presentations



## *Supporting Data*

## FEE EARNING AUM (\$MM)

|                          | 2020             | 2021             | Q2-22            | Q3-22            | Q4-22            | Q1-23            | ΔQ/Q (%)    |
|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------|
| The Blackstone Group     | \$ 469,433       | \$ 649,969       | \$ 677,943       | \$ 683,826       | \$ 705,865       | \$ 718,387       | 1 8%        |
| Apollo Global Management | 348,674          | 369,101          | 375,719          | 380,794          | 394,220          | 412,087          | 4 5%        |
| The Carlyle Group        | 170,102          | 193,419          | 211,060          | 259,555          | 260,214          | 266,577          | 2 4%        |
| KKR & Co                 | 186,217          | 357,389          | 371,176          | 384,470          | 397,627          | 411,923          | 3 6%        |
| Ares Management          | 126,000          | 187,800          | 211,000          | 223,700          | 232,600          | 231,100          | -0 6%       |
| <b>Total</b>             | <b>1,300,426</b> | <b>1,757,678</b> | <b>1,846,898</b> | <b>1,932,345</b> | <b>1,990,526</b> | <b>2,040,074</b> | <b>2.5%</b> |

## LTM MANAGEMENT FEES (\$MM)

|                          | 2020          | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23         | ΔQ/Q (%)    |
|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|
| The Blackstone Group     | \$ 3,902      | \$ 4,845      | \$ 5,469      | \$ 5,817      | \$ 6,114      | \$ 6,303      | 3 1%        |
| Apollo Global Management | 1,882         | 2,131         | 2,112         | 2,040         | 2,002         | 1,946         | -2 8%       |
| The Carlyle Group        | 1,464         | 1,577         | 1,737         | 1,889         | 2,018         | 2,030         | 0 6%        |
| KKR & Co                 | 1,638         | 2,363         | 2,886         | 2,856         | 2,840         | 2,685         | -5 5%       |
| Ares Management          | 1,120         | 1,525         | 1,885         | 2,060         | 2,175         | 2,284         | 5 0%        |
| <b>Total</b>             | <b>10,007</b> | <b>12,442</b> | <b>14,089</b> | <b>14,662</b> | <b>15,150</b> | <b>15,249</b> | <b>0.7%</b> |

## LTM PERFORMANCE FEES (\$MM)

|                          | 2020         | 2021          | Q2-22         | Q3-22         | Q4-22        | Q1-23        | ΔQ/Q (%)      |
|--------------------------|--------------|---------------|---------------|---------------|--------------|--------------|---------------|
| The Blackstone Group     | \$ 634       | \$ 13,029     | \$ 14,712     | \$ 10,258     | \$ 6,028     | \$ 2,472     | -59 0%        |
| Apollo Global Management | 48           | 3,278         | 2,387         | 1,444         | 959          | 823          | -14 2%        |
| The Carlyle Group        | 858          | 5,789         | 5,062         | 3,322         | 2,648        | 1,391        | -47 5%        |
| KKR & Co                 | 1,087        | 5,670         | 2,524         | 593           | (1,107)      | (2,035)      | nm            |
| Ares Management          | 404          | 1,928         | 2,301         | 1,484         | 1,224        | 759          | -38 0%        |
| <b>Total</b>             | <b>3,031</b> | <b>29,694</b> | <b>26,985</b> | <b>17,102</b> | <b>9,752</b> | <b>3,410</b> | <b>-65.0%</b> |

## LTM TOTAL FEES (\$MM)

|                          | 2020          | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23         | ΔQ/Q (%)      |
|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| The Blackstone Group     | \$ 4,536      | \$ 17,874     | \$ 20,180     | \$ 16,076     | \$ 12,143     | \$ 8,775      | -27 7%        |
| Apollo Global Management | 1,930         | 5,409         | 4,499         | 3,485         | 2,961         | 2,769         | -6 5%         |
| The Carlyle Group        | 2,322         | 7,366         | 6,799         | 5,211         | 4,665         | 3,421         | -26 7%        |
| KKR & Co                 | 2,726         | 8,033         | 5,409         | 3,449         | 1,734         | 650           | -62 5%        |
| Ares Management          | 1,524         | 3,453         | 4,186         | 3,544         | 3,399         | 3,043         | -10 5%        |
| <b>Total</b>             | <b>13,037</b> | <b>42,136</b> | <b>41,074</b> | <b>31,765</b> | <b>24,902</b> | <b>18,659</b> | <b>-25.1%</b> |

## LTM OPERATING INCOME (\$MM)

|                                | 2020         | 2021          | Q2-22         | Q3-22         | Q4-22        | Q1-23        | ΔQ/Q (%)      |
|--------------------------------|--------------|---------------|---------------|---------------|--------------|--------------|---------------|
| The Blackstone Group           | \$ 1,752     | \$ 9,481      | \$ 10,788     | \$ 8,238      | \$ 6,030     | \$ 4,150     | -31 2%        |
| Apollo Global Management       | 552          | 2,458         | 629           | (139)         | (602)        | 144          | 123 9%        |
| The Carlyle Group              | 590          | 3,129         | 2,782         | 1,915         | 1,616        | 919          | -43 2%        |
| KKR & Co                       | 359          | 2,992         | 1,097         | (66)          | (1,047)      | (1,463)      | nm            |
| Ares Management                | 232          | 633           | 752           | 580           | 349          | 330          | -5 3%         |
| <b>Total</b>                   | <b>3,484</b> | <b>18,692</b> | <b>16,049</b> | <b>10,528</b> | <b>6,347</b> | <b>4,080</b> | <b>-35.7%</b> |
| <b>Operating Income Margin</b> | <b>26.7%</b> | <b>44.4%</b>  | <b>39.1%</b>  | <b>33.1%</b>  | <b>25.5%</b> | <b>21.9%</b> | <b>-3.6%</b>  |

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day

(1) KKR exhibited LTM Operating Margin of negative 225% and is excluded from Figure 5.

FIGURE 2: FEE EARNING AUM (\$MM)

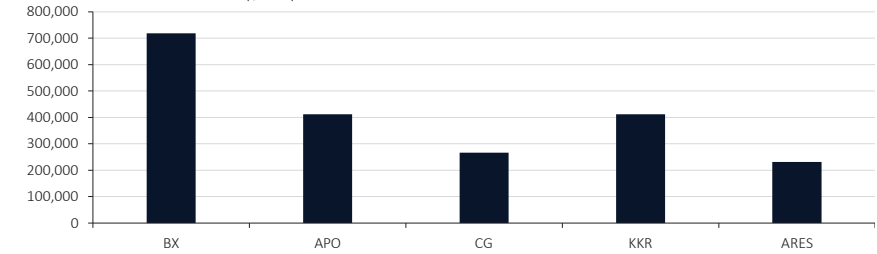


FIGURE 3: QUARTER OVER QUARTER FEE EARNING AUM GROWTH

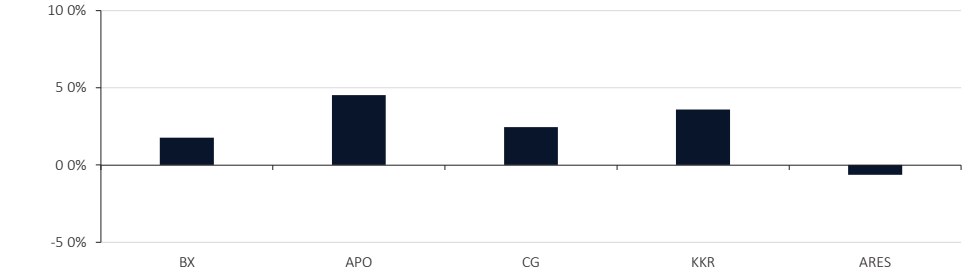
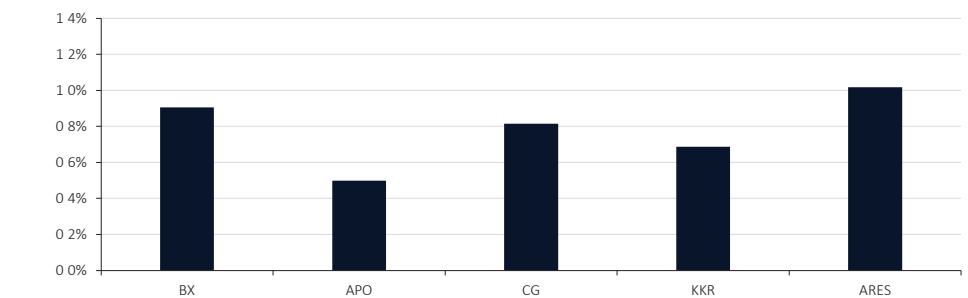
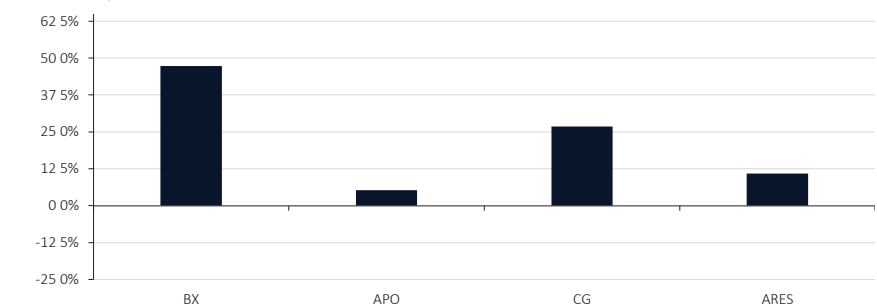


FIGURE 4: LTM TOTAL FEES/ AUM

FIGURE 5: Q2 OPERATING INCOME MARGINS <sup>1</sup>

| STOCK PRICE              |              |              |              |              |              |              |              |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                          | 2020         | 2021         | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q (%)     |
| The Blackstone Group     | \$ 64.81     | \$ 129.39    | \$ 91.23     | \$ 83.70     | \$ 74.19     | \$ 87.84     | 18.4%        |
| Apollo Global Management | 48.98        | 72.43        | 48.48        | 46.50        | 63.79        | 63.16        | -1.0%        |
| The Carlyle Group        | 31.44        | 54.90        | 31.66        | 25.84        | 29.84        | 31.06        | 4.1%         |
| KKR & Co                 | 40.49        | 74.50        | 46.29        | 43.00        | 46.42        | 52.52        | 13.1%        |
| Ares Management          | 47.05        | 81.27        | 56.86        | 61.95        | 68.44        | 83.44        | 21.9%        |
| <b>Average</b>           | <b>46.55</b> | <b>82.50</b> | <b>54.90</b> | <b>52.20</b> | <b>56.54</b> | <b>63.60</b> | <b>12.5%</b> |

| ENTERPRISE VALUE (EV) (\$MM) |                |                |                |                |                |                |              |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
|                              | 2020           | 2021           | Q2-22          | Q3-22          | Q4-22          | Q1-23          | ΔQ/Q (%)     |
| The Blackstone Group         | \$ 66,093      | \$ 130,477     | \$ 83,611      | \$ 79,405      | \$ 69,915      | \$ 88,465      | 26.5%        |
| Apollo Global Management     | 20,219         | 14,090         | 24,598         | 24,254         | 34,036         | 33,599         | -1.3%        |
| The Carlyle Group            | 9,863          | 16,963         | 6,917          | 5,200          | 7,159          | 8,375          | 17.0%        |
| KKR & Co                     | 23,121         | 41,437         | 16,375         | 16,948         | 20,123         | 23,796         | 18.3%        |
| Ares Management              | 11,694         | 23,808         | 17,564         | 19,118         | 20,971         | 25,776         | 22.9%        |
| <b>Total</b>                 | <b>130,990</b> | <b>226,775</b> | <b>149,064</b> | <b>144,925</b> | <b>152,204</b> | <b>180,012</b> | <b>18.3%</b> |

| EV / LTM MANAGEMENT FEES |              |              |             |             |             |              |             |
|--------------------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|
|                          | 2020         | 2021         | Q2-22       | Q3-22       | Q4-22       | Q1-23        | ΔQ/Q        |
| The Blackstone Group     | 16.9x        | 26.9x        | 15.3x       | 13.6x       | 11.4x       | 14.0x        | 2.6x        |
| Apollo Global Management | 10.7x        | 6.6x         | 11.6x       | 11.9x       | 17.0x       | 17.3x        | 0.3x        |
| The Carlyle Group        | 6.7x         | 10.8x        | 4.0x        | 2.8x        | 3.5x        | 4.1x         | 0.6x        |
| KKR & Co                 | 14.1x        | 17.5x        | 5.7x        | 5.9x        | 7.1x        | 8.9x         | 1.8x        |
| Ares Management          | 10.4x        | 15.6x        | 9.3x        | 9.3x        | 9.6x        | 11.3x        | 1.6x        |
| <b>Average</b>           | <b>11.8x</b> | <b>15.5x</b> | <b>9.2x</b> | <b>8.7x</b> | <b>9.7x</b> | <b>11.1x</b> | <b>1.4x</b> |

| EV / LTM TOTAL FEES      |             |             |             |             |             |              |             |
|--------------------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
|                          | 2020        | 2021        | Q2-22       | Q3-22       | Q4-22       | Q1-23        | ΔQ/Q        |
| The Blackstone Group     | 14.6x       | 7.3x        | 4.1x        | 4.9x        | 5.8x        | 10.1x        | 4.3x        |
| Apollo Global Management | 10.5x       | 2.6x        | 5.5x        | 7.0x        | 11.5x       | 12.1x        | 0.6x        |
| The Carlyle Group        | 4.2x        | 2.3x        | 1.0x        | 1.0x        | 1.5x        | 2.4x         | 0.9x        |
| KKR & Co                 | 8.5x        | 5.2x        | 3.0x        | 4.9x        | 11.6x       | 36.6x        | 25.0x       |
| Ares Management          | 7.7x        | 6.9x        | 4.2x        | 5.4x        | 6.2x        | 8.5x         | 2.3x        |
| <b>Average</b>           | <b>9.1x</b> | <b>4.9x</b> | <b>3.6x</b> | <b>4.6x</b> | <b>7.3x</b> | <b>13.9x</b> | <b>6.6x</b> |

| EV / LTM OPERATING INCOME |              |              |              |              |              |              |              |
|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                           | 2020         | 2021         | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q         |
| The Blackstone Group      | 37.7x        | 13.8x        | 7.8x         | 9.6x         | 11.6x        | 21.3x        | 9.7x         |
| Apollo Global Management  | 36.6x        | 5.7x         | 39.1x        | nm           | nm           | nm           | nm           |
| The Carlyle Group         | 16.7x        | 5.4x         | 2.5x         | 2.7x         | 4.4x         | 9.1x         | 4.7x         |
| KKR & Co                  | 64.4x        | 13.9x        | 14.9x        | nm           | nm           | nm           | nm           |
| Ares Management           | 50.5x        | 37.6x        | 23.3x        | 32.9x        | 60.1x        | 78.0x        | 17.9x        |
| <b>Average</b>            | <b>41.2x</b> | <b>15.3x</b> | <b>17.5x</b> | <b>15.1x</b> | <b>25.4x</b> | <b>36.1x</b> | <b>10.8x</b> |

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day  
 Multiples shown as "nm" if negative

(1) KKR exhibited LTM Operating Margin of negative 225% and is excluded from Figure 10.

FIGURE 6: QUARTER OVER QUARTER % CHANGE IN STOCK PRICE

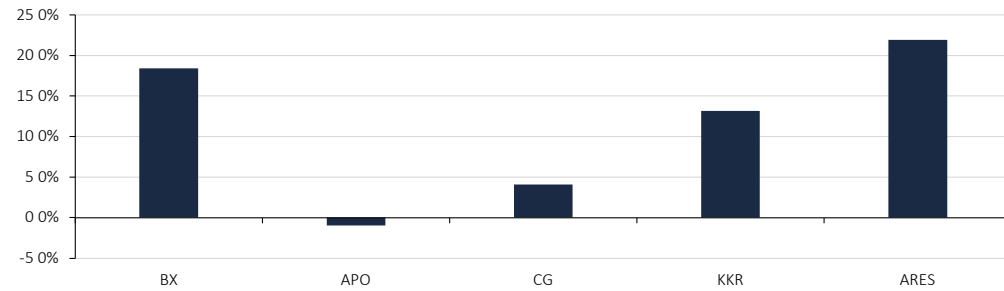


FIGURE 7: EV / LTM MANAGEMENT FEES

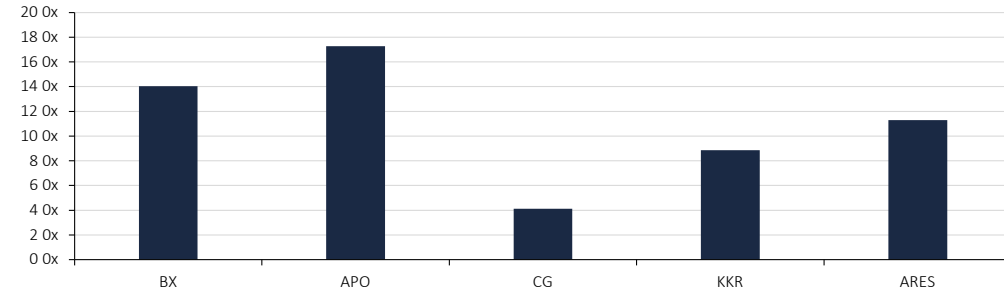
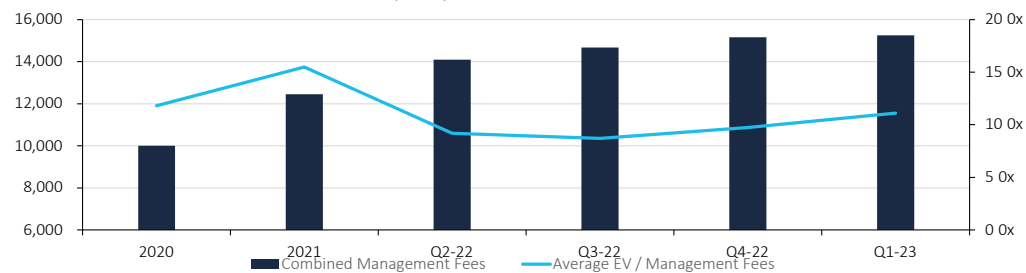
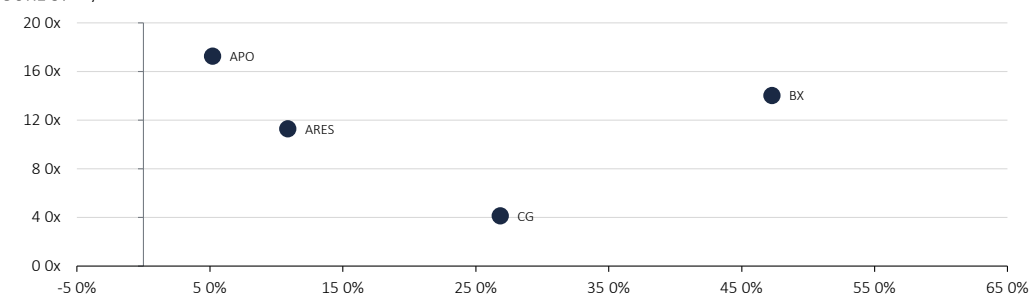
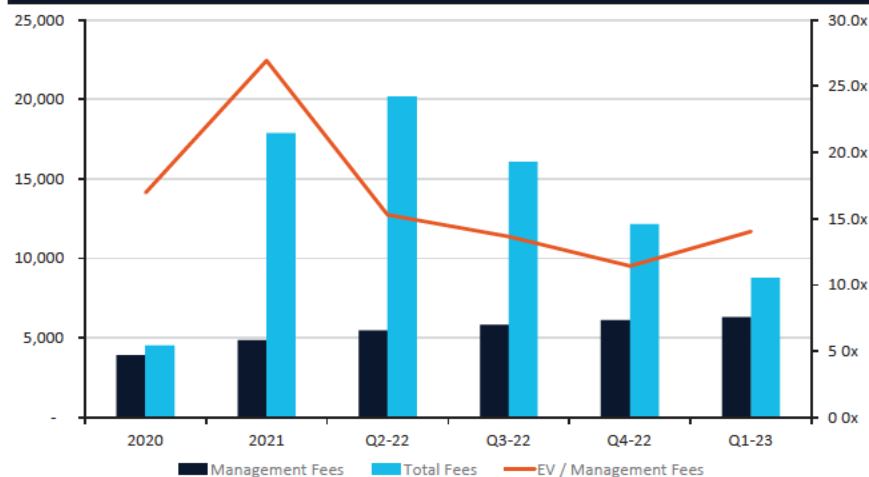


FIGURE 8: COMBINED LTM MANAGEMENT FEES (\$MM) AND AVERAGE EV/LTM MANAGEMENT FEES MULTIPLES

FIGURE 9: EV/LTM MANAGEMENT FEES AND LTM OPERATING MARGIN <sup>1</sup>



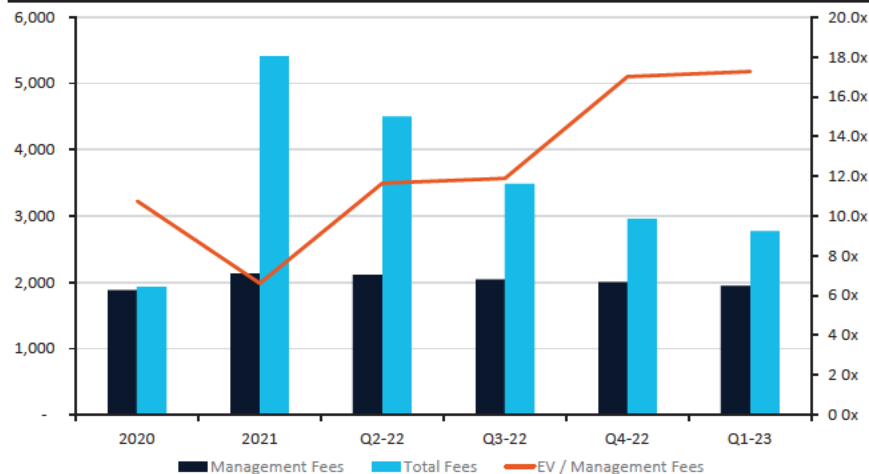
## BLACKSTONE INC.



## MARKET MULTIPLES

|                       | 2020  | 2021  | Q2-22 | Q3-22 | Q4-22 | Q1-23 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| EV / Management Fees  | 16.9x | 26.9x | 15.3x | 13.6x | 11.4x | 14.0x |
| EV / Total Fees       | 14.6x | 7.3x  | 4.1x  | 4.9x  | 5.8x  | 10.1x |
| EV / Operating Income | 37.7x | 13.8x | 7.8x  | 9.6x  | 11.6x | 21.3x |

## APOLLO GLOBAL MANAGEMENT



## MARKET MULTIPLES

|                       | 2020  | 2021 | Q2-22 | Q3-22 | Q4-22 | Q1-23 |
|-----------------------|-------|------|-------|-------|-------|-------|
| EV / Management Fees  | 10.7x | 6.6x | 11.6x | 11.9x | 17.0x | 12.1x |
| EV / Total Fees       | 10.5x | 2.6x | 5.5x  | 7.0x  | 11.5x | 12.1x |
| EV / Operating Income | 36.6x | 5.7x | 39.1x | n/a   | n/a   | n/a   |

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day.

Quarterly financials reflect latest trailing twelve month data.

(1) Total Debt of Blackstone Inc. includes \$1.5 Bn of Blackstone Fund Facilities loans.

## PERFORMANCE METRICS

|                         | 2020            | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23        | ΔQ/Q          |
|-------------------------|-----------------|---------------|---------------|---------------|---------------|--------------|---------------|
| AUM                     | \$ 618,557      | \$ 880,902    | \$ 915,492    | \$ 940,806    | \$ 950,947    | \$ 991,294   | 4.2%          |
| Fee Earning AUM         | 469,433         | 649,969       | 677,943       | 683,826       | 705,865       | 731,973      | 3.7%          |
| Management Fees ("MF")  | 3,902           | 4,845         | 5,469         | 5,817         | 6,114         | 6,303        | 3.1%          |
| Performance Fees ("PF") | 634             | 13,029        | 14,712        | 10,258        | 6,028         | 2,472        | -59.0%        |
| <b>Total Fees</b>       | <b>\$ 4,536</b> | <b>17,874</b> | <b>20,180</b> | <b>16,076</b> | <b>12,143</b> | <b>8,775</b> | <b>-27.7%</b> |
| <b>Operating Income</b> | <b>\$ 1,752</b> | <b>9,481</b>  | <b>10,788</b> | <b>8,238</b>  | <b>6,030</b>  | <b>4,150</b> | <b>-31.2%</b> |
| Operating Income Margin | 38.6%           | 53.0%         | 53.5%         | 51.2%         | 49.7%         | 47.3%        | -2.4%         |
| AUM Growth              | 15.0%           | 38.5%         | 4.3%          | 0.9%          | 3.2%          | 3.7%         |               |
| MF / Fee Earning AUM    | 0.9%            | 0.9%          | 0.9%          | 0.9%          | 0.9%          | 0.9%         |               |
| PF / Fee Earning AUM    | 0.1%            | 2.4%          | 2.3%          | 1.5%          | 0.9%          | 0.3%         |               |

## EV COMPONENTS

|                               | 2020          | 2021           | Q2-22          | Q3-22          | Q4-22         | Q1-23          | ΔQ/Q         |
|-------------------------------|---------------|----------------|----------------|----------------|---------------|----------------|--------------|
| Stock Price                   | \$ 64.81      | \$ 129.39      | \$ 91.23       | \$ 83.70       | \$ 74.19      | \$ 87.84       | 18.4%        |
| Market Cap                    | 76,091        | 150,960        | 106,566        | 97,782         | 86,560        | 102,784        | 18.7%        |
| (+) Debt <sup>1</sup>         | 5,571         | 7,528          | 8,937          | 9,365          | 9,263         | 12,350         | 33.3%        |
| (-) Cash                      | 2,629         | 5,011          | 3,869          | 4,183          | 3,480         | 4,252          | 22.2%        |
| (+) Preferred Stock           | -             | -              | -              | -              | -             | -              | -            |
| <b>EV (Incl. Investments)</b> | <b>79,033</b> | <b>153,476</b> | <b>111,635</b> | <b>102,964</b> | <b>92,343</b> | <b>110,882</b> | <b>20.1%</b> |
| (-) Investments               | 12,940        | 22,999         | 28,023         | 23,559         | 22,428        | 22,417         | 0.0%         |
| <b>EV</b>                     | <b>66,093</b> | <b>130,477</b> | <b>83,611</b>  | <b>79,405</b>  | <b>69,915</b> | <b>88,465</b>  | <b>26.5%</b> |

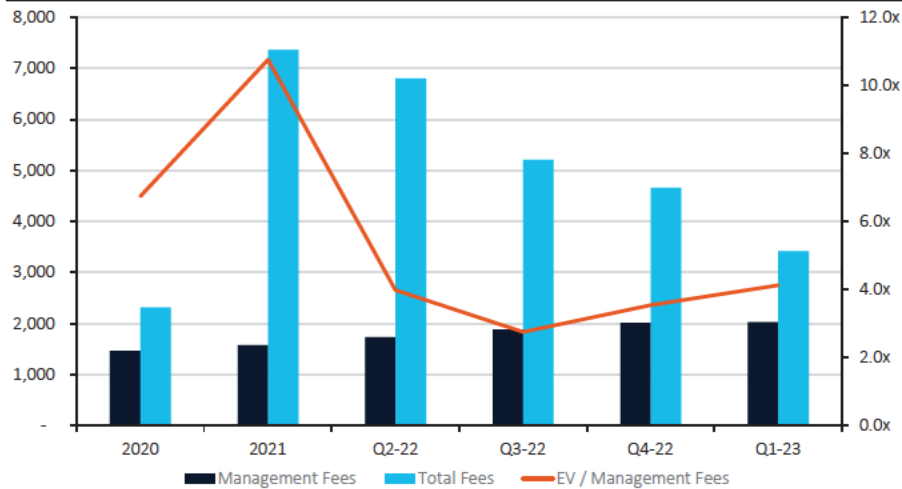
## PERFORMANCE METRICS

|                         | 2020            | 2021         | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q          |
|-------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|---------------|
| AUM                     | \$ 455,486      | \$ 497,552   | \$ 512,843   | \$ 514,762   | \$ 523,292   | \$ 547,647   | 4.7%          |
| Fee Earning AUM         | 348,674         | 369,101      | 375,719      | 380,794      | 394,220      | 412,087      | 4.5%          |
| Management Fees ("MF")  | 1,882           | 2,131        | 2,112        | 2,040        | 2,002        | 1,946        | -2.8%         |
| Performance Fees ("PF") | 48              | 3,278        | 2,387        | 1,444        | 959          | 823          | -14.2%        |
| <b>Total Fees</b>       | <b>\$ 1,930</b> | <b>5,409</b> | <b>4,499</b> | <b>3,485</b> | <b>2,961</b> | <b>2,769</b> | <b>-6.5%</b>  |
| <b>Operating Income</b> | <b>\$ 552</b>   | <b>2,458</b> | <b>629</b>   | <b>(139)</b> | <b>(602)</b> | <b>144</b>   | <b>123.9%</b> |
| Operating Income Margin | 28.6%           | 45.4%        | 14.0%        | -4.0%        | -20.3%       | 5.2%         | 25.5%         |
| AUM Growth              | 41.5%           | 5.9%         | 1.8%         | 1.4%         | 3.5%         | 4.5%         |               |
| MF / Fee Earning AUM    | 0.6%            | 0.6%         | 0.6%         | 0.5%         | 0.5%         | 0.5%         |               |
| PF / Fee Earning AUM    | 0.0%            | 0.9%         | 0.6%         | 0.4%         | 0.2%         | 0.2%         |               |

## EV COMPONENTS

|                               | 2020          | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23         | ΔQ/Q         |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Stock Price                   | \$ 48.98      | \$ 72.43      | \$ 48.48      | \$ 46.50      | \$ 63.79      | \$ 63.16      | -1.0%        |
| Market Cap                    | 21,201        | 17,860        | 27,850        | 26,620        | 36,506        | 36,042        | -1.3%        |
| (+) Debt                      | 3,151         | 3,153         | 2,815         | 2,813         | 2,810         | 2,814         | 0.1%         |
| (-) Cash                      | 1,839         | 2,090         | 2,284         | 2,239         | 1,816         | 2,249         | 23.8%        |
| (+) Preferred Stock           | 554           | 554           | -             | -             | -             | -             | -            |
| <b>EV (Incl. Investments)</b> | <b>23,068</b> | <b>19,477</b> | <b>28,381</b> | <b>27,194</b> | <b>37,500</b> | <b>36,607</b> | <b>-2.4%</b> |
| (-) Investments               | 2,849         | 5,388         | 3,784         | 2,941         | 3,465         | 3,008         | -13.2%       |
| <b>EV</b>                     | <b>20,219</b> | <b>14,089</b> | <b>24,597</b> | <b>24,253</b> | <b>34,035</b> | <b>33,599</b> | <b>-1.3%</b> |

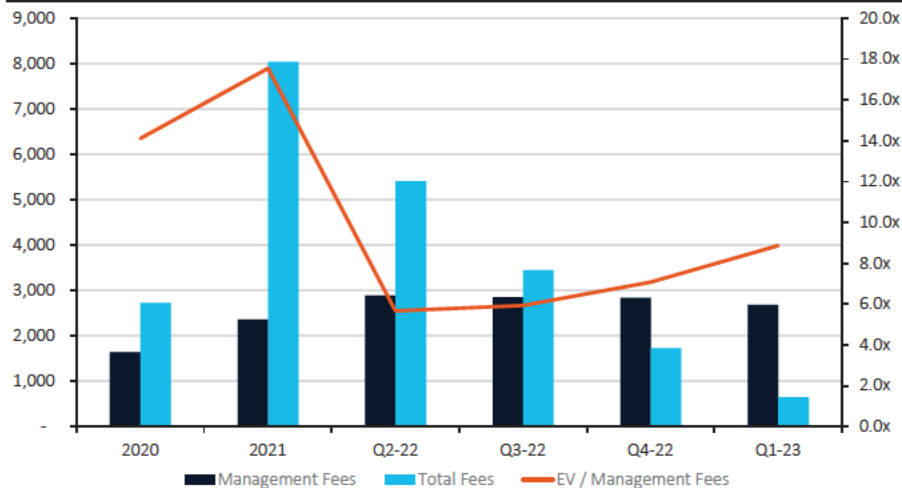
## THE CARLYLE GROUP



## MARKET MULTIPLES

|                       | 2020  | 2021  | Q2-22 | Q3-22 | Q4-22 | Q1-23 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| EV / Management Fees  | 6.7x  | 10.8x | 4.0x  | 2.8x  | 3.5x  | 4.1x  |
| EV / Total Fees       | 4.2x  | 2.3x  | 1.0x  | 1.0x  | 1.5x  | 2.4x  |
| EV / Operating Income | 16.7x | 5.4x  | 2.5x  | 2.7x  | 4.4x  | 9.1x  |

## KKR &amp; CO.



## MARKET MULTIPLES

|                       | 2020  | 2021  | Q2-22 | Q3-22 | Q4-22 | Q1-23 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| EV / Management Fees  | 14.1x | 17.5x | 5.7x  | 5.9x  | 7.1x  | 8.9x  |
| EV / Total Fees       | 8.5x  | 5.2x  | 3.0x  | 4.9x  | 11.6x | 36.6x |
| EV / Operating Income | 64.4x | 13.9x | 14.9x | n/a   | n/a   | n/a   |

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day.

Quarterly financials reflect latest trailing twelve month data.

## PERFORMANCE METRICS

|                         | 2020            | 2021         | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q          |
|-------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|---------------|
| AUM                     | \$ 245,769      | \$ 300,957   | \$ 325,166   | \$ 376,413   | \$ 368,762   | \$ 372,691   | 1.1%          |
| Fee Earning AUM         | 170,102         | 193,419      | 211,060      | 259,555      | 260,214      | 266,577      | 2.4%          |
| Management Fees ("MF")  | 1,464           | 1,577        | 1,737        | 1,889        | 2,018        | 2,030        | 0.6%          |
| Performance Fees ("PF") | 858             | 5,789        | 5,062        | 3,322        | 2,648        | 1,391        | -47.5%        |
| <b>Total Fees</b>       | <b>\$ 2,322</b> | <b>7,366</b> | <b>6,799</b> | <b>5,211</b> | <b>4,665</b> | <b>3,421</b> | <b>-26.7%</b> |
| <b>Operating Income</b> | <b>\$ 590</b>   | <b>3,129</b> | <b>2,782</b> | <b>1,915</b> | <b>1,616</b> | <b>919</b>   | <b>-43.2%</b> |
| Operating Income Margin | 25.4%           | 42.5%        | 40.9%        | 36.8%        | 34.6%        | 26.8%        | -7.8%         |
| AUM Growth              | 5.6%            | 13.7%        | 9.1%         | 23.0%        | 0.3%         | 2.4%         |               |
| MF / Fee Earning AUM    | 0.9%            | 0.9%         | 0.8%         | 0.8%         | 0.8%         | 0.8%         |               |
| PF / Fee Earning AUM    | 0.5%            | 3.2%         | 2.4%         | 1.4%         | 1.1%         | 0.5%         |               |

## EV COMPONENTS

|                        | 2020         | 2021          | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q         |
|------------------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|
| Stock Price            | \$ 31.44     | \$ 54.90      | \$ 31.66     | \$ 25.84     | \$ 29.84     | \$ 31.06     | 4.1%         |
| Market Cap             | 11,115       | 19,570        | 11,437       | 9,337        | 10,850       | 11,313       | 4.3%         |
| (+) Debt               | 1,987        | 2,371         | 2,280        | 2,265        | 2,259        | 2,297        | 1.7%         |
| (-) Cash               | 938          | 2,399         | 1,290        | 1,309        | 1,362        | 1,361        | -0.1%        |
| (+) Preferred Stock    | -            | -             | -            | -            | -            | -            | -            |
| EV (Incl. Investments) | 12,163       | 19,541        | 12,427       | 10,292       | 11,747       | 12,249       | 4.3%         |
| (-) Investments        | 2,300        | 2,578         | 5,510        | 5,092        | 4,589        | 3,874        | -15.6%       |
| <b>EV</b>              | <b>9,863</b> | <b>16,963</b> | <b>6,917</b> | <b>5,200</b> | <b>7,159</b> | <b>8,375</b> | <b>17.0%</b> |

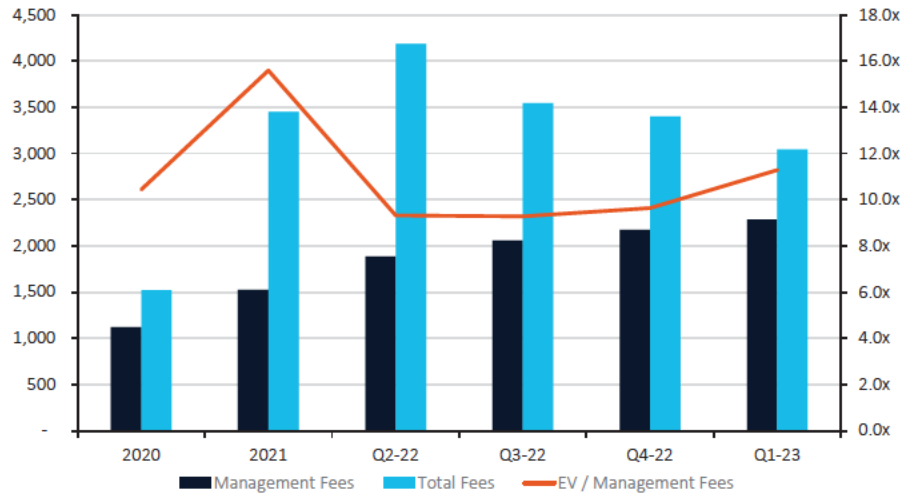
## PERFORMANCE METRICS

|                         | 2020            | 2021         | Q2-22        | Q3-22        | Q4-22          | Q1-23          | ΔQ/Q          |
|-------------------------|-----------------|--------------|--------------|--------------|----------------|----------------|---------------|
| AUM                     | \$ 251,679      | \$ 470,555   | \$ 479,032   | \$ 490,692   | \$ 496,219     | \$ 503,897     | 1.5%          |
| Fee Earning AUM         | 186,217         | 357,389      | 371,176      | 384,470      | 397,627        | 411,923        | 3.6%          |
| Management Fees ("MF")  | 1,638           | 2,363        | 2,886        | 2,856        | 2,840          | 2,685          | -5.5%         |
| Performance Fees ("PF") | 1,087           | 5,670        | 2,524        | 593          | (1,107)        | (2,035)        | -83.9%        |
| <b>Total Fees</b>       | <b>\$ 2,726</b> | <b>8,033</b> | <b>5,409</b> | <b>3,449</b> | <b>1,734</b>   | <b>650</b>     | <b>-62.5%</b> |
| <b>Operating Income</b> | <b>\$ 359</b>   | <b>2,992</b> | <b>1,097</b> | <b>(66)</b>  | <b>(1,047)</b> | <b>(1,463)</b> | <b>-39.7%</b> |
| Operating Income Margin | 13.2%           | 37.2%        | 20.3%        | -1.9%        | -60.4%         | -225.0%        | -164.6%       |
| AUM Growth              | 15.5%           | 91.9%        | 3.9%         | 3.6%         | 3.4%           | 3.6%           |               |
| MF / Fee Earning AUM    | 1.0%            | 0.7%         | 0.8%         | 0.8%         | 0.7%           | 0.7%           |               |
| PF / Fee Earning AUM    | 0.6%            | 1.7%         | 0.7%         | 0.2%         | -0.3%          | -0.5%          |               |

## EV COMPONENTS

|                        | 2020          | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23         | ΔQ/Q         |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Stock Price            | \$ 40.49      | \$ 74.50      | \$ 46.29      | \$ 43.00      | \$ 46.42      | \$ 52.52      | 13.1%        |
| Market Cap             | 34,334        | 63,775        | 39,408        | 36,973        | 39,973        | 45,225        | 13.1%        |
| (+) Debt               | 5,591         | 6,067         | 6,753         | 7,869         | 7,779         | 7,906         | 1.6%         |
| (-) Cash               | 4,363         | 11,974        | 12,915        | 11,851        | 11,059        | 12,824        | 16.0%        |
| (+) Preferred Stock    | 1,601         | 1,118         | 1,116         | 1,116         | 1,116         | 1,116         | -            |
| EV (Incl. Investments) | 37,163        | 58,987        | 34,362        | 34,107        | 37,808        | 41,424        | 9.6%         |
| (-) Investments        | 14,042        | 17,550        | 17,987        | 17,159        | 17,686        | 17,628        | -0.3%        |
| <b>EV</b>              | <b>23,121</b> | <b>41,437</b> | <b>16,375</b> | <b>16,948</b> | <b>20,123</b> | <b>23,796</b> | <b>18.3%</b> |

## ARES MANAGEMENT CORPORATION



## MARKET MULTIPLES

|                       | 2020  | 2021  | Q2-22 | Q3-22 | Q4-22 | Q1-23 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| EV / Management Fees  | 10.4x | 15.6x | 9.3x  | 9.3x  | 9.6x  | 11.3x |
| EV / Total Fees       | 7.7x  | 6.9x  | 4.2x  | 5.4x  | 6.2x  | 8.5x  |
| EV / Operating Income | 50.5x | 37.6x | 23.3x | 32.9x | 60.1x | 78.0x |

Financial metrics have been presented with a one quarter lag in order to reflect the market's information as of the specific trading day.  
Quarterly financials reflect latest trailing twelve month data.

## PERFORMANCE METRICS

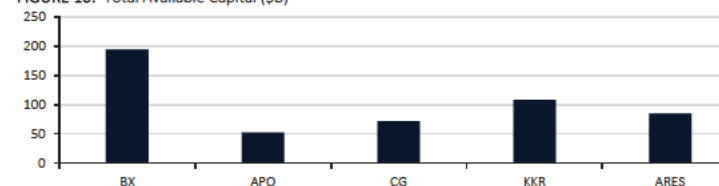
|                         | 2020            | 2021         | Q2-22        | Q3-22        | Q4-22        | Q1-23        | ΔQ/Q          |
|-------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|---------------|
| AUM                     | \$ 196,980      | \$ 305,775   | \$ 325,019   | \$ 334,313   | \$ 341,416   | \$ 360,300   | 5.5%          |
| Fee Earning AUM         | 126,000         | 187,800      | 211,000      | 223,700      | 232,600      | 233,900      | 0.6%          |
| Management Fees ("MF")  | 1,120           | 1,525        | 1,885        | 2,060        | 2,175        | 2,284        | 5.0%          |
| Performance Fees ("PF") | 404             | 1,928        | 2,301        | 1,484        | 1,224        | 759          | -38.0%        |
| <b>Total Fees</b>       | <b>\$ 1,524</b> | <b>3,453</b> | <b>4,186</b> | <b>3,544</b> | <b>3,399</b> | <b>3,043</b> | <b>-10.5%</b> |
| <b>Operating Income</b> | <b>\$ 232</b>   | <b>633</b>   | <b>752</b>   | <b>580</b>   | <b>349</b>   | <b>330</b>   | <b>-5.3%</b>  |
| Operating Income Margin | 15.2%           | 18.3%        | 18.0%        | 16.4%        | 10.3%        | 10.9%        | 0.6%          |
| AUM Growth              | 20.2%           | 49.0%        | 12.4%        | 6.0%         | 4.0%         | 0.6%         |               |
| MF / Fee Earning AUM    | 1.0%            | 0.9%         | 0.9%         | 1.0%         | 1.0%         | 1.3%         |               |
| PF / Fee Earning AUM    | 0.3%            | 1.2%         | 1.1%         | 0.7%         | 0.5%         | 0.4%         |               |

## EV COMPONENTS

|                        | 2020          | 2021          | Q2-22         | Q3-22         | Q4-22         | Q1-23         | ΔQ/Q         |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| Stock Price            | \$ 47.05      | \$ 81.27      | \$ 56.86      | \$ 61.95      | \$ 68.44      | \$ 83.44      | 21.9%        |
| Market Cap             | 12,160        | 23,561        | 16,690        | 18,208        | 20,134        | 24,760        | 23.0%        |
| (+) Debt               | 643           | 1,238         | 1,943         | 1,968         | 2,018         | 2,274         | 12.7%        |
| (-) Cash               | 869           | 296           | 346           | 253           | 362           | 390           | 7.9%         |
| (+) Preferred Stock    | 299           | -             | -             | -             | -             | -             | -            |
| EV (Incl. Investments) | 12,233        | 24,503        | 18,286        | 19,923        | 21,791        | 26,644        | 22.3%        |
| (-) Investments        | 538           | 697           | 724           | 806           | 820           | 866           | 5.6%         |
| <b>EV</b>              | <b>11,694</b> | <b>23,806</b> | <b>17,562</b> | <b>19,117</b> | <b>20,971</b> | <b>25,778</b> | <b>22.9%</b> |

| Total Available Capital / Dry Powder (\$B) |            |            |            |            |            |            |             |
|--------------------------------------------|------------|------------|------------|------------|------------|------------|-------------|
|                                            | 2020       | 2021       | Q2-22      | Q3-22      | Q4-22      | Q1-23      | ΔQ/Q (%)    |
| The Blackstone Group                       | \$ 148     | \$ 127     | \$ 139     | \$ 170     | \$ 182     | \$ 194     | 6.5%        |
| Apollo Global Management                   | 46         | 47         | 48         | 51         | 51         | 52         | 2.0%        |
| The Carlyle Group                          | 76         | 89         | 85         | 81         | 74         | 72         | -2.7%       |
| KKR & Co                                   | 67         | 111        | 115        | 115        | 113        | 108        | -4.4%       |
| Ares Management                            | 56         | 86         | 92         | 91         | 88         | 85         | -3.6%       |
| <b>Total</b>                               | <b>393</b> | <b>460</b> | <b>479</b> | <b>508</b> | <b>508</b> | <b>511</b> | <b>0.5%</b> |

FIGURE 10: Total Available Capital (\$B)

**Limited Partners Commitments:**

- In Q1 2023, the five GP managers raised a total of \$556M in commitments for their funds across a variety of investors.
- Ares Management raised \$250M for its Ares Pathfinder Fund II LP from Virginia Retirement System.
- Ares Management raised \$150M for its Ares Capital Europe VI Fund from Virginia Retirement System.
- Ares Management raised \$81M for its Ares Capital Europe VI Fund from Maine Public Employees Retirement System.
- The Carlyle Group raised \$75M for its Carlyle Europe Realty Fund from Indiana Public Retirement System.

FIGURE 12: Blackstone Total Available Capital

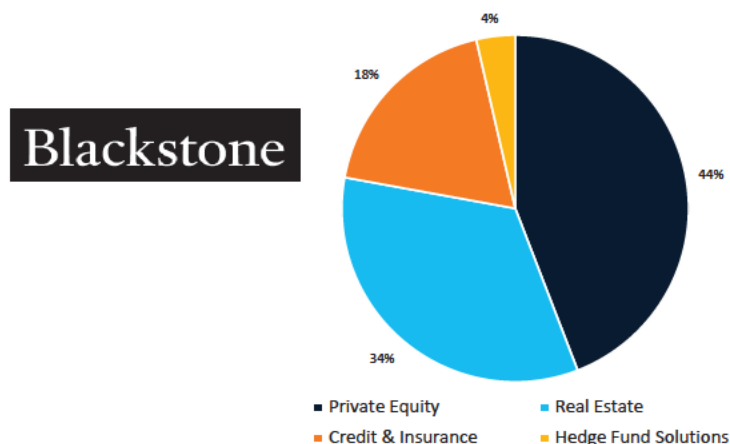


FIGURE 13: Apollo Total Available Capital

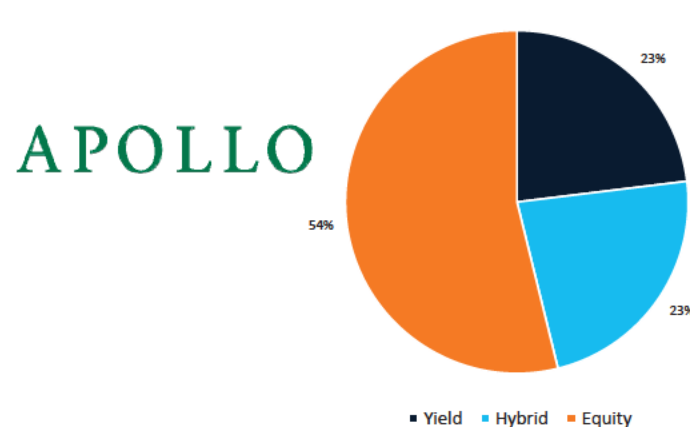


FIGURE 14: Carlyle Total Available Capital

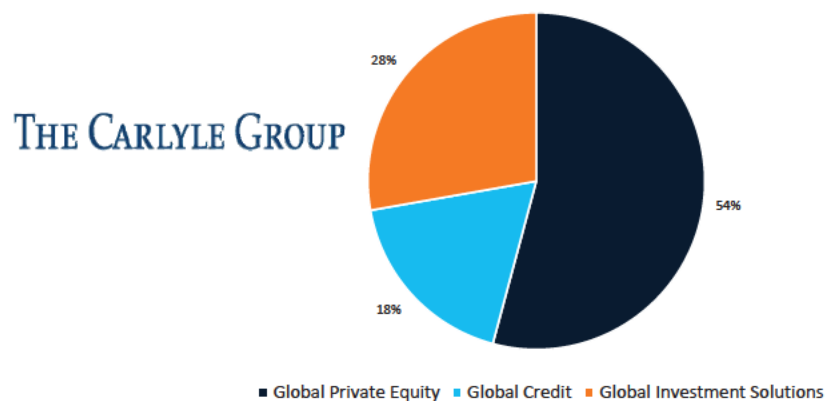
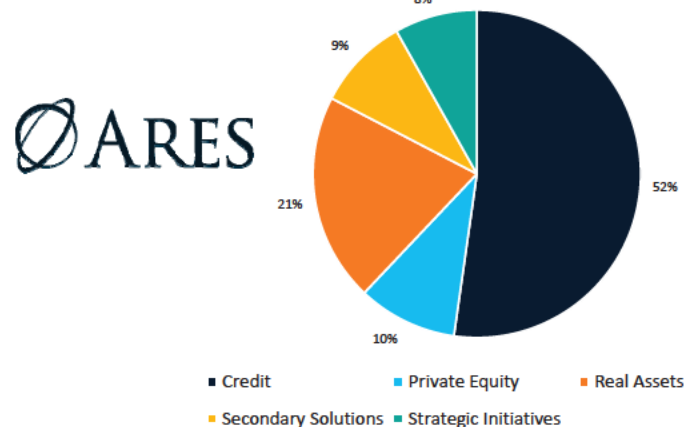


FIGURE 15: Ares Total Available Capital



[1] KKR strategy distribution data not available



## About BRG

Berkeley Research Group, LLC (BRG) is a global consulting firm that helps leading organizations advance in three key areas: disputes and investigations, corporate finance, and performance improvement and advisory. Headquartered in California with offices around the world, we are an integrated group of experts, industry leaders, academics, data scientists, and professionals working beyond borders and disciplines. We harness our collective expertise to deliver the inspired insights and practical strategies our clients need to stay ahead of what's next. Visit [thinkbrg.com](http://thinkbrg.com) to learn more.

## About BRG's GP Valuation Team

BRG brings extensive industry-specific experience through years of working with some of the world's leading GP managers. Our professionals have acted as valuation advisor for numerous engagements in connection with the valuation of GP and LP interests, including:

- GP Manager Valuations: IPO tax structuring, basis for 1940 Act Test, valuation of carry-for-equity exchanges, 83(b) filing in connection with share grants, gift and estate tax planning, tax valuation in connection with a transaction/restructuring, negotiations for non-hostile mergers and acquisition transactions, admission of new partners, reporting of fair value for GP interest, and goodwill determination.
- LP Interest Valuations: negotiations for secondary LP transactions, transfer of interests from wind-down to new fund, valuation of LP for tax reporting, reporting of fair value for LP interests.

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William Epstein has almost 30 years of experience in valuation, and specializes in transaction-related opinions and other valuation services. He has provided financial advice and independent opinions to Fortune 500 and middle-market clients.

Mr. Epstein has extensive experience providing fairness and solvency opinions in connection with many types of transactions, including mergers, acquisitions, recapitalizations, exchange offers, spinoffs, distressed financings, leveraged buyouts, and related-party transactions. He also has testified numerous times as a designated expert regarding valuation. He holds a Certification in Distressed Business Valuation from the Association of Insolvency & Restructuring Advisors and is an active member of the American Bar Association's Committee on Mergers & Acquisitions and the Committee on Private Equity & Venture Capital.



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William "Wick" Smith has more than twenty-five years of corporate finance experience and specializes in transaction-related opinions and valuations related to comply with tax and financial reporting requirements. He has extensive experience in the valuation of intellectual property and other intangible assets, including patents, tradenames, customer-based assets and many others.

Mr. Smith's opinion work has encompassed transactions involving mergers, acquisitions, dividend recaps, spinoffs, leveraged buyouts, and related-party transactions. He has also performed valuation work for tax and financial reporting purposes on transactions ranging in size from \$20 million to over \$2 billion.

Mr. Smith was a Managing Director at Houlihan Lokey for more than fifteen years, where he led the Atlanta office. He provided both fairness and solvency opinions, was appointed to the firm's fairness and solvency committees, and was the co-founder and co-leader of the firm's International Tax and Financial Reporting practice.



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Carl Losito is a Associate Director in BRG's Alternative Investment Valuation services practice in Boston.

Mr. Losito has extensive experience in the valuation of general partner (GP) and limited partner (LP) interests, project management, and advanced financial modeling developed within the consulting and private equity transaction services space. Mr. Losito has helped lead GP and LP valuation engagements for private equity and hedge funds with assets under management of \$30 billion to more than \$100 billion.

Prior to joining BRG, Mr. Losito spent three and a half years at Blackstone performing valuations in its core Private Equity funds. During his time at BX, Carl prepared the European and Asian valuations in their flagship Private Equity and Tactical Opportunities funds developing valuation models for multiple sectors including consumer (cosmetics, beauty), industrials, TMT (Cellular towers, SaaS), specialty finance and real estate.



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