Asset and Wealth Management Benchmarking Insights | Alternatives

Valuation Methods and Metrics

August 2024

pwc

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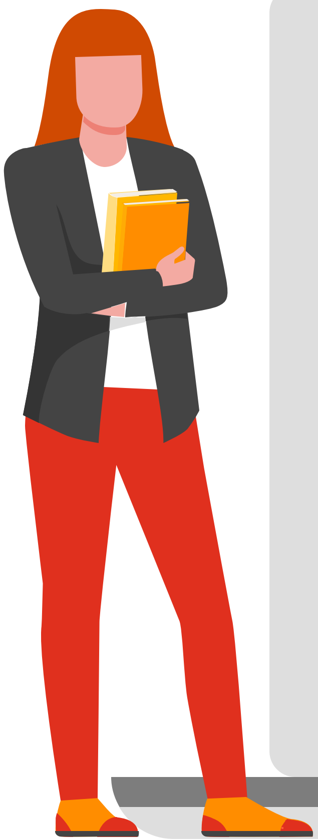
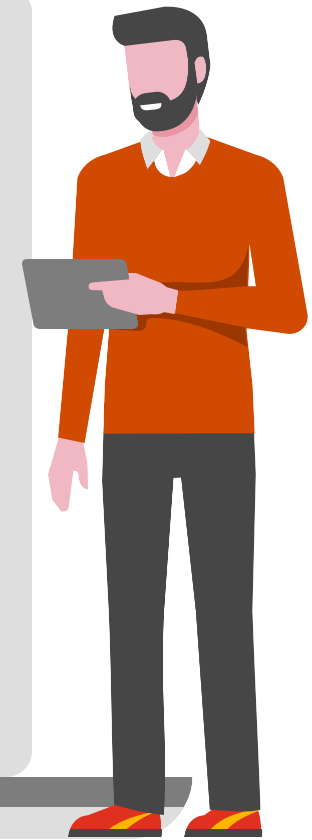




1. Overview

Overview

PwC's Asset and Wealth Management practice is pleased to publish the results from our ***Asset and Wealth Management Benchmarking Insights Series for Alternatives***.

Our benchmarking series is designed to **gather, analyze and share information** about key industry trends and metrics. This report summarizes industry practices and recent data related to **valuation**.

The information reflected in this report leverages the data, knowledge and experience garnered from providing audit services to leading alternative asset management firms. Our valuation report captures information from **over 70 US-based alternative asset management firms** across various product types and strategies representing **over $1.7 trillion of assets under management (AUM)**. Participants primarily have calendar year-ends and include a combination of hedge funds, private equity funds, credit funds and other alternative fund types such as venture capital funds and BDCs.

The **Valuation Insights** section of this report is derived from Valuation Insights, a PwC Product. Valuation Insights is PwC's proprietary valuation technology utilized to develop faster, more transparent valuations. The technology standardizes data integration and valuation execution and facilitates workflow and reporting. Specific to this report, the **Valuation Insights data presented is derived from approximately 1,500 private investments**.

Because of the diverse nature of alternative asset managers, **these results should not be considered representative of all alternative asset management firms**. Furthermore, many of the concepts in this report are influenced by the specific facts and circumstances of each participant. Accordingly, these results should be viewed as directional, rather than authoritative, and do not necessarily represent practices that are applicable in all situations. Lastly, some of the data in this report can be compared to data in previous reports that we have published on the same topic. However, note that there are some survey participants which participated in the current survey, but did not participate in the 2021 survey and vice versa. Therefore, differences should not be interpreted as trends. Should you have any questions about the data herein we encourage you to reach out to our team. Refer to the back of the report for our contact information.

We hope that you find this report interesting and useful as you evaluate your organization on the topics highlighted herein.

Valuation Methods and Metrics – Report Highlights

Included in this report are details about the valuation process, including information about the parties that **prepare and review** the valuations, the **timing** of those activities and how firms **incorporate technology** into their valuation process. As the industry experiences an influx of capital, many alternative asset managers are seeking ways to make their processes more efficient and scalable, and the implementation of technology in the valuation process can be a beneficial way to do so.

We looked at the process for those firms that have an **in-house** valuation function as well as those that utilize one or more **third-party valuation firms** (54% of participants use a third-party valuation firm as part of their valuation process).

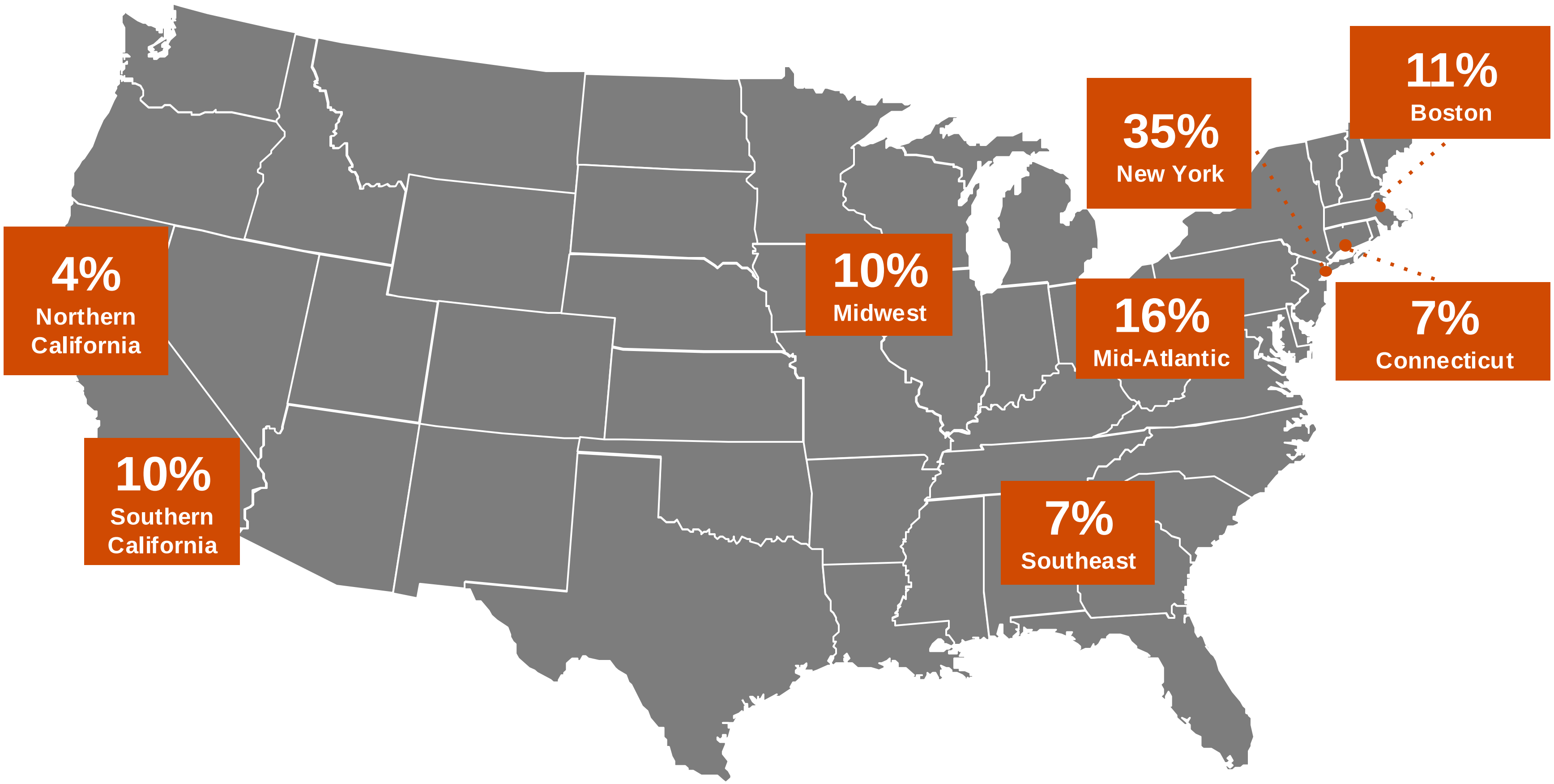
We then examined management's oversight of the valuation process by looking at the composition of the **valuation committee** (87% of participants have a formal valuation committee) as well as the **frequency** and **level of detail** reviewed.

We also analyzed the details of participants' **valuation methodology**, including the use of multiple valuation methods for a given investment, back-testing and the use of **interim data inputs** (81% of participants use interim or estimated inputs in non-exchange traded period-end valuations rather than waiting for coterminous data to be available).

2. Participant Demographics

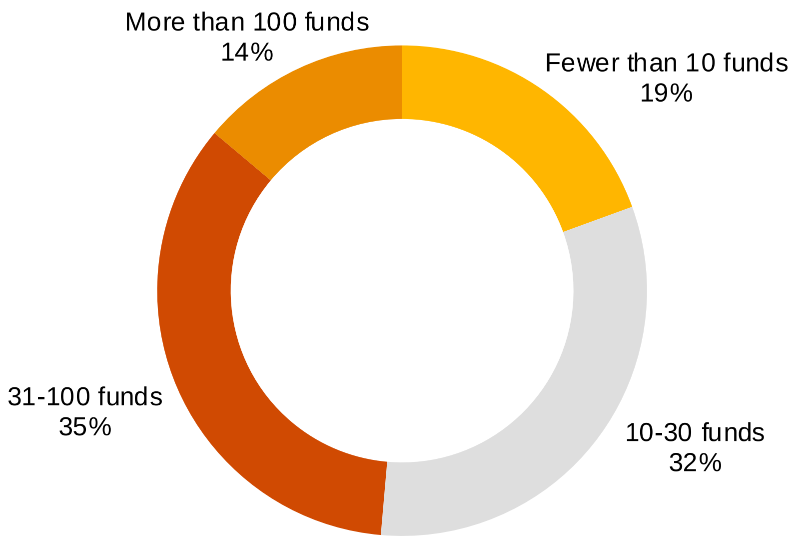
Participant Locations

Detail of US participant locations:

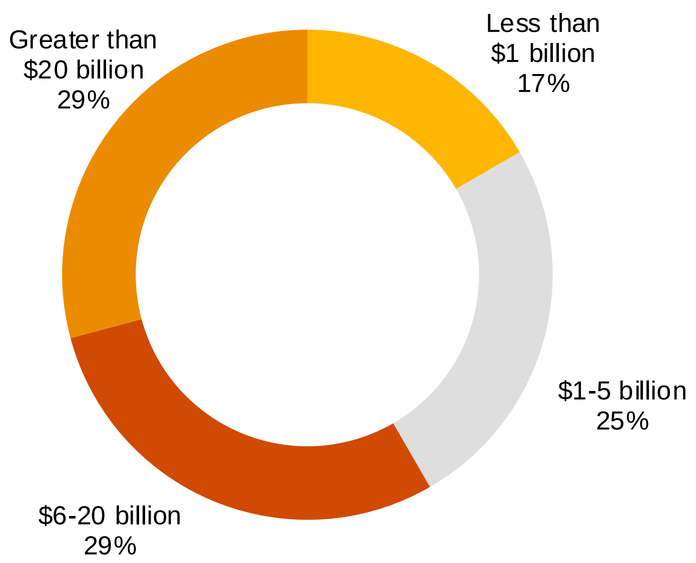


Participant Demographics

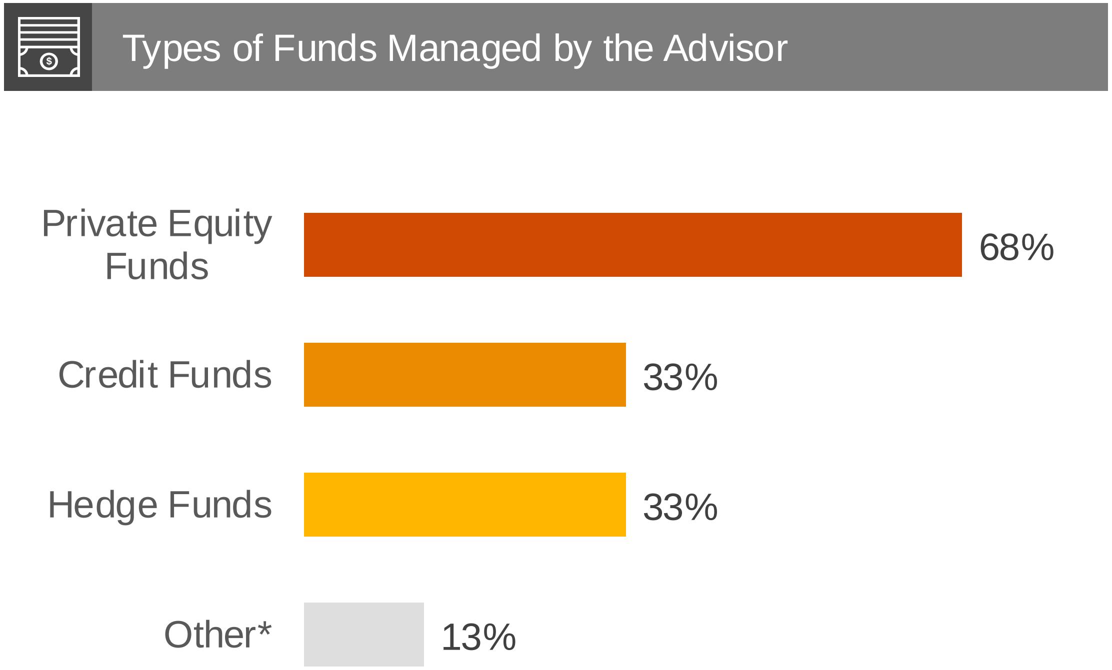
Number of Funds Managed



Assets Under Management



Participant Demographics



*Other includes BDCs, real estate funds and venture capital funds.

Percentages will not sum to 100% as respondents had the ability to select multiple options

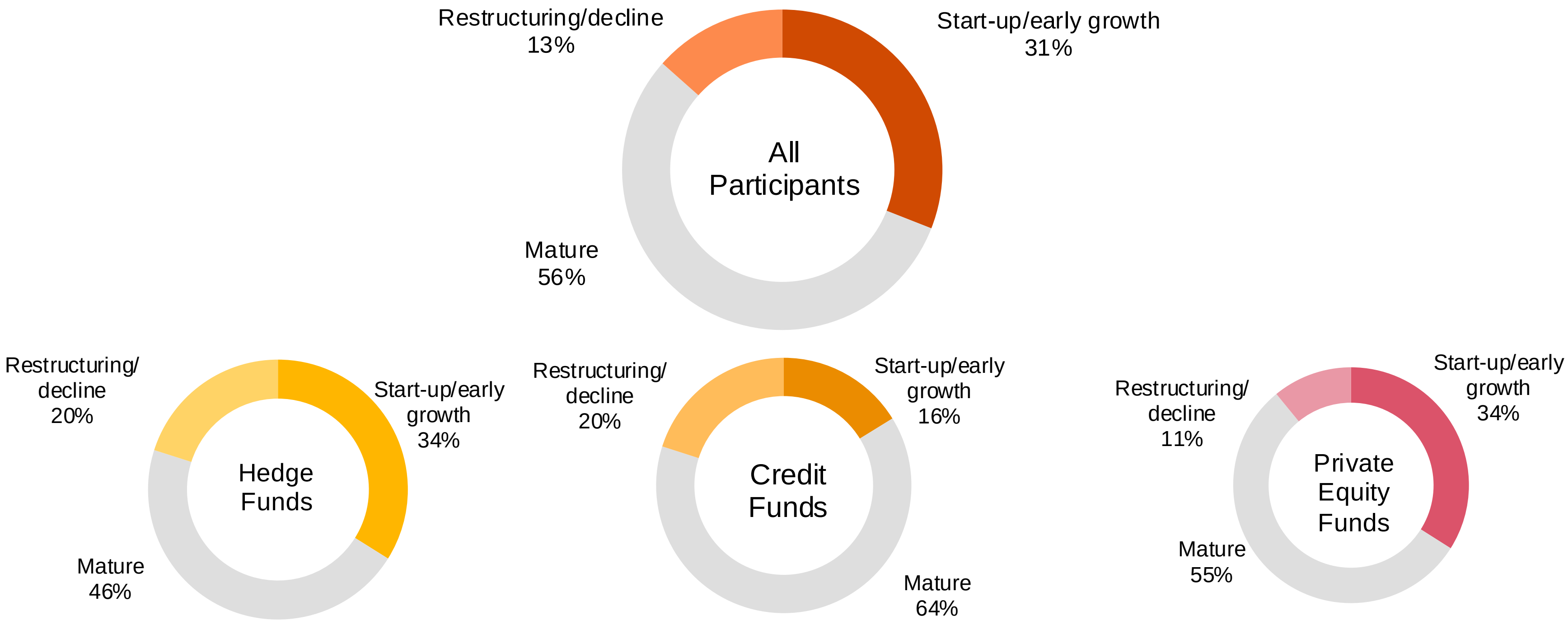
Presentation of data in this report

Throughout this report, data has been organized by showing responses for all participants, as well as separate charts with responses for each of the three primary fund types shown above: Hedge Funds, Credit Funds and Private Equity Funds.

Information has been provided in this format in order to allow comparison between different types of sub-strategies within the alternatives sector. However, as many participants are large institutions that sponsor more than one type of fund, responses from a given participant may be included in more than one of these categories. Furthermore, individual participants in each category may have open-ended funds, closed-ended funds, or a combination of both.

Participant Portfolio Composition

Stages in the corporate life cycle for the funds' portfolio companies

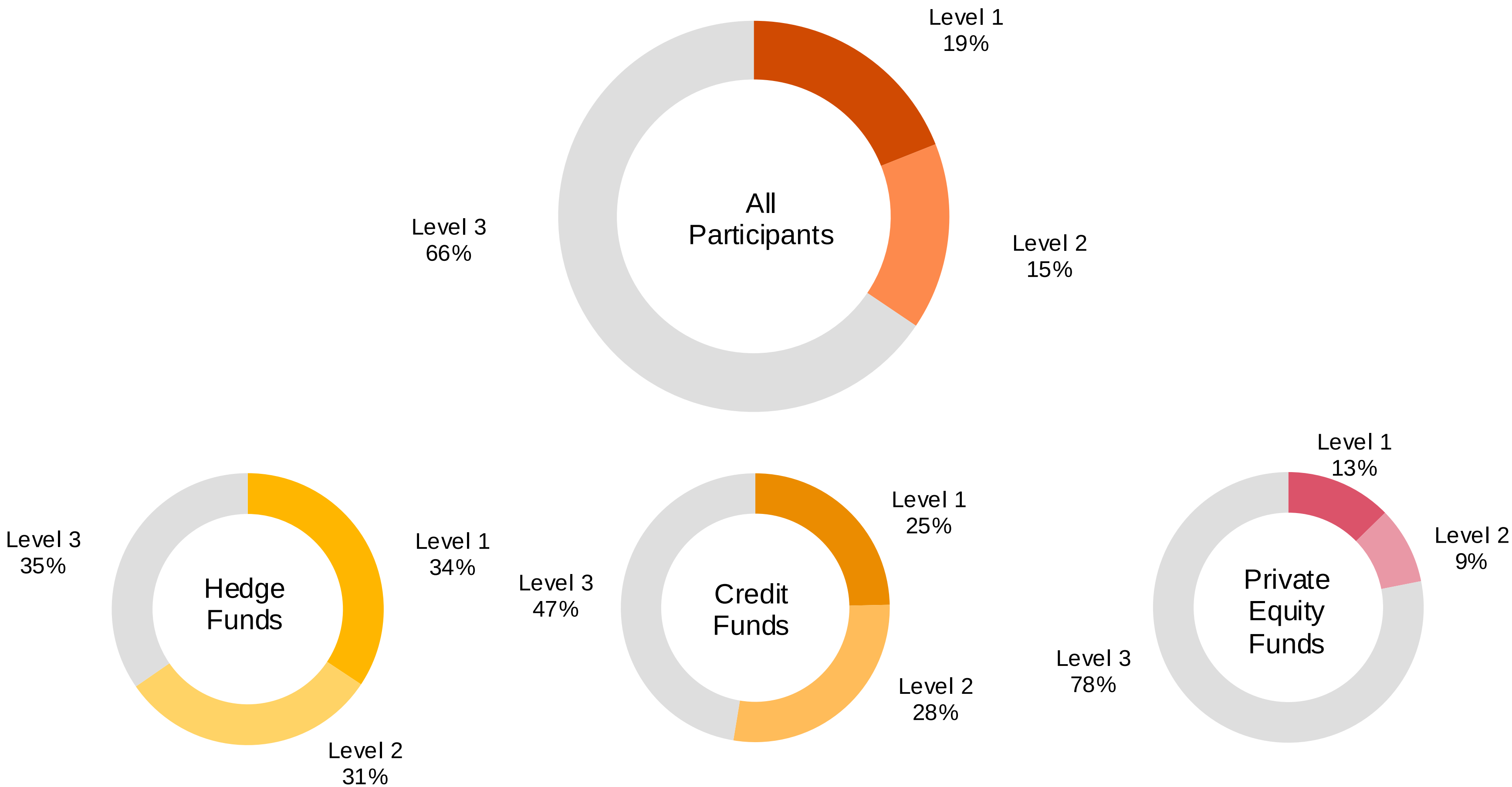


Stages in the corporate life cycle

Alternative asset managers may invest in companies that are in the start-up phase, companies that are in decline or undergoing restructuring, or mature companies. The valuation considerations, whether for equity investments or debt investments, vary depending on the nature of the underlying portfolio companies.

Participant Portfolio Composition

Breakdown of portfolios by investment fair value hierarchy classification



3. Valuation Benchmarking

Valuation Process – In-House Valuation

87%

of all participants utilize an in-house group for the preparation of valuation models

75%	91%	93%
Hedge Funds	Credit Funds	Private Equity

There are three primary operating models for the preparation of valuation models: 1) valuations prepared by front office/deal professionals, 2) valuations prepared by middle office or back office professionals, or 3) valuations are outsourced (the use of third-party valuation firms is covered in the next section of this report).

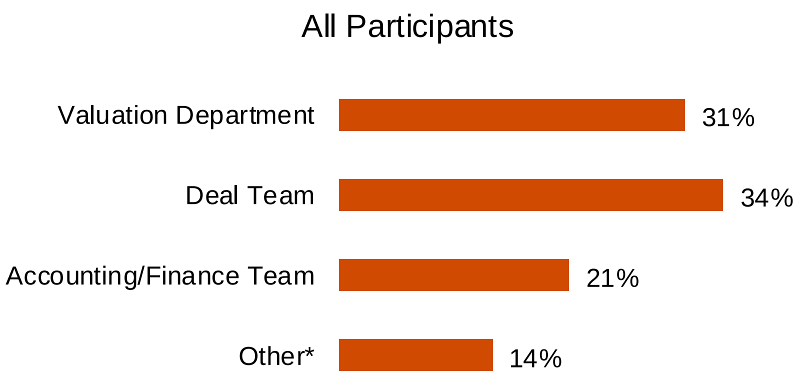
The majority of participants have an in-house function to prepare valuation models, while others (13%) exclusively utilize a third-party valuation firm to prepare models. Note that an in-house function does not necessarily mean a group solely dedicated to valuation.

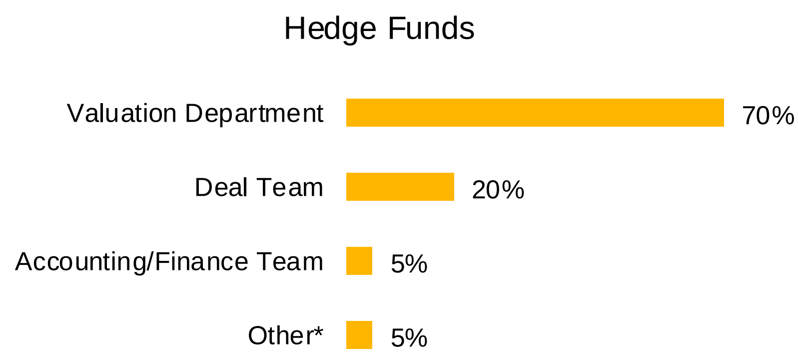
Many of the 87% that utilize an in-house group to prepare valuation models also leverage third-party valuation firms to assist in the valuation process.

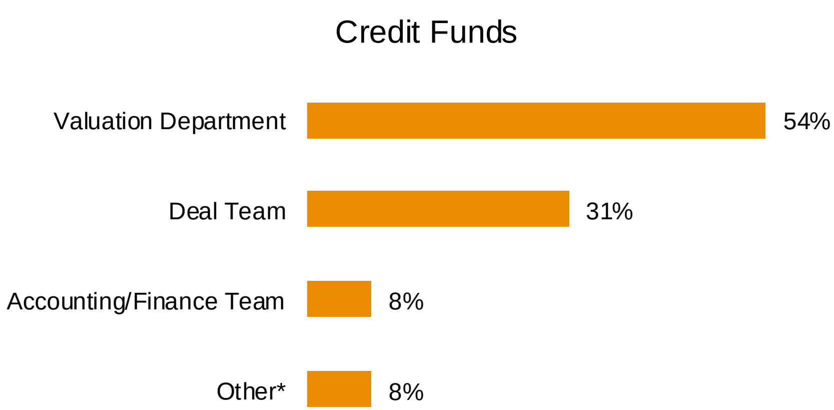
Among the 87%, there is also variability in the manner in which valuation models are prepared, including the frequency and timing of valuations.

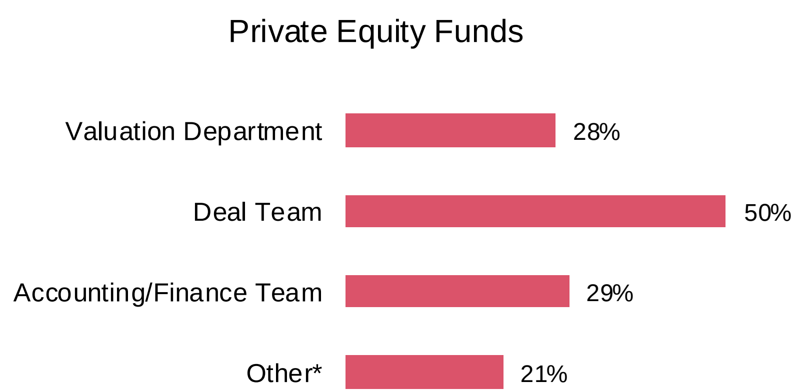
Valuation Process – In-House Valuation

Groups responsible for the preparation of in-house valuation models





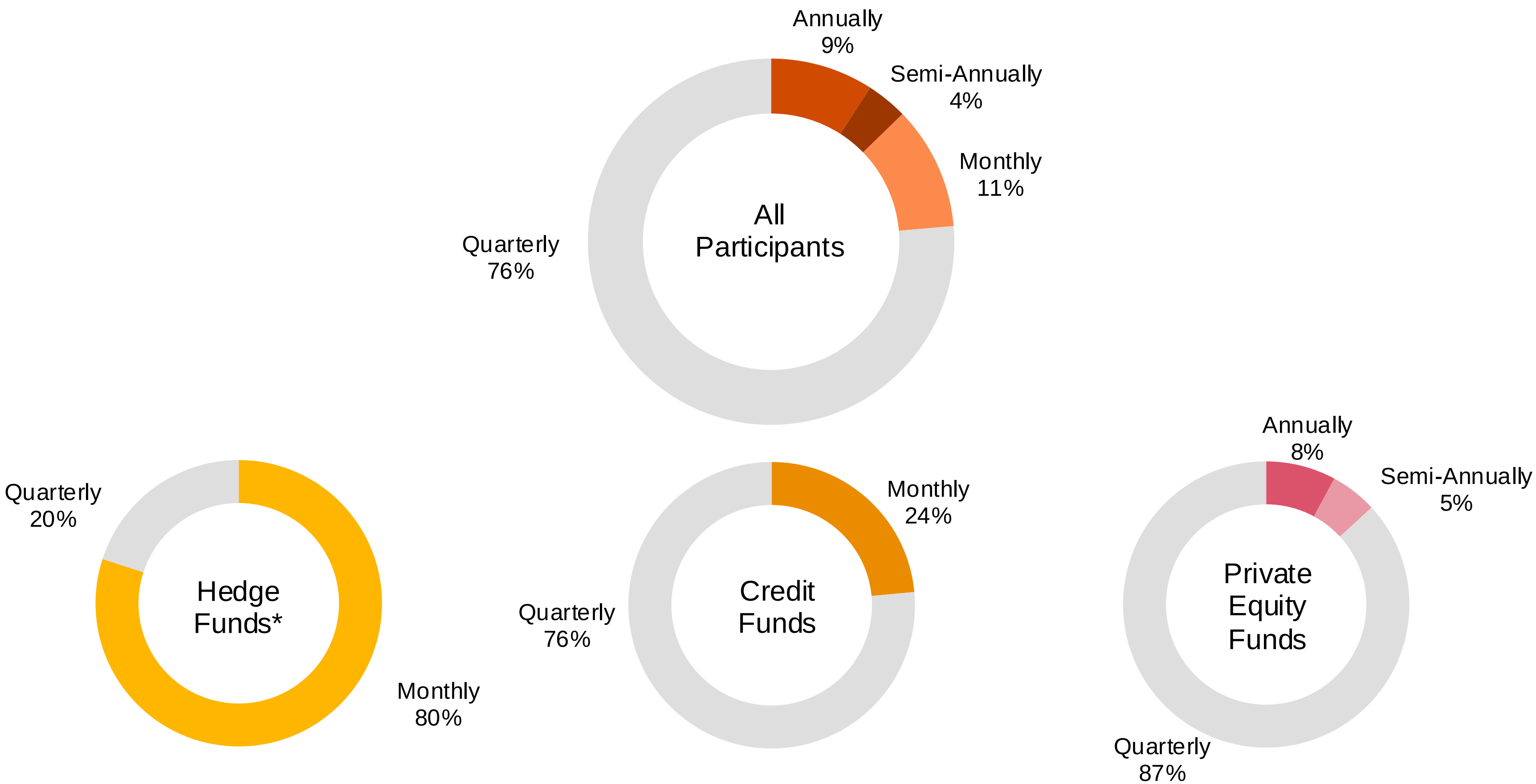




*Other includes the Portfolio Manager or the CFO.

Valuation Process – In-House Valuation

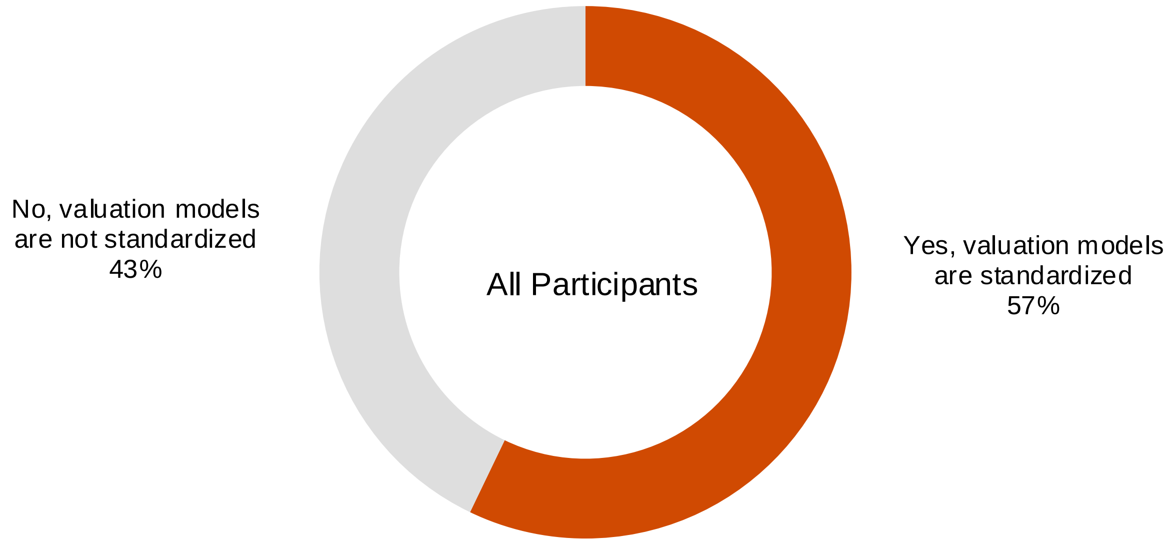
Frequency of in-house valuations



***Includes open ended hedge funds only. Further, for those that indicated quarterly, pricing is obtained monthly to support the NAV process; however, the formal valuation process is completed quarterly.

Valuation Process – In-House Valuation

Use of standardized models for investment valuations



Benefits of standardized valuation models

Most survey participants use standardized valuation models to some extent. Typically, these participants use standardized valuation models by valuation methodology (for example one template for all market approach models), but some also noted using standardized valuation models by asset type (for example one template for all real estate investments). Participants noted that the primary benefits of using a standardized model were ease of review (e.g. valuation committee reviews) and facilitating higher level reporting internally. The use of standardized valuation models can help enable a level of automation and is one way to make the valuation process more efficient and scalable.

Valuation Process – Third-Party Valuation Firms

54%

of all participants use a third-party valuation firm in some capacity

The use of third-party valuation firms is more common for open-ended funds where periodic contributions and redemptions are based on interim net asset values. Over 80% of participants with open-ended vehicles use a third-party valuation firm in some capacity, whereas closer to 40% of participants with closed-ended vehicles do so.

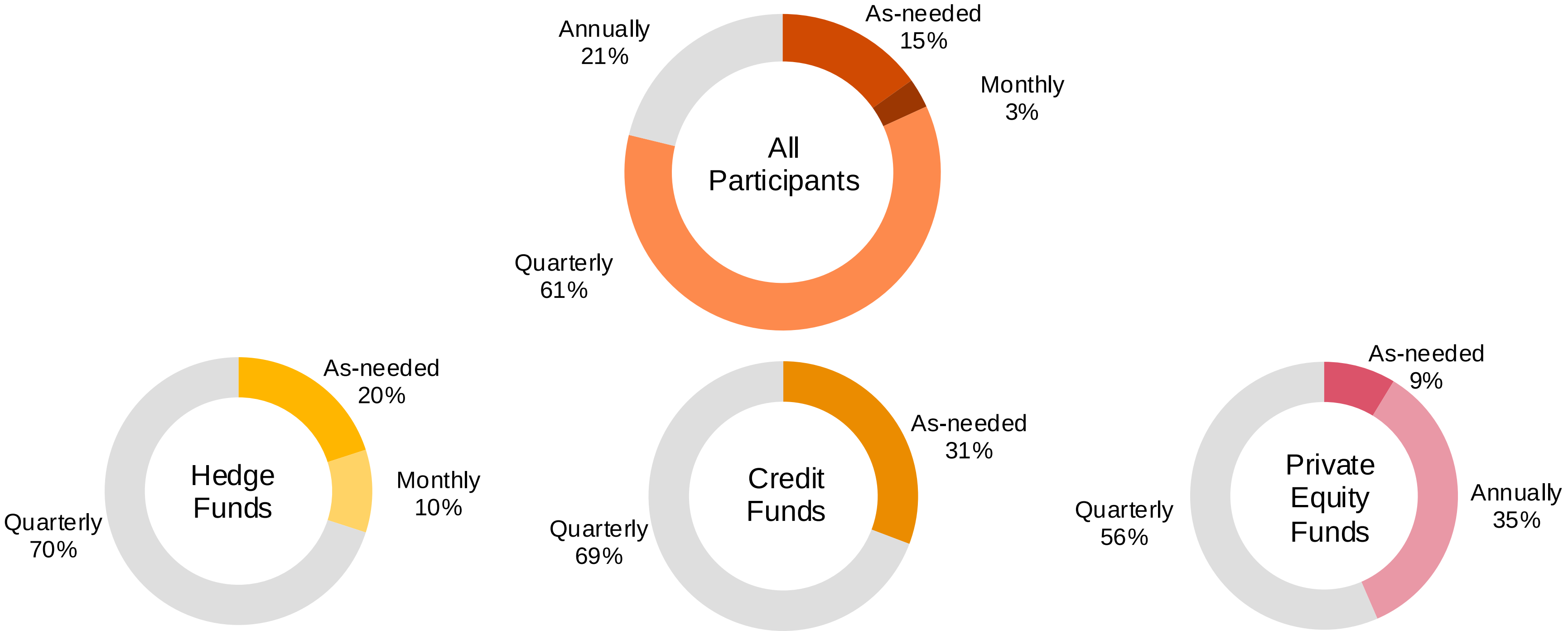
While some participants manage the valuation process fully in-house, many participants engage third-party valuation firms to assist in the process.

The use of third-party valuation firms is often driven by an effort to enhance internal controls but may also be a requirement as set out in fund governing documents or side letters.

Survey participants with Hedge Funds are more likely than other funds (83%) to engage third-party valuation firms than survey participants with other types of funds.

Valuation Process – Third-Party Valuation Firms

Frequency of the preparation of valuation models by third-party valuation firms

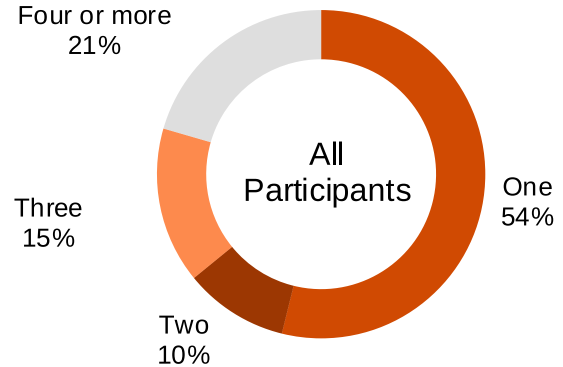


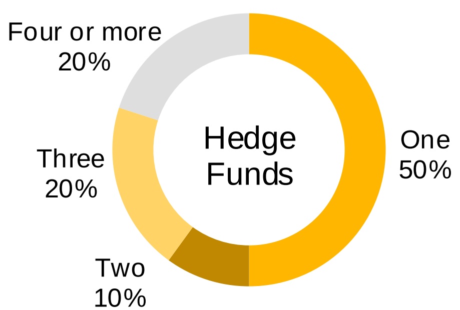
Use of third-party valuations

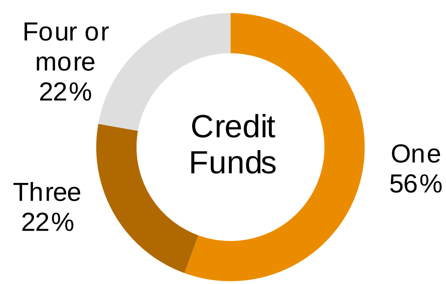
83% of survey participants that use a third-party valuation firm are doing so in addition to the valuation models prepared in-house. Therefore, because in-house valuation models are also being prepared on a periodic basis, the frequency of third-party valuations may not necessarily be in line with the cadence of interim reporting (e.g., monthly or quarterly). However, for survey participants that have valuation models prepared exclusively by third-party valuation firms, the frequency of such valuations is more likely to be consistent with the cadence of interim reporting.

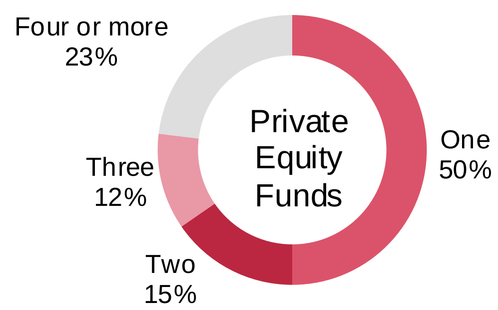
Valuation Process – Third-Party Valuation Firms

Number of third-party valuation firms used







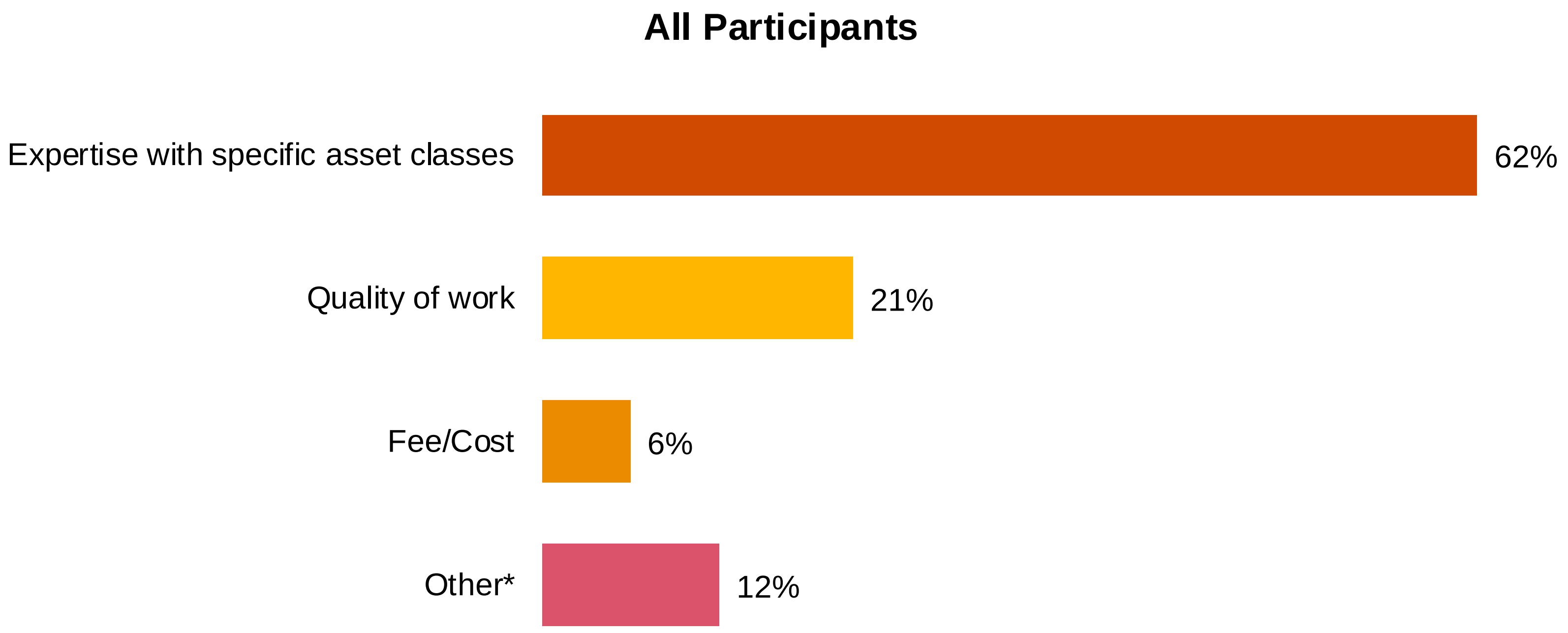


Use of multiple third-party valuation firms

There are several factors that would drive an alternative asset manager to engage multiple third-party valuation firms. The most common factor is advisors seeking specific asset class expertise. Certain third-party firms may specialize in certain asset classes and may therefore be a better fit for a subset of an advisor's portfolio. In other cases, the advisor may be seeking more market perspective and might therefore engage multiple third-party valuation firms.

Valuation Process – Third-Party Valuation Firms

Primary selection criteria for choosing a third-party valuation firm

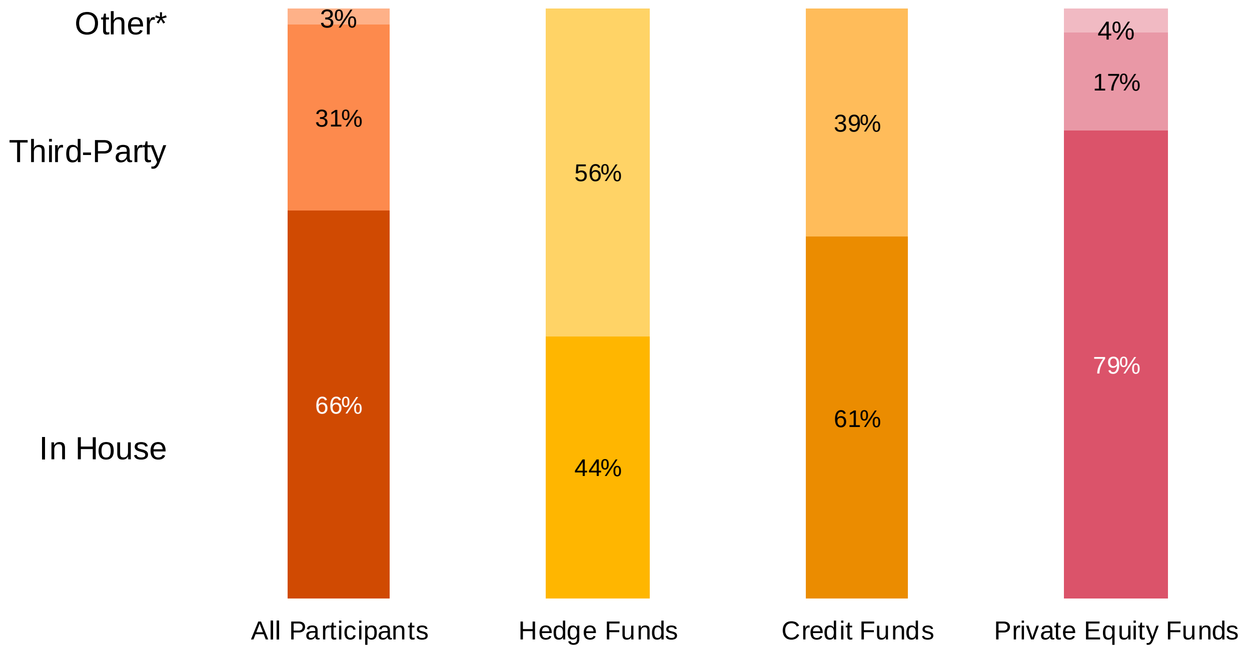


NOTE: Participants were given the option to select multiple responses. Therefore, percentages will not sum to 100%.

*Other includes the ability to cover multiple asset classes and structures, as well as experience with auditors and regulators.

Valuation Process – Third-Party Valuation Firms

If an in-house valuation is developed in addition to a third-party valuation obtained, which is considered the official value?



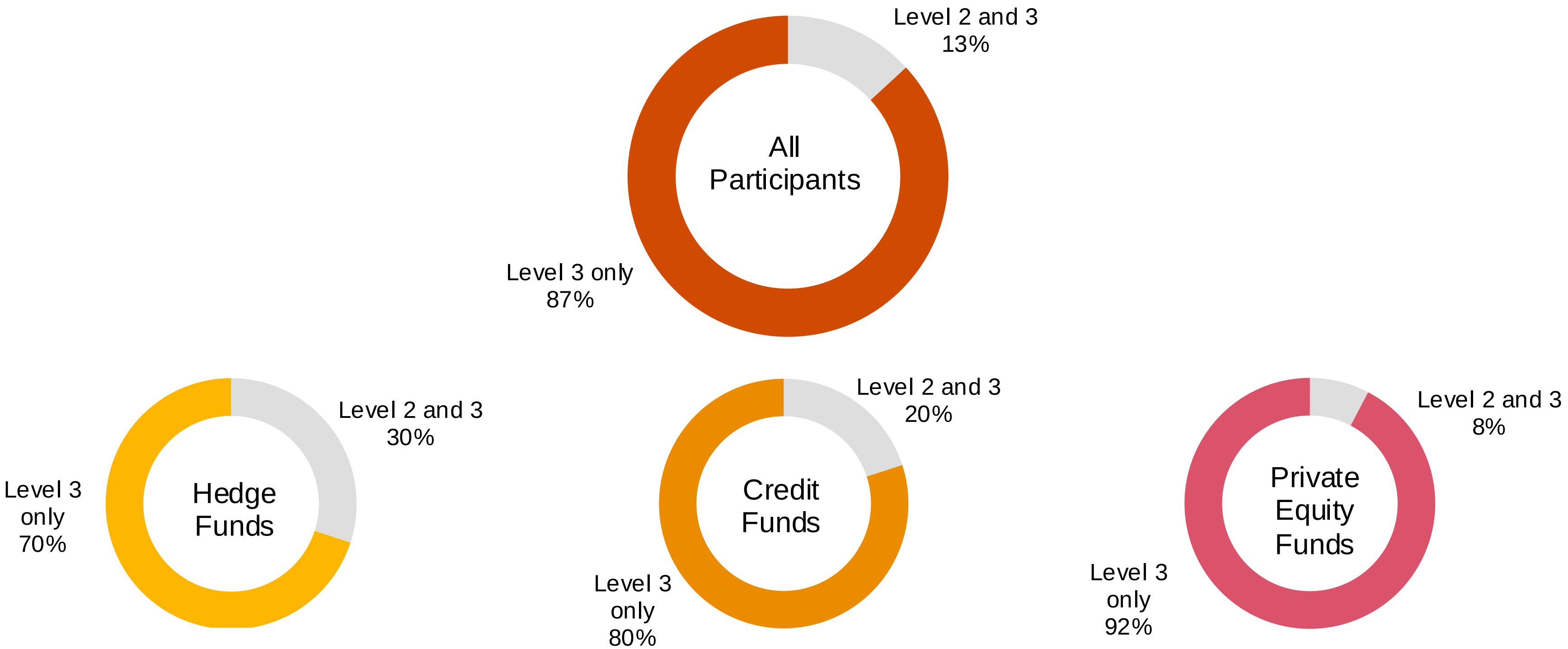
Reliance on third-party valuations

Though management may be using a third-party firm's valuation as their official value, ultimately it is management's valuation, and they must be able to defend it. In such instances, management should evaluate and scrutinize the inputs, assumptions and valuation methodology the same way they would if the valuation was prepared in-house.

* Other represents situations where either the in-house valuation or third-party valuation may be the official value, depending on the type of investment or management's judgment.

Valuation Process – Third-Party Valuation Firms

Fair value hierarchy classification of assets subject to third-party valuation firm review

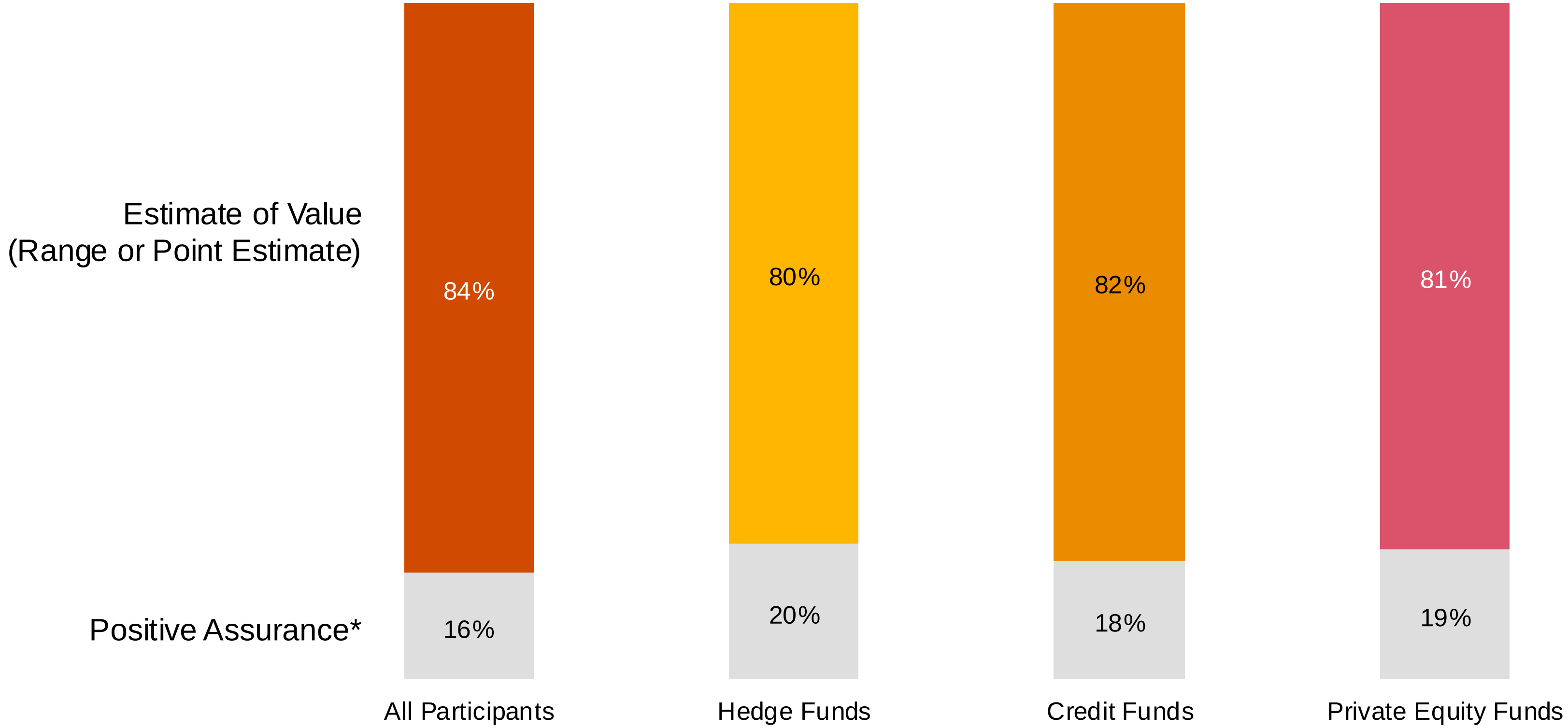


Assets subject to third-party valuation firm review

Participants that selected “level 2 and level 3” are not necessarily engaging a third-party valuation firm for all level 2 and level 3 assets; rather this means that the advisor does not exclusively engage the third-party valuation firm(s) for only level 3 assets.

Valuation Process – Third-Party Valuation Firms

What is the nature of the valuation reports received from third-party firms?



*Positive Assurance reports conclude on the reasonableness of an investment's fair value.

Valuation Documentation

85%

of all participants prepare a formal valuation memo

83%

Hedge Funds

91%

Credit Funds

91%

Private Equity

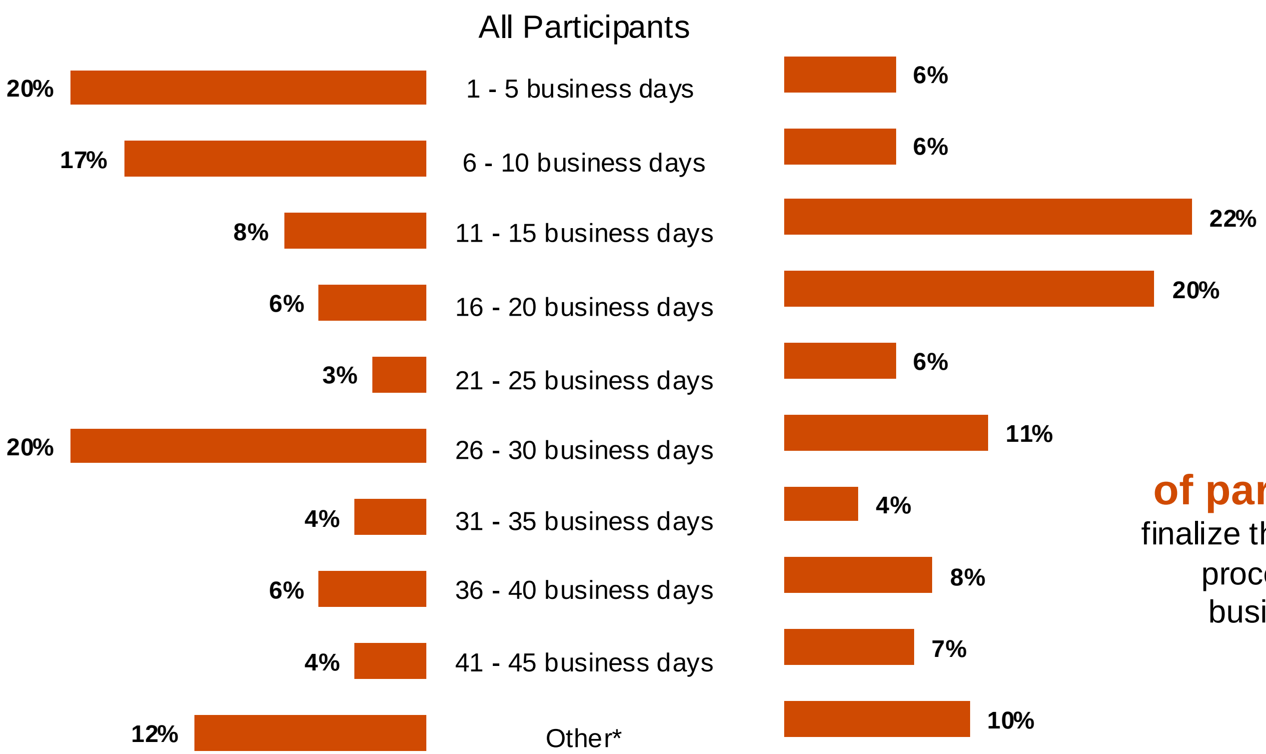
The majority of participants prepare a valuation memo or some other form of formal documentation in addition to the valuation model.

There has been an increased focus by regulators in recent years around ensuring that management has an adequate level of support for the inputs and assumptions used in its valuation models.

Accordingly, a formally documented process and clear documentation summarizing the investment valuation approach applied and key assumptions has become increasingly commonplace.

Valuation Process – Timing

How many business days **before** the reporting date does the valuation process begin?	How many business days **after** the reporting date is the valuation process finalized?



60%

of participants

finalize their valuation process within 25 business days or less.

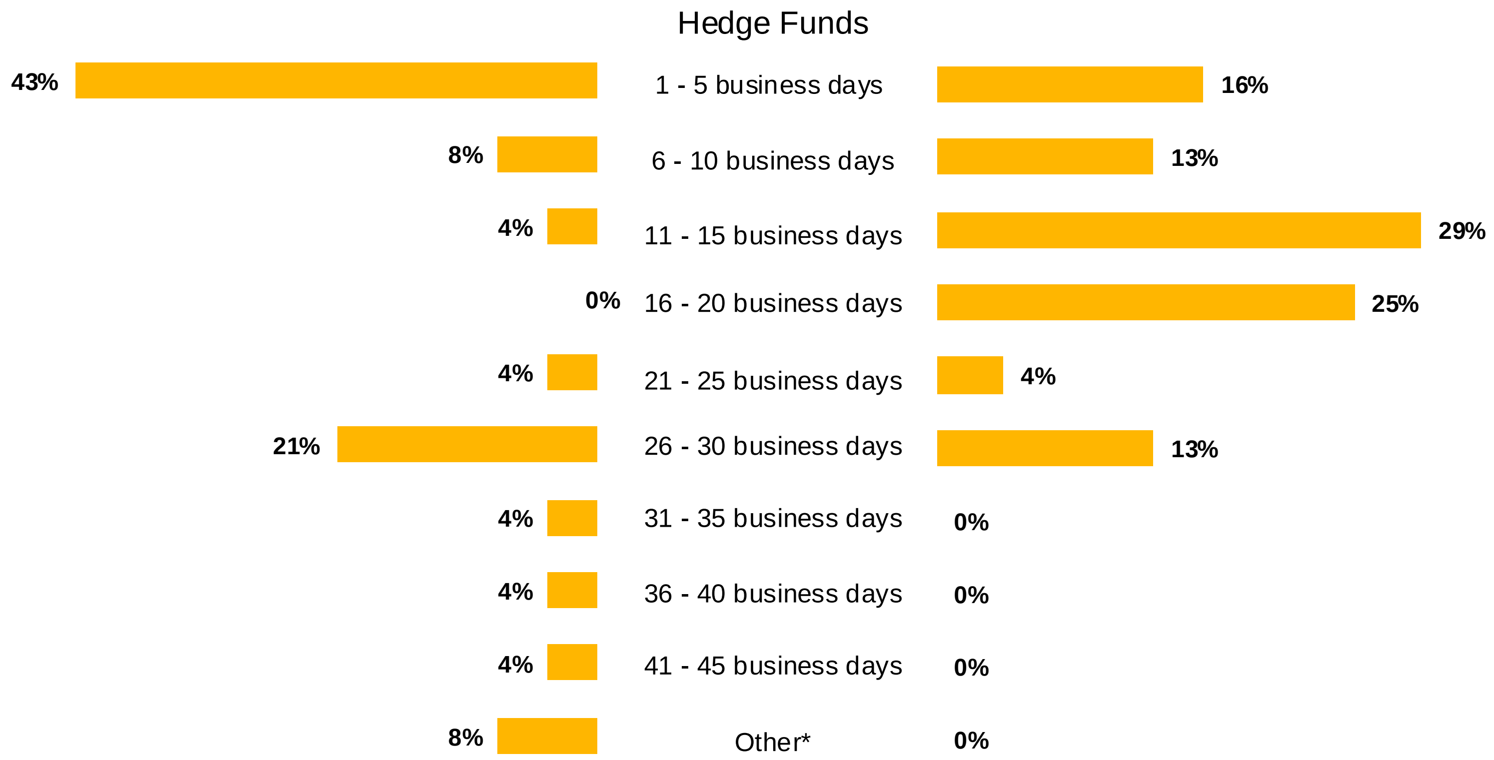
*Other includes valuation processes that begin after the reporting date.

*Other includes valuation processes that are finalized more than 45 days after the reporting date.

Valuation Process – Timing

How many business days **before** the reporting date does the valuation process begin?

How many business days **after** the reporting date is the valuation process finalized?



*Other includes valuation processes that begin after the reporting date.

*Other includes valuation processes that are finalized more than 45 days after the reporting date.

Valuation Process – Timing

How many business days **before** the reporting date does the valuation process begin?

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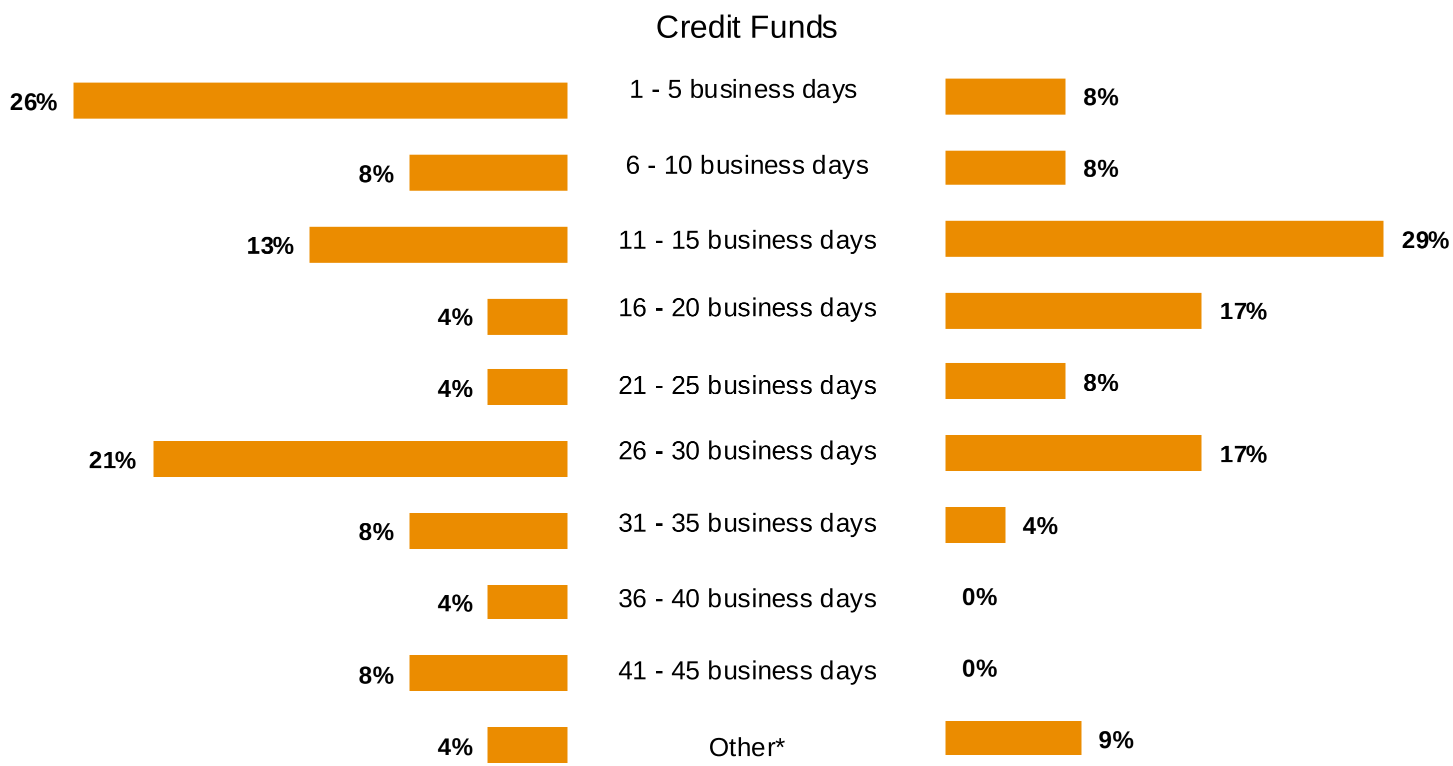


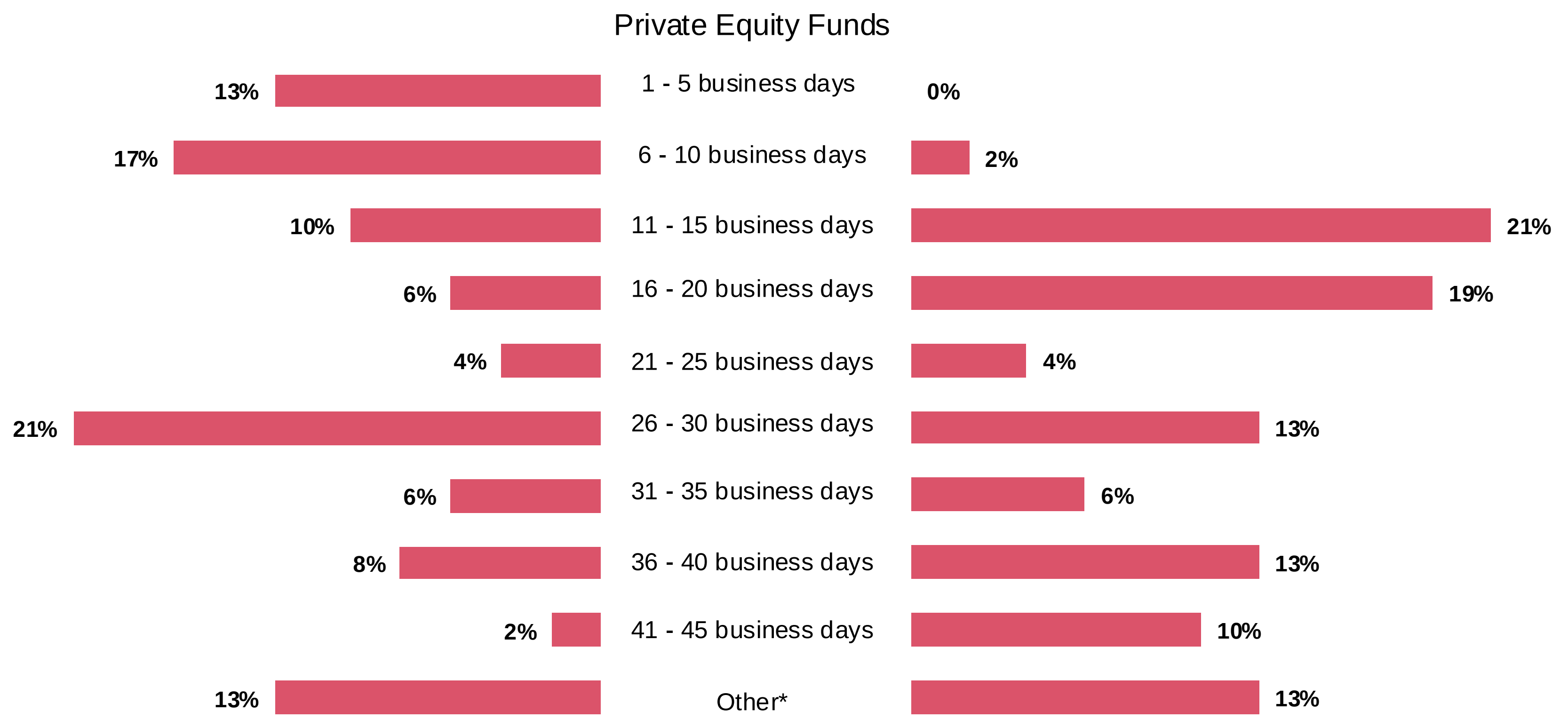
*Other includes valuation processes that begin after the reporting date.

*Other includes valuation processes that are finalized more than 45 days after the reporting date.

Valuation Process – Timing

How many business days **before** the reporting date does the valuation process begin?

How many business days **after** the reporting date is the valuation process finalized?



*Other includes valuation processes that begin after the reporting date.

*Other includes valuation processes that are finalized more than 45 days after the reporting date. Additionally, several participants have fund of fund products as part of their offering, which resulted in a prolonged valuation process.

Valuation Documentation

87%

of all participants have a formal valuation committee

92%

Hedge Funds

91%

Credit Funds

85%

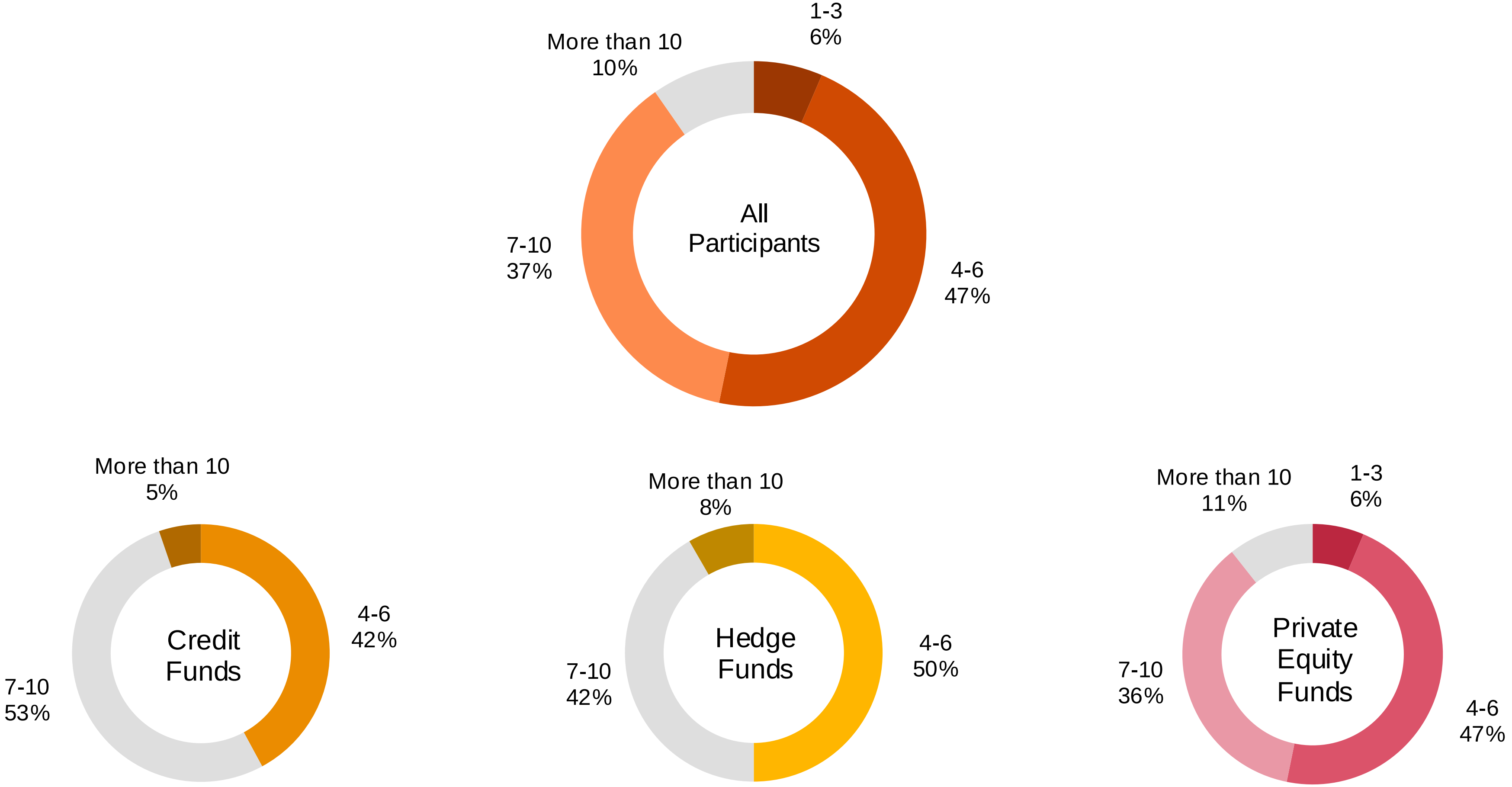
Private Equity

In carrying out its responsibility for oversight over the valuation process, management of many asset management firms have created a formal valuation committee.

The valuation committee typically consists of senior individuals within management and has responsibilities ranging from oversight of pricing vendors, administrators and advisor personnel involved in the valuation process to reviewing specific valuations.

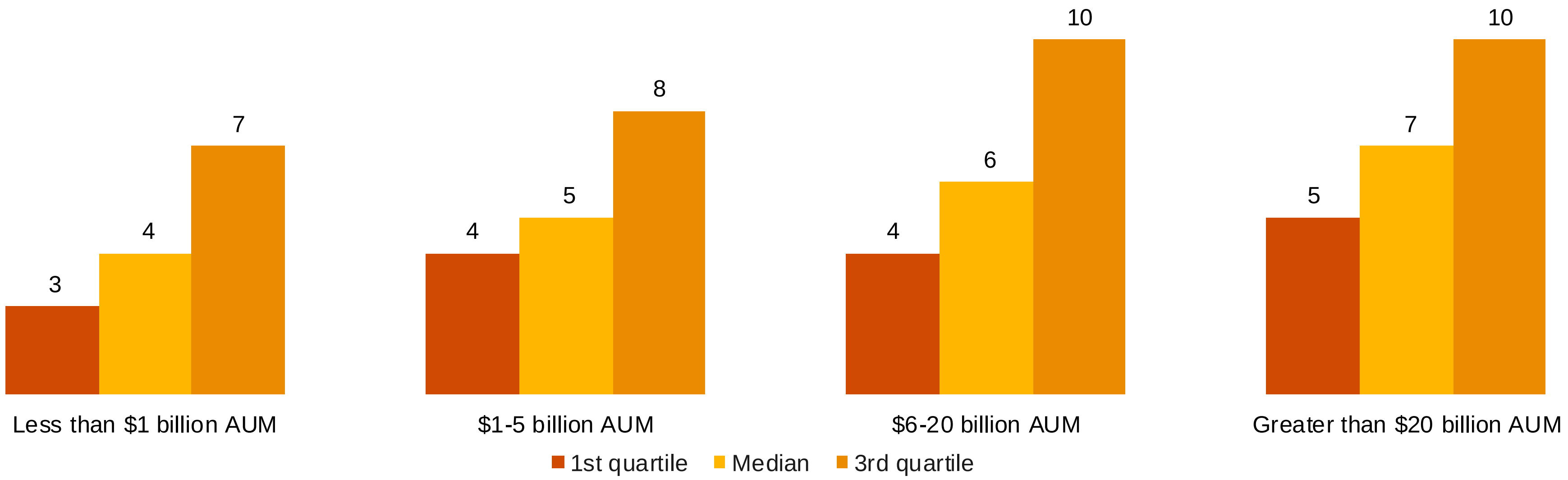
Valuation Committee

Number of professionals that sit on the valuation committee



Valuation Committee

Number of professionals that sit on the valuation committee (by AUM)

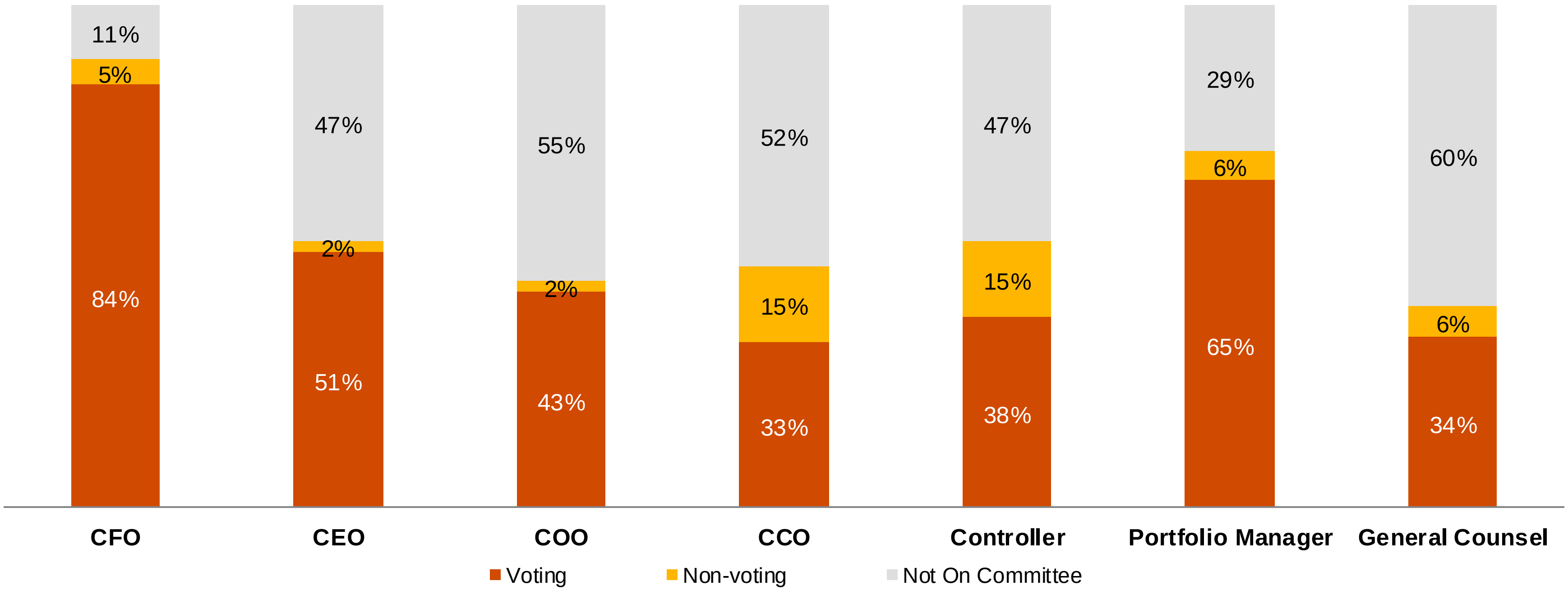


Valuation committee headcount

The chart above shows the 1st quartile, median and 3rd quartile of the headcount of the valuation committee based on AUM bands. Note there is not a significant difference in valuation committee headcount between firms with less AUM and those with greater AUM.

Valuation Committee

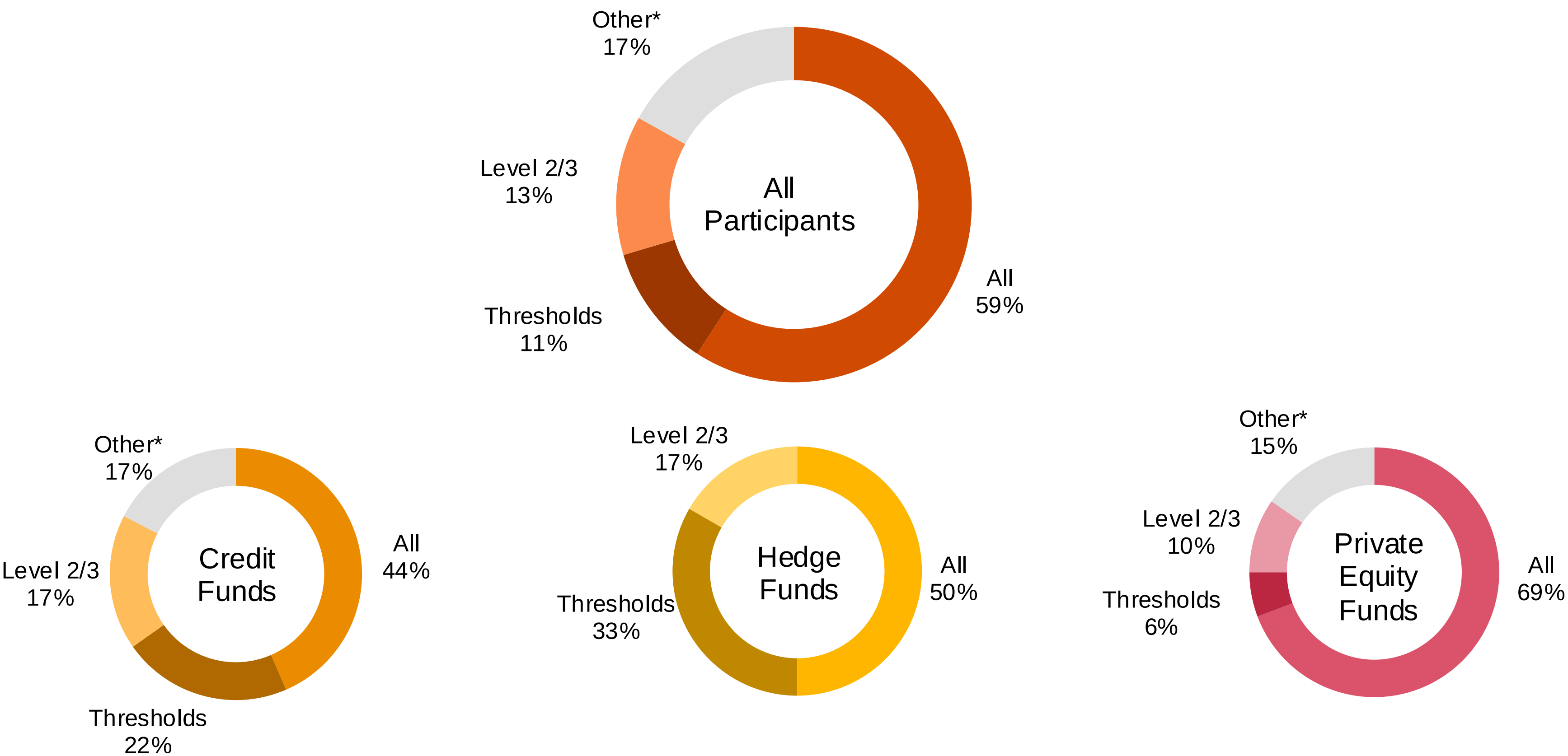
Individuals which comprise the valuation committee



Although the titles and responsibilities may vary by organization, the roles above are those that most commonly have a seat on the valuation committee. Individuals on the valuation committee may sometimes be responsible for oversight of the models as well. In that case, there should be controls and processes in place to ensure that there is an independent signoff separate from the group/individual directly responsible for preparation/review of the model.

Valuation Committee

Level of detail in valuation committee review



All: All investments are subject to valuation committee review
Level 2/3: Only level 2 and level 3 investments are subject to valuation committee review
Thresholds: Valuations outside of predetermined thresholds are subject to valuation committee review

* Other represents respondents who use a combination of the three options.

Valuation Methodology

74%

of all participants may use more than one valuation methodology in a typical valuation model

67%	77%	75%
Hedge Funds	Credit Funds	Private Equity

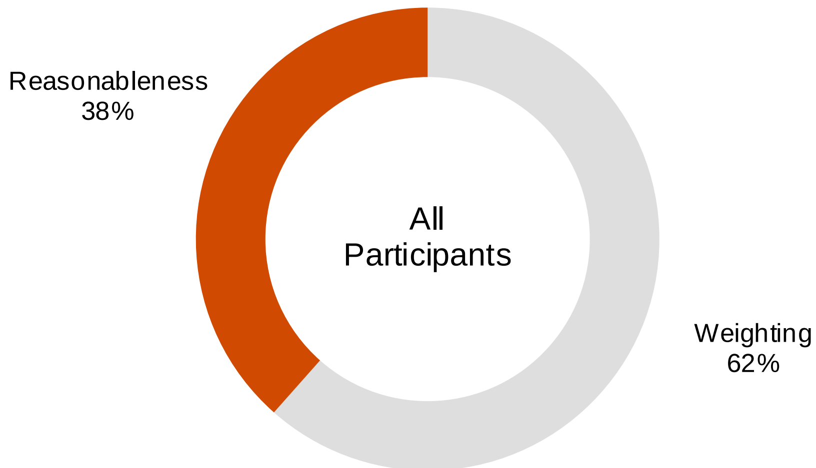
The following slides detail various aspects of the valuation methodology applied by participating firms in determining the fair value of their investments.

This includes the methods by which multiple methodologies are factored into the valuation, how interim data is utilized, how information identified subsequent to the reporting date is evaluated, the extent of back testing procedures and the consideration of recent transactions.

The AICPA Guide on "Valuation of portfolio company investments of venture capital and private equity funds and other investment companies" states that if only one valuation methodology is used, it is a best practice to document the reason why the other approaches were not used.

Valuation Methodology

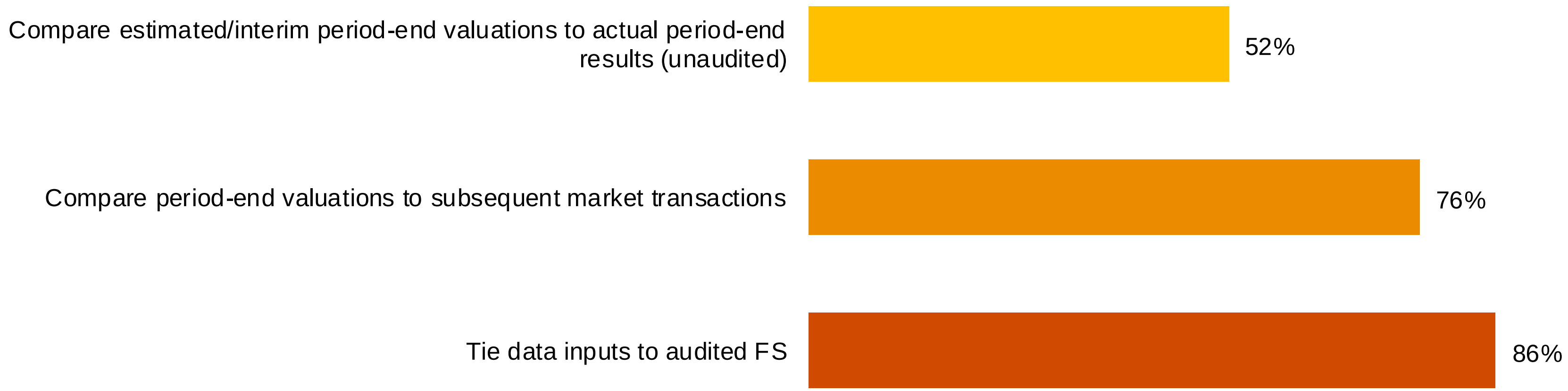
If more than one valuation methodology is utilized, the advisor typically concludes on the valuation by:



Weighting: The advisor applies a weighting of the various valuation methods to conclude on the valuation
Reasonableness: The advisor uses one of the valuation methods as a reasonableness check on the concluded value from the other

Valuation Methodology

How are participants performing back-testing?



NOTE: Participants were given the option to select multiple responses. Therefore, percentages will not sum to 100%.

Back-testing, also commonly referred to as a retrospective review, typically refers to the process of comparing the price of a security in a liquidity event to the fair value estimate for that security as of a prior valuation date. Another form of back-testing is targeted at assessing the reliability of portfolio company estimates, whereby data inputs utilized in valuation models which are derived from unaudited portfolio company data are ultimately compared to those same data inputs as measured in the portfolio company's audited financial statements.

Although such back testing procedures are not required, they are recommended as a way to monitor the investment manager's process of estimating fair value. The chart above shows whether participants are performing either of these back-testing procedures. While the methods of retrospective review shown in this chart are examples of back-testing procedures, there may be other ways to perform retrospective reviews that are not captured in this data.

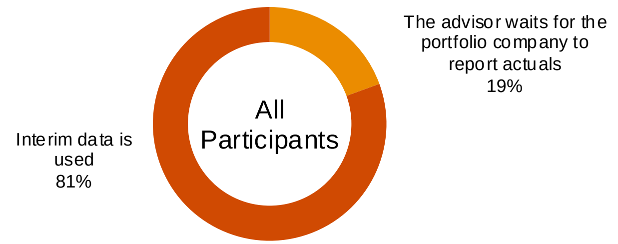
Valuation Methodology

Timing of data inputs

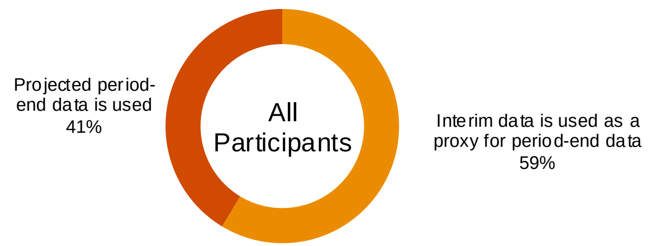
The valuation process for alternative investment advisors may be subject to significant time pressures as management closes the books for period-end or year-end. In some situations, the investment advisor is ultimately dependent upon the timely receipt of performance data from portfolio companies. Management may design their valuation process such that it is completed before some portfolio companies may report their period-end actuals, while others may wait for portfolio companies to report their period-end actuals prior to finalizing valuations and closing the books.

If the valuation process is finalized before all portfolio companies have reported actual results, management may prefer to use interim data as a proxy for period-end data, or instead to use projected period-end data. There is also a decision to make once actual results are reported – should management re-open the books to reflect any valuation changes implied by differences between interim and final data? While some advisors may prefer to not reopen the books and record any updates for the next period's valuation, it is important to consider the magnitude of the impact on the current period's valuation.

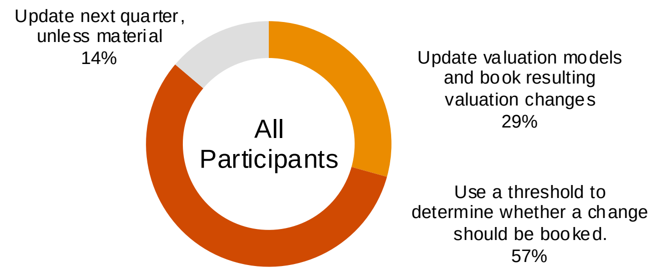
For period-end valuations, does the advisor wait for coterminous data to be made available, or is interim data used?



When interim data is used, does the advisor use interim data as a proxy for period-end, or does the advisor use projected period-end data?

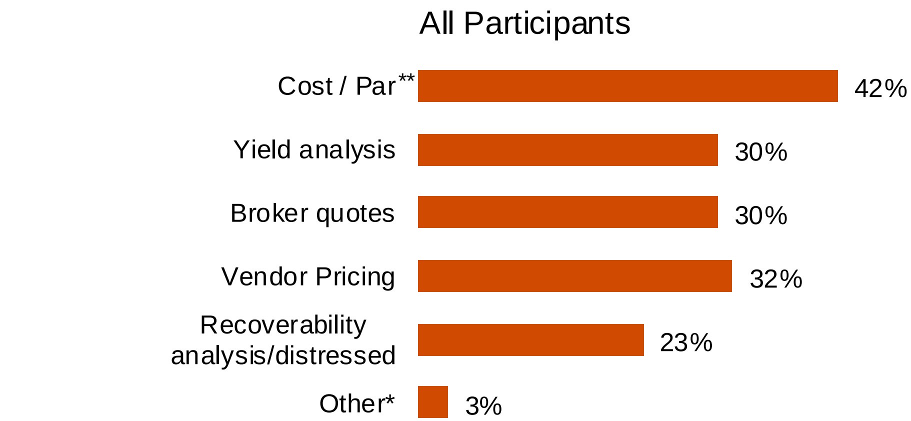


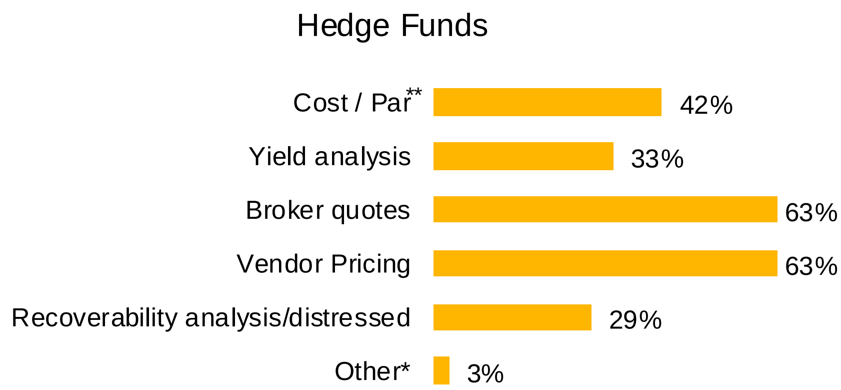
When period-end actuals are eventually reported by portfolio companies, what does the Advisor do with that information?

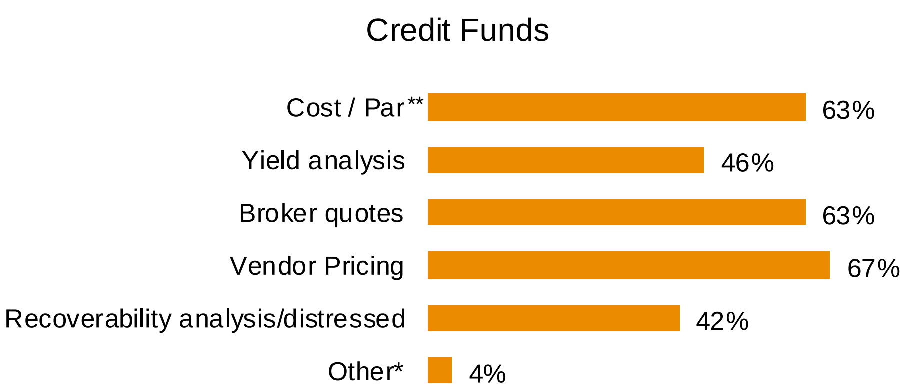


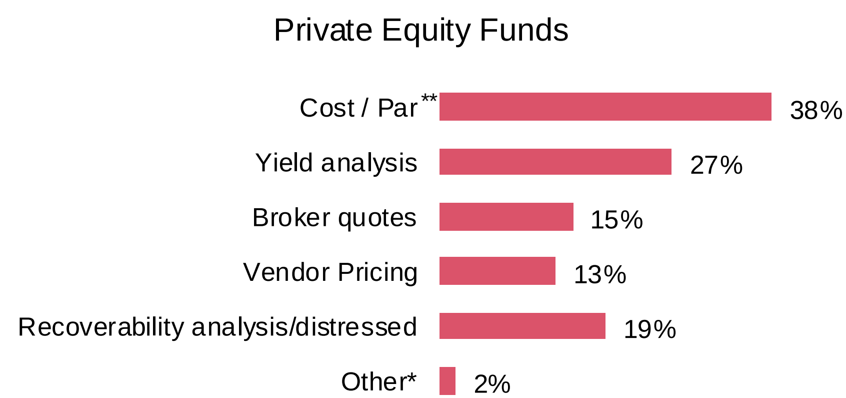
Debt Valuation

Valuation approach utilized for debt securities









*Other includes OPM.
**Cost/Par is typically utilized to value assets with recent transactions.
NOTE: Participants were given the option to select multiple responses. Therefore, percentages will not sum to 100%.

Co-Investments

79%

of all participants with co-investments develop their own model

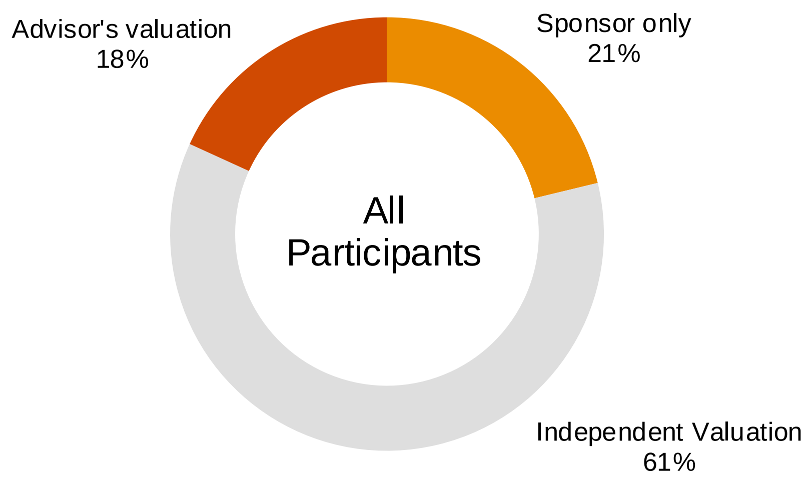
For those participants that have portfolio investments sourced on a co-investment basis where there is a third-party lead sponsor in the deal, most prepare their own independent valuation model for these investments.

In some cases, the independent model is used to record the value of the investment on the fund's books; in others, the co-investor's value is recorded, with the independent model serving as a method by which the co-investor value is assessed.

Even when an independent model is not developed, organizations must have robust processes and controls in place to perform a formal assessment of the co-investment value, as management is ultimately responsible for concluding on the value.

Co-Investments

In the case of a co-investment, does the fund utilize the lead sponsor's valuation analysis or do they prepare an independent valuation analysis?



Independent Valuation: The fund does not utilize the lead sponsor's valuation and instead develops its own valuation.

Sponsor Only: The fund relies on lead sponsor's valuation analysis.

Advisor's valuation: The fund prepares its own analysis and uses lead sponsor's valuation as a reasonableness check.

4. Valuation Insights Data

Valuation Insights

Valuation Insights, a PwC Product for developing faster, more transparent valuations. The technology standardizes data integration and valuation execution while streamlining workflow and reporting.

For the year ended December 31, 2023, PwC valued over 4,000 private company investments on Valuation Insights. We used a selection of these investments to provide valuable insights.

For more information about Valuation Insights see https://www.pwc.com/us/en/products/valuation-insights.html

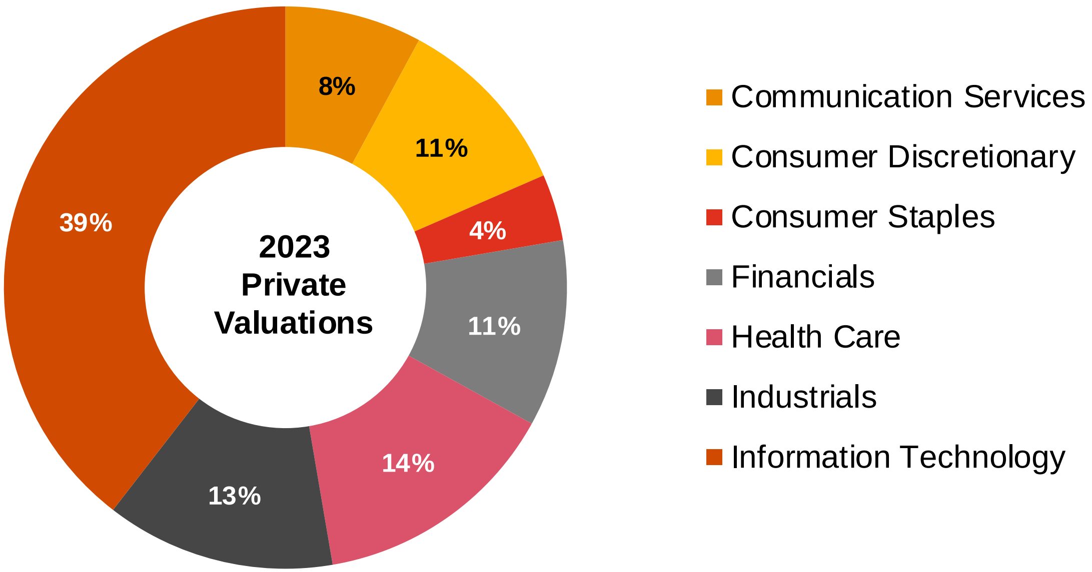
Valuation Insights is powered by PwC's Halo suite of data analysis tools.

Valuation Insights - Private Company Portfolio Data

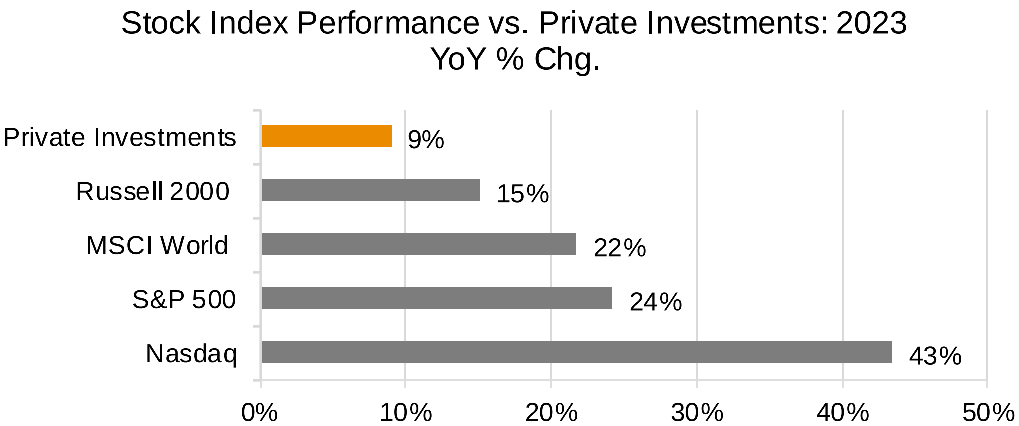
This valuation section of the report includes data from approximately **1,500 level 3 portfolio company valuations** as of December 31, 2023, across various strategies such as leveraged buyouts, growth equity, venture capital, credit, and special situations.

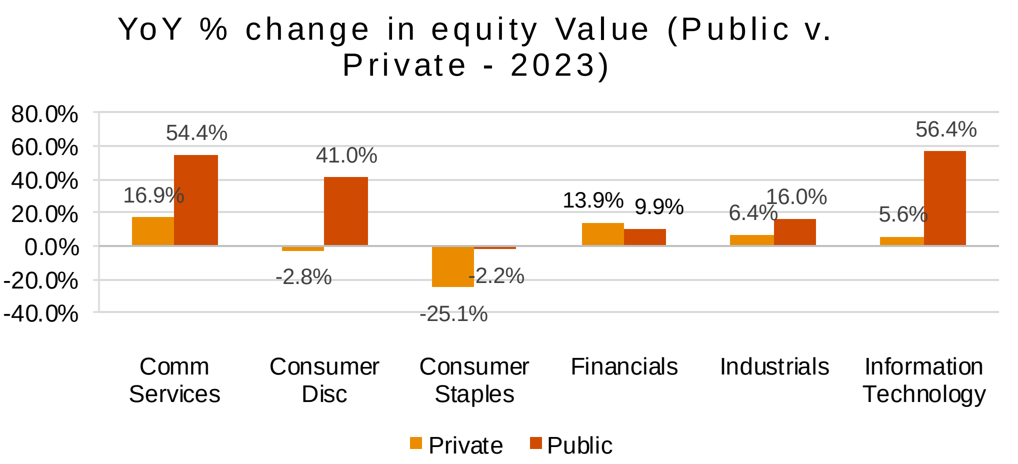
The sectors included in this report are as described in the accompanying charts.

Private company valuations across sectors - 2023



Private Equity Valuation Insights





The data by sector is limited and does not contain the full population of investments. Therefore, the sector percentages will not agree in total with the overall percentages.

Market Performance:

The Nasdaq outperformed the S&P 500, MSCI World and Russell 2000 in 2023 which was led by technology and growth-oriented stocks, particularly Artificial Intelligence (AI). The private investments portfolio underperformed relative to the public markets increasing 9% in value.

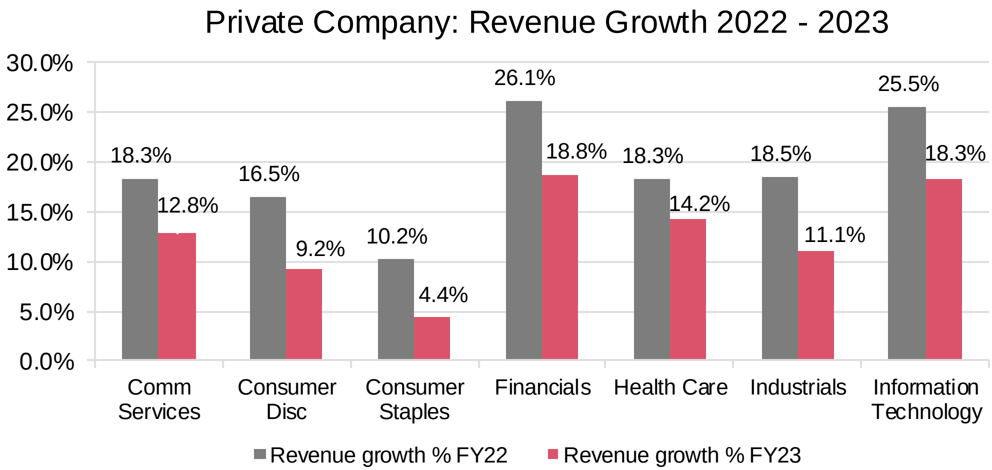
Valuations of private investments may consider changes in public markets as a factor, but likely not the sole determinant of a portfolio company's movement. The change in private company equity values may consider various valuation approaches and company specific performance that to some degree insulate them from direct public market volatility. As such, large movements in public markets may not be reflected to the same extent in private markets.

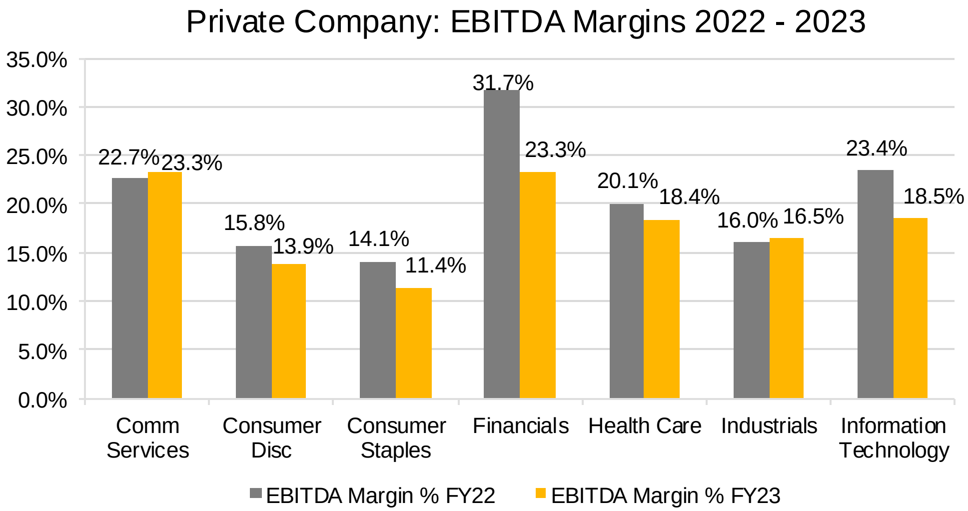
Sector Performance:

Information technology was the strongest performing S&P 500 subsector over 2023. A shifting macroeconomic environment in 2023 helped bring tech stocks back into favor with investors, and advancements in AI also spurred momentum. Private market participants continued to take write-downs during 2023 as portfolio companies have revised down their growth forecasts, in large part due to the market conditions.

The private equity valuations performed for companies that operate in the communication services sector saw the highest increase in valuation in 2023. The public sector recorded stronger performance, which was primarily driven by some of the larger market capitalization companies. Both public and private investors' sentiment for this sector are focused on potential growth drivers such as AI and infrastructure.

Private Company: Growth and Margins





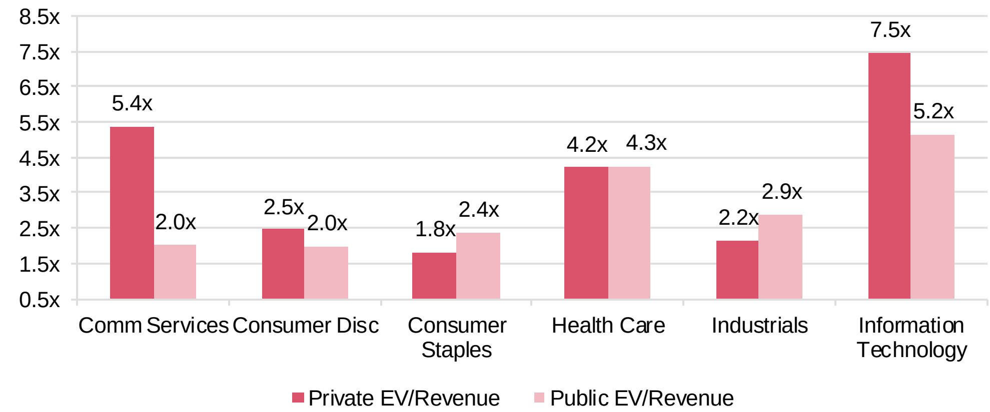
Revenue growth across all sectors contracted for the population of private portfolio companies in 2023, while EBITDA margins contracted except for communication services and industrials.

The financial sector saw the largest contraction in both revenue growth and EBITDA margins. The change in performance may be attributed to the shifting macroeconomic environment and bank failures that occurred in 2023, potentially creating concern among investors about the banking sector more broadly.

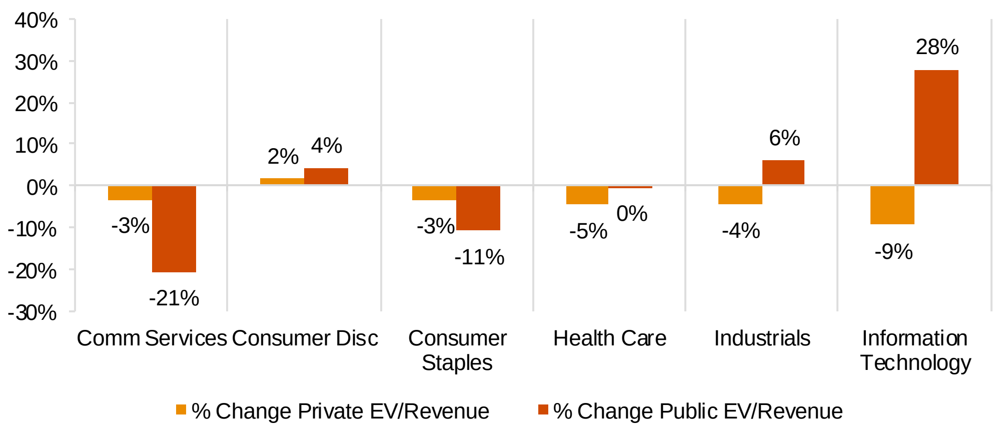
The communication services and industrials sectors were able to maintain EBITDA margin, with lower revenue growth.

Enterprise Value to Revenue Multiples

Public vs. Private EV/Revenue (Median) - 2023



% Change in Public vs. Private EV/Revenue (Median) - 2022 to 2023



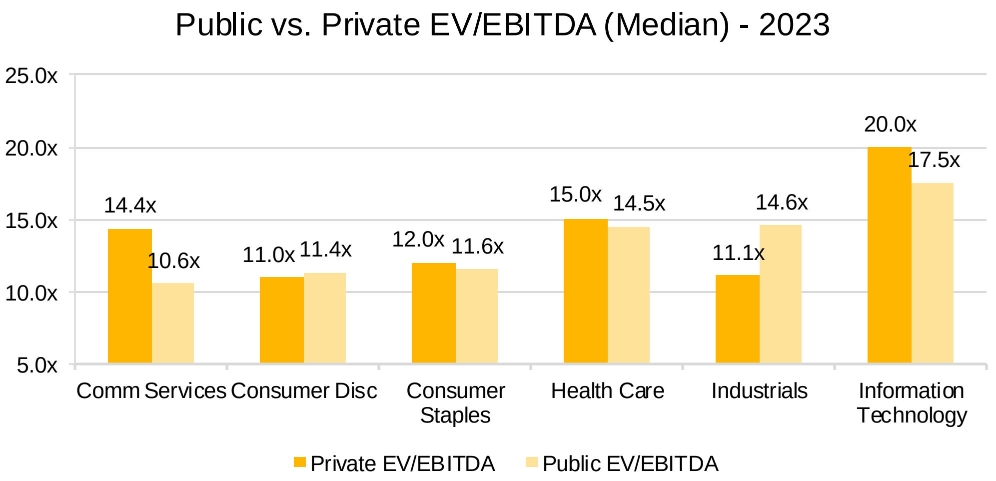
In 2023, the median private revenue multiples were higher than the public markets for communication services, consumer discretionary, and information technology and lower for consumer staples, health care and industrials.

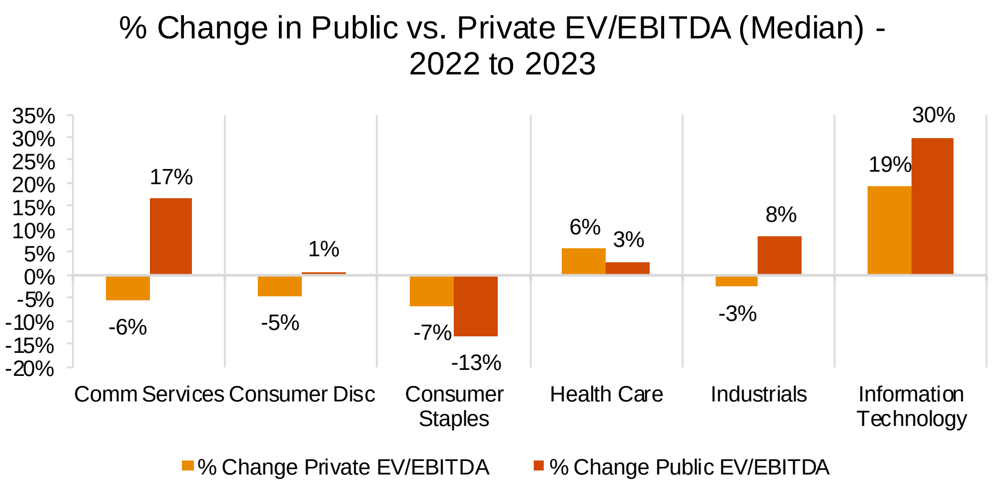
Private revenue multiples were down across all sectors, except for the consumer discretionary sector, which expanded by 2%. Public revenue multiples expanded in 2023, for the information technology, consumer discretionary and industrial sector.

The information technology public revenue multiples recorded the highest increase of 28% since the prior year. A shifting macroeconomic environment in 2023 helped bring tech stocks back into favor with investors.

As noted, private companies revised their growth expectations downwards. As a result, private market investors reduced their multiples for most sectors.

Enterprise Value to EBITDA Multiples





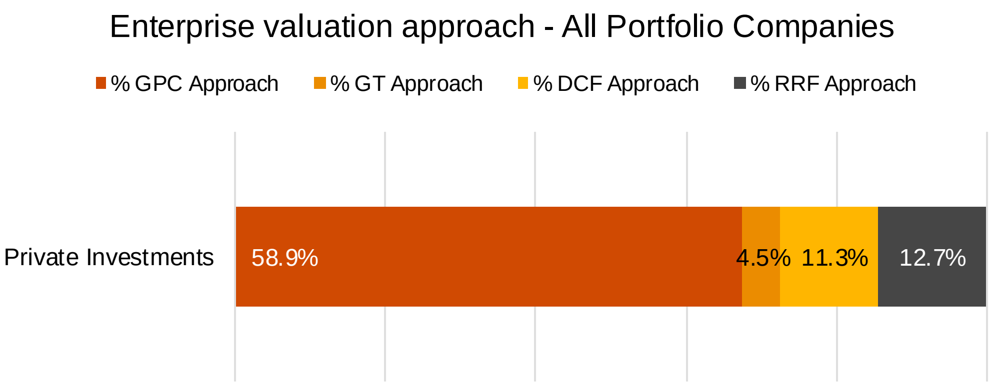
In 2023, the median private EBITDA multiples were higher than the public markets for all sectors except consumer discretionary and industrials.

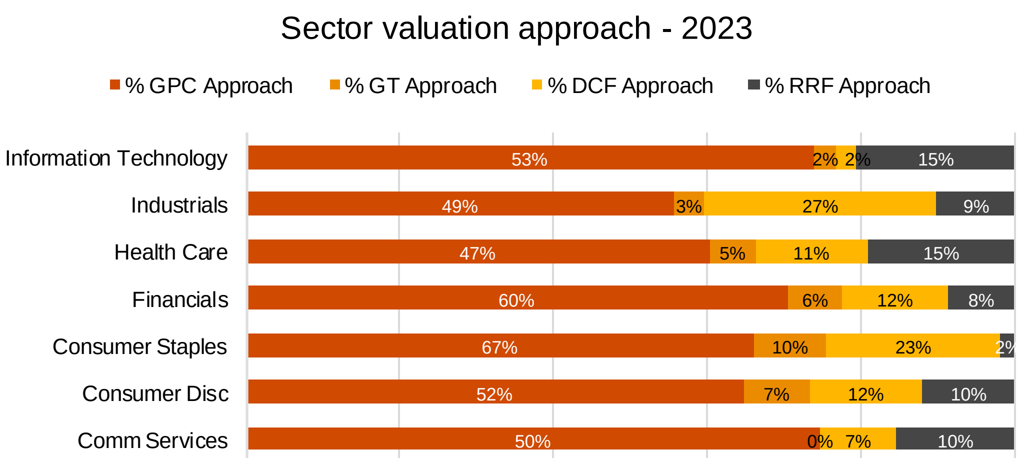
The information technology sector for the public and private companies had the highest EBITDA multiple and saw the most significant year over year change, when compared across other sectors.

A shifting macroeconomic environment in 2023 and advancements in AI is one of the key drivers behind the trend in public and private multiples.

Consumer staple EBITDA multiples had the largest decline for both private and public companies year over year, (-7% for private and 13% for public). The contraction may be attributed to a higher inflation environment, putting pressure on pricing and sales.

Enterprise Valuation Approach





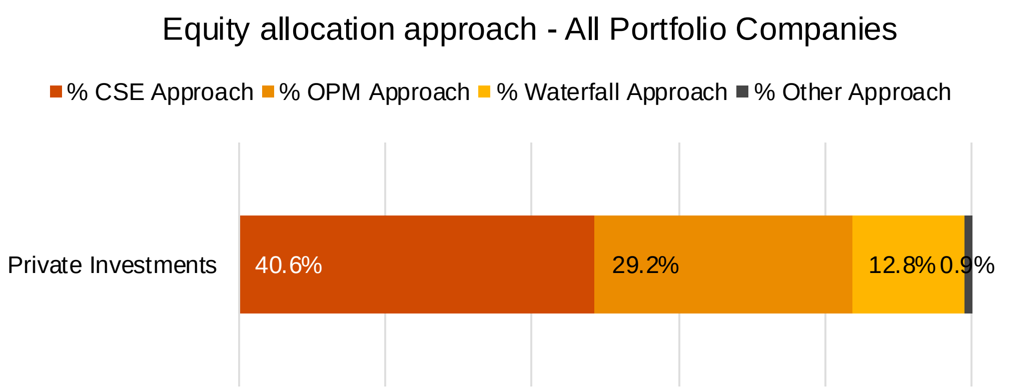
The data by sector is limited and does not contain the full population of investments. Therefore, the sector percentages will not agree in total with the overall percentages.

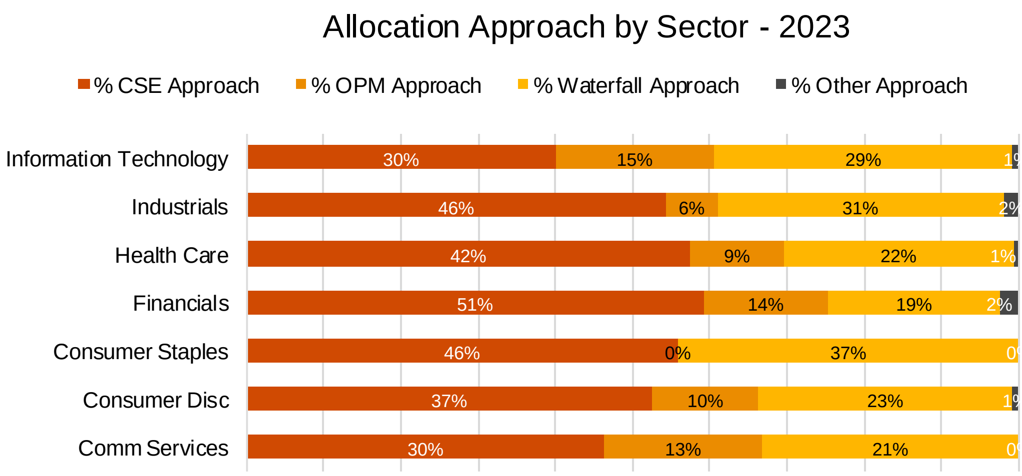
While the appropriate enterprise valuation approach depends on specific facts and circumstances, the Guideline Public Company method (GPC) was the leading valuation approach considered across all sectors.

Reliance on the Recent Round of Financing approach (RRF) decreased from 2022, which may be due to reduced funding and deal volume during 2023.

The Guideline Transaction (GT) and Discounted Cash Flow (DCF) approaches were consistently not utilized as often as the others. This was a similar theme for enterprise valuation approaches across all sectors except for the industrial and consumer staple sectors which were the highest users of the DCF approach.

Allocation Approach





The data by sector is limited and does not contain the full population of investments. Therefore, the sector percentages will not agree in total with the overall percentages.

While the appropriate allocation approach depends on specific facts and circumstances, the Common Stock Equivalent (CSE) Approach was the leading allocation approach, followed by the Option Pricing Model (OPM) and then the Waterfall Approach.

The population of portfolio companies consists of all different investment strategies, with both simple and complex capital structures. The complexity of the capital structure and timing of an exit event, is typically considered in the selection of the allocation approach.

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