<table>
<thead>
<tr>
<th>Month</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
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<tr>
<td>DEC 16</td>
<td>1.75</td>
<td>2.50</td>
<td>2.05</td>
<td>2.85</td>
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<tr>
<td>DEC 17</td>
<td>1.50</td>
<td>3.20</td>
<td>2.60</td>
<td>3.50</td>
</tr>
<tr>
<td>DEC 18</td>
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<td>0.75</td>
<td>1.00</td>
</tr>
<tr>
<td>DEC 19</td>
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<td>0.85</td>
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<td>1.00</td>
</tr>
<tr>
<td>DEC 20</td>
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<td>0.75</td>
<td>1.05</td>
<td>1.30</td>
</tr>
<tr>
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<td>DEC 22</td>
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<td>DEC 23</td>
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<tr>
<td>DEC 24</td>
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<td>DEC 25</td>
<td>12.00</td>
<td>4.10</td>
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</table>
In This Report

Current Valuation Practices

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Increasing Need for Independent Third-Party Valuation

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Introduction

Increased investor scrutiny of asset managers has led to a demand for greater transparency and enhanced governance over the valuation and reporting of illiquid investments. Today, investors are insisting on a valuation framework that is free of conflicts of interest, especially when committing new capital.

Further, new regulatory developments are affecting valuation practices in the asset management industry. In the United States, the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) requires all but the smallest alternative asset managers to register with the Securities and Exchange Commission (SEC). Similarly in Europe, the Alternative Investment Fund Managers Directive (AIFMD) requires asset managers with over €100 million of assets under management to register with their member state regulators. These new regulatory frameworks are likely to necessitate valuation support as well as evidence of proper control infrastructure around financial reporting.

Independent Third-Party Valuation Insights addresses evolving trends in portfolio valuation best practices and highlights the key issues to consider when selecting an independent third-party valuation provider.

“We are in a post-financial crisis world where sound valuation practices are not an option, but rather a necessity, for survival. Alternative asset managers are under significant pressure from regulators and investors to enhance their governance over the valuation process, and for many managers this represents unchartered waters. Our goal is not to be simply a valuation provider but rather a trusted advisor to our clients. To this end, I am pleased to present Independent Third-Party Valuation Insights to serve as a guide to asset managers seeking to implement valuation best practices.”

- Dr. Cindy Ma
  Managing Director
  Head of Portfolio Valuation & Advisory Services
## Current Valuation Practices

### Hedge Funds
- Varying levels of sophistication with respect to valuation
- Significant variation in valuation practices due to the diversity of investment asset classes
- The majority of hedge funds in the U.S. utilize an independent valuation firm in their processes
- Europe’s Hedge Fund Standards Board emphasizes segregation of valuation functions, and states the most satisfactory way to achieve this is by appointing a third-party valuation service provider

### Private Equity
- Majority currently handle valuations internally
- Greater investor scrutiny and increased compliance requirements under Dodd-Frank and AIFMD are prompting more managers to use independent valuation firms
- Recent SEC inquiries into valuation practices in the U.S.

### Business Development Companies
- Greater transparency required due to registered investment companies (RIC) status
- Typically well-developed valuation processes, which includes the use of independent valuation firms
- Tend to have standardized and detailed valuation processes
- Typically have sizeable dedicated valuation teams directly accountable to their executive boards

### Venture Capital
- Valuations tend to require a great deal more judgment given the nature of the underlying investments
- Firms have been less inclined to use independent valuation firms in their processes
Elements of a Robust Valuation Framework

A sound valuation framework for illiquid investments includes a formal governance committee, well-documented policies and procedures, and the appropriate personnel independent of the investment decision-making process.

Valuation Policies and Procedures

- Defines the responsibilities of the valuation governance committee
- Identifies personnel involved in the valuation process and defines roles and responsibilities
- Establishes appropriate due diligence and valuation methodologies for each asset class
- Outlines procedures for recording any material exceptions taken to valuation policies and the reasons for such exceptions
- Ensures procedures and controls mitigate potential conflicts of interest in the valuation process
- Sets the selection criteria for independent valuation providers
- Provides guidance on the treatment of illiquid investments and identifies instances when internally-generated valuations may be used
- Incorporates documentary evidence of adherence to policies
- Provides for a resolution if confronted by a situation that is not covered by the valuation policies

Valuation Governance Committee

- Comprises key members of senior management who are independent of the investment decision-making process
- Develops valuation policies and procedures and periodically reviews and adjusts them when appropriate
- Oversees the entire valuation process and approves final valuations for the fund’s portfolio
- Monitors fund disclosures, particularly in connection with Level 2 and Level 3 assets
- Reviews guidelines for classification of the fund’s investments within the fair value hierarchy
- Consults with the independent auditor, third-party valuation firm and legal advisor to remain informed on current fair value requirements

Valuation Personnel

- Consists of qualified parties from within the fund, external to the fund, or a combination of both
- Performs valuations in accordance with the processes and information sources contained in the valuation policies and procedures
- Conducts valuations independent from the investment decision-making function
- Appoints third-party valuation experts for all or a subset of the illiquid assets
# Increasing Need for Independent Third-Party Valuation

Investors, regulators and auditors demand accurate and reliable valuations of illiquid investments and are driving the trend toward independent valuation determination.

<table>
<thead>
<tr>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investors</strong></td>
</tr>
<tr>
<td>• Investors prefer transparency and independence with no conflicts of interest in connection with determining and reporting net asset values.</td>
</tr>
<tr>
<td>• Having qualified, reputable third-party valuation providers selected prior to launching a new fund is increasingly becoming a prerequisite to attracting new capital.</td>
</tr>
<tr>
<td>• Third-party valuations enhance the credibility of investor reporting and provide benchmarks for fund-raising and the calculation of management fees.</td>
</tr>
<tr>
<td>• Independent valuations are often relied upon for redemptions, capital calls, and interfund transfers.</td>
</tr>
<tr>
<td><strong>Regulators</strong></td>
</tr>
<tr>
<td>• In the United States, provisions of Dodd-Frank are requiring hedge fund advisors to register with the SEC for the first time, as it eliminates the private advisor exemption.</td>
</tr>
<tr>
<td>• In Europe, many alternative investment managers have recently registered with their home regulators under the EU’s Markets in Financial Instruments Directive II (MiFID II) – a series of amendments to the original MiFID agreement setting up increased investor protections following the global financial crisis – and/or the AIMFD, which will likely mean increased scrutiny of valuation practices.</td>
</tr>
<tr>
<td>• Regulators are concerned not only with the accuracy of financial reporting but also with the validity of stated returns in connection with a sponsors’ capital raising activities.</td>
</tr>
<tr>
<td><strong>Auditors</strong></td>
</tr>
<tr>
<td>• Auditors often prefer independent valuation expertise for hard-to-value investments as part of their requirement to obtain sufficient evidence that the stated fair values conform to Generally Accepted Accounting Principles (GAAP) in the United States and International Financial Reporting Standards (IFRS) in Europe.</td>
</tr>
<tr>
<td>• Engaging an independent third-party valuation provider can facilitate a more efficient audit process.</td>
</tr>
<tr>
<td>• The demand from auditors for independent valuations of illiquid investments is likely to increase; auditors in the United States have recently come under pressure from regulators, especially from the Public Company Accounting Oversight Committee (PCAOB), to more rigorously test valuation assumptions.</td>
</tr>
</tbody>
</table>
When Asset Managers Should Use an Independent Third-Party Valuation Advisor

• The goal of utilizing an independent third-party valuation advisor is to obtain accurate and reliable valuations of complex and/or illiquid investments and eliminate the appearance of bias in the valuation process.

• Fund managers’ compensation is normally tied to total assets under management and portfolio performance; a fund manager’s influence over the valuation of illiquid assets may create a conflict of interest.

• It is best practice to engage a third-party valuation advisor if an asset management firm does not have appropriate resources and expertise to perform valuations that are independent of the investment decision-making process, or otherwise could not provide a truly conflict-free framework for performing valuations.

• Historically, independent third-party valuations have centered around Level 3 assets, but asset managers have been increasingly using third-party valuation advisors to analyze Level 2 assets.

• The timing and frequency of engaging independent valuation advisors is driven by numerous factors, including:
  • Capital raisings;
  • Collateral valuations used for asset-based lending;
  • Communicating fund performance to existing investors;
  • Frequency of financial reporting;
  • Interfund transfers; and
  • Redemptions.
## Fair Value Hierarchy Considerations

ASC 820 of U.S. GAAP establishes a three-level fair value hierarchy to classify investments. Where a particular investment lies within this hierarchy largely determines when to use a third-party valuation specialist.

<table>
<thead>
<tr>
<th>ASC 820 Fair Value Hierarchy</th>
<th>Types of Inputs</th>
<th>Use Valuation Provider</th>
</tr>
</thead>
</table>
| Level 1 “Mark to Market”     | • Unadjusted quoted prices from an exchange or broker-dealer market that is deemed to be active  
• Need to have a consistent approach as to how the quoted price is used  
• Quoted prices should not be adjusted because of the size of the position relative to trading volume (i.e., blockage discount)  
• Bid (long positions) quotes are preferred, given the exit price concept  
• If any significant adjustments are made to quoted prices, these become Level 2 assets | Rarely |
| Level 2 “Mark to Matrix”     | • Observable inputs: quoted prices for similar assets in active markets  
• Broker quotes: if the trade can be executed at that price (may require more than one or two quotes)  
• Quoted prices for identical or similar assets in inactive markets (a blockage discount may be appropriate)  
• Other observable market inputs: interest rates, yield curves, volatility factors, credit risks  
• Inputs derived from or corroborated by observable market data through correlation or regression analysis  
• For Level 2 designations, any models used must be widely accepted and non-proprietary, and the data used must be observable  
• If any significant adjustments are made to Level 2 Inputs, they generally become Level 3 assets | Sometimes |
| Level 3 “Mark to Model”      | • Unobservable inputs  
• Models (e.g., Black-Scholes, discounted cash flow, multiple of earnings or EBITDA) utilizing significant inputs that are unobservable  
• May include publicly listed securities with very little market activity  
• Reflects the entity’s own data about the valuation assumptions that market participants would use  
• Cannot ignore reasonably available information without undue cost and effort to market participants | Often |
Assets Typically Valued by an Independent Third-Party Valuation Advisor

**Illiquid Securities**
- Private equity investments
- Preferred stock
- Leveraged loans
  - Senior secured debt
  - Secured lien loans
  - Subordinated loans
- PIPEs
- Real estate investments
- Joint venture investments
- Hybrid securities
- Trade claims and bankruptcy claims

**Structured Products**
- Residential mortgage-backed securities
  - Agency; Non-Agency; (Sub-prime, Alt-A, Option ARMs, Second liens, and Jumbos)
- Commercial mortgage-backed securities
- Asset-backed securities
  - Autos; Credit cards; Student loans
- Collateralized debt obligations (CDOs)
  - ABS CDO; CRE CDO; Trust Preferred CDO; CDO
- Collateralized loan obligations
- Auction-rate securities

**Corporate Derivatives**
- Convertible bonds
- Stock options

**Over-the-Counter Derivatives**
- Equity derivatives
- Interest rate derivatives
- Credit derivatives
- Mortgage derivatives
- Commodity derivatives
- Currency derivatives

- Typically valued for Hedge Funds
- Typically valued for Private Equity and Hedge Funds
Additional Considerations for Level 2 Assets

Broker quotes and traditional pricing services are becoming a less viable option for valuing Level 2 assets.

- There has been increased focus on how management and auditors support valuation assertions when external pricing sources are used to determine the fair value of non-exchange traded investments, particularly in connection with those classified as Level 2 and Level 3 in the fair value hierarchy.

- The fund manager has responsibility for fair value measurements and thus must understand the valuation methodologies, assumptions and inputs used by external valuation sources.

- The PCAOB has found instances where auditors have not gained an adequate understanding of the specific methodologies and/or assumptions underlying fair value estimates that were obtained from external sources.

- The PCAOB established a Pricing Sources Task Force – composed of auditors, investors, issuers and representatives from pricing services and brokerage firms – to gain insight into current issues related to auditing certain financial instruments.

- As a result of these regulatory trends and recent findings, alternative asset managers and auditors will need more substantiation for reported fair values, which may require the expertise of a third-party valuation advisor.

- While the valuation of Level 3 assets are often outsourced to independent valuation firms who can provide considerable back-up information and support, many alternative asset management firms have traditionally utilized broker dealer quotes to value Level 2 assets.

- Broker dealers, pricing services, and data providers are unlikely to provide the level of support required by management and auditing firms which has contributed to increased use of independent third-party valuation advisors for Level 2 assets.

- Broker dealers’ quotes do not provide confidence that the transaction can be executed at the stated level due to the lack of transparency and quality of market quotes.

- The non-binding nature of broker dealers’ quotes and the fact that they are generally based on indications rather than observable transactions, could potentially result in the assets being classified as Level 3 assets.

- Similarly, classification largely depends on the level of activity in the market and careful assessment should be made on whether an adjustment is needed as this may result in the need for classification as a Level 3 asset.
# Progression of Portfolio Valuation Services

Full valuations are widely accepted as the most reliable form of independent analysis and are increasingly becoming the industry norm.

<table>
<thead>
<tr>
<th>Industry Direction</th>
<th>Present &amp; Future</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Past</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Negative Assurance</strong></td>
<td>Valuation advisor reviews client valuation and states that nothing has come to the attention of the valuation firm of an adverse nature and that the procedures, basis of valuation and calculations undertaken do not appear unreasonable.</td>
</tr>
<tr>
<td><strong>Positive Assurance</strong></td>
<td>Valuation advisor reviews client valuation and confirms that the procedures, basis of valuation and the calculations undertaken by the client are reasonable.</td>
</tr>
<tr>
<td><strong>Full Valuation</strong></td>
<td>Valuation advisor performs a full independent valuation of the specific investment.</td>
</tr>
</tbody>
</table>

## Definition

<table>
<thead>
<tr>
<th><strong>Definition</strong></th>
<th><strong>Past</strong></th>
<th><strong>Present &amp; Future</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Assurance</strong></td>
<td>Valuation advisor opines that the procedures used to derive the company’s internally generated valuation do not deviate from industry standards. The valuation provider does not perform its own valuation.</td>
<td></td>
</tr>
<tr>
<td><strong>Positive Assurance</strong></td>
<td>Valuation advisor opines that the company’s internally generated valuation has been prepared using procedures and assumptions that conform to industry standards. The valuation provider does not perform its own valuation.</td>
<td></td>
</tr>
<tr>
<td><strong>Full Valuation</strong></td>
<td>Valuation advisor undertakes a full analysis including selecting the valuation methodology and comparable companies; identifies the cash flows and appropriate discount rate; and provides a final value range to the client.</td>
<td></td>
</tr>
</tbody>
</table>

## Scope of Analysis

<table>
<thead>
<tr>
<th><strong>Scope of Analysis</strong></th>
<th><strong>Past</strong></th>
<th><strong>Present &amp; Future</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Assurance</strong></td>
<td>Not an independent valuation. Only reviews the valuation methodology used by the fund.</td>
<td></td>
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<tr>
<td><strong>Positive Assurance</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Full Valuation</strong></td>
<td>Valuation advisor independently values the asset and provides analyses to support methodology and calculations used to generate results.</td>
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</table>

## Valuation Process

<table>
<thead>
<tr>
<th><strong>Valuation Process</strong></th>
<th><strong>Past</strong></th>
<th><strong>Present &amp; Future</strong></th>
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<tr>
<td><strong>Negative Assurance</strong></td>
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<td><strong>Positive Assurance</strong></td>
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</tbody>
</table>

## Reliability

<table>
<thead>
<tr>
<th><strong>Reliability</strong></th>
<th><strong>Past</strong></th>
<th><strong>Present &amp; Future</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Assurance</strong></td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td><strong>Positive Assurance</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>Full Valuation</strong></td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>
Selecting an Independent Third-Party Valuation Advisor

When selecting an independent third-party valuation advisor, make sure your advisor can meet the following standards and consider asking the corresponding questions:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise in appliable asset class or classes</td>
<td>What specific experience does your firm have evaluating the types of assets we are currently invested in, as well as those in which we may invest in the future?</td>
</tr>
<tr>
<td>Access to market information</td>
<td>What is the depth and breadth of the valuation inputs used in deriving your valuation conclusions, and what are the specific internal or external sources of information you will be using?</td>
</tr>
<tr>
<td>Capacity to meet volume and timing requirements</td>
<td>How does your firm staff its teams, and what is the depth of the internal and external resources you will draw on to perform our valuations?</td>
</tr>
<tr>
<td>Conflict management</td>
<td>What is the potential for conflicts of interest based on other types of work your firm engages in, and how are possible conflicts managed?</td>
</tr>
<tr>
<td>Ability to support valuation conclusions</td>
<td>What type of backup will be provided for the valuation conclusions, and is your firm willing to speak directly with auditors and regulators in order to fully support the valuations?</td>
</tr>
<tr>
<td>Experience interfacing with external parties</td>
<td>What is the extent of your firm’s experience interacting with auditors, regulators, investors, administrators and other relevant parties?</td>
</tr>
</tbody>
</table>
Pitfalls to Avoid When Selecting an Independent Third-Party Valuation Advisor

Not all independent valuation advisors are created equal. Some common pitfalls in selecting a valuation advisor include:

### Assuming that a valuation review is synonymous with a valuation opinion

- Some managers have engaged independent service advisors to review valuations:
  - Managers use this exercise for marketing and client reporting, as it may enable them to announce that an objective determination of the reasonableness (or unreasonableness) of value has been made by an independent third-party
  - Valuation reviews often result in more costly audits due to the additional time needed by auditors to re-create valuations

- A true valuation opinion can only result from a third-party valuation advisor performing the analysis and calculating a fair value from a perspective independent of the investment manager

### Selecting an independent service provider on price

- Many alternative asset managers view independent valuation services as a commodity, and because of this, price has become the key selection criterion for many managers

- Low cost service providers may not furnish appropriate levels of experience, valuation or industry expertise and reliability

- Valuations from low cost/start-up firms that lack a strong history and name in the industry may not be acceptable to investors, auditors and regulators

- An established, experienced valuation advisor will tend to be more independent, less likely to rubber stamp investment managers’ valuations and better equipped to stand by independently derived results

- The best valuation service advisors can help a fund manager with additional insight into state-of-the-art valuation techniques, improve the efficiency of the audit process, provide in-depth market intelligence, and offer strategic advice
How Houlihan Lokey Can Help

Houlihan Lokey has broad valuation and transactional experience in the asset management, hedge fund and private equity industries, where we serve over 300 clients annually. Our team is dedicated to understanding the business issues of asset managers and we bring a valuable and unique perspective to the valuation process. Our team can:

- Conduct independent full valuations of a wide range of illiquid assets
- Perform an assessment of the design and effectiveness of existing valuation policies and procedures
- Evaluate and/or assist in the development of valuation methodologies for various asset classes across industries
- Determine which assets require independent third-party valuation
- Provide insight into valuation best practices
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Houlihan Lokey (NYSE: HLI) is a global investment bank with expertise in mergers and acquisitions, capital markets, valuation, financial restructuring, and strategic consulting. The firm serves corporations, institutions, and governments worldwide with offices in the United States, Europe, and the Asia-Pacific region. Independent advice and intellectual rigor are hallmarks of our commitment to client success across our advisory services. Houlihan Lokey is ranked as the No. 1 M&A advisor for all U.S. transactions, the No. 1 global M&A fairness opinion advisor over the past 15 years, and the No. 1 global restructuring advisor, according to Thomson Reuters. For more information, please visit www.HL.com.