

The CutterAdvantEdge

Commentary on Investment Systems
and Operations



The True Cost of Market Data: Operational Impacts

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Over the last few years, Cutter Associates has heard two very clear and consistent messages about market data from our investment management clients: 1) demand for market data has significantly expanded; and 2) market data licensing costs continue to increase. Firms require more data and increasingly complex data, but they also want help understanding what their costs are and how to manage them more effectively.

It should come as no surprise that investment management firms are faced with significant cost pressures across the enterprise. At the same time, however, they are faced with escalating market data costs for several reasons:

- The cost of market data licenses is increasing as data vendors place greater scrutiny on actual usage and distribution of the data. The last few years have brought more compliance audits and clarity of contract terms.
- Investment managers are diversifying their investments in alternative asset types, driving the need for more data in terms of both quantity and complexity. Specialized data for the valuation of alternatives and use of unique benchmarks has contributed to the increased complexity.
- Increased regulations have fueled demand for more transparency into data. Investment managers must provide more information to regulators around data provenance than ever before.
- Clients, both internal and external, are demanding more in terms of quantity, complexity, and timeliness of the data.
- There is an overall expansion of focus from the acquisition and storage of data to the management of data, including governance and use, which requires significant investment in human resources.



To effectively manage market data costs, firms must be able to clarify where the money is being spent. Sounds simple, right? Well, perhaps not. As we embarked on a study to analyze the true cost of market data for our investment management clients, one thing became clear - there is a significant lack of clarity around what firms are actually spending on market data. While most firms have a reasonable handle on their market data licensing costs, they often fail to fully take into account the related costs of managing market data. Costs such as systems and people are more difficult to track – so often go unaccounted.

Cutter Associates embarked on this study to get a better understanding of the totality of market data costs incurred by firms that includes licensing as well as the myriad other line items associated with managing market data.

Background

Goals

Cutter Associates' goals in conducting this study were to:

- Gain an understanding of the total cost of market data incurred by investment management firms
- Specifically identify the non-license costs associated with market data management, including:
 - The implementation and ongoing maintenance of data management systems
 - Other systems to manage market data (e.g. portfolio management systems, risk management systems)
 - Service providers who offer managed data services such as monitoring and cleansing
 - Personnel costs associated with managing market data
- Identify factors and trends in market data management (governance, policies, processes, etc.) that may influence the total costs
- Offer insights to investment management firms looking to understand and manage their market data costs

What is Market Data?

For purposes of this study, we define market data as structured market and reference data, typically delivered electronically, of the following types:

- Security reference data, such as security master elements and identifiers
- Prices and FX rates
- Ratings (issue and issuer levels)
- Corporate actions (notifications only – excludes elections/entitlements)
- Security analytics (not portfolio level analytics)
- Indices, benchmarks
- Issuer and counterparty data
- Other reference data such as country, currency, and exchanges
- Fundamentals
- Funds data
- Research
- Economic data

The following costs are specifically excluded from our study:

- Vendor terminal costs such as Bloomberg and Reuters
- Unstructured research data such as market commentaries, news feeds, and broker research
- Real time data
- Operational data such as account master and transactions

The Cost of *Licensing* Market Data

Market data licensing costs are relatively easy to track since they are often explicitly identified in vendor invoices. However, market data costs are often bundled with other services and solutions from market data providers, or passed through third party vendors, making it difficult to cleanly segregate the cost of market data licensing from other vendor costs.

Market data licensing costs vary considerably across firms, according to various factors. Costs are lower for firms more heavily invested in publicly traded, widely held securities, because the related market data is cheaper and easier to find compared to market data on complex derivatives or real assets. Costs are also lower for firms that don't require multiple data sources for validation. For example, firms with global operations and regional insight require fewer sources to validate their market data than firms invested in emerging markets or with minimal operations in a particular region, who require multiple sources for validation. And licensing costs are typically lower for firms with data governance that effectively identifies redundant sources of market data.

We have assumed that firms often have little discretion when it comes to their market data license costs. Clients may be demanding particular benchmarks, certain assets may require specific data sources, and firms may not have influential negotiating power with the vendors.

The relationship between AUM and market data licensing costs is less than direct. Of the 17 study participants, annual data licensing costs ranged from USD 900,000 to 25 million, with little correlation between AUM and costs.

The Cost of *Managing* Market Data

Over the last several years, investment management firms have come to the realization that data is a key asset and have consequently placed an increasing focus on managing it effectively. In our 2013 Cutter Benchmarking study on Data Management, 45% of firms viewed data as a strategic asset that provides competitive advantage. This is in sharp contrast to a similar 2011 Cutter Benchmarking study, where no firms shared this view. This shift of focus to data as a differentiator has resulted in:

- Investment by firms in data management systems/solutions
- Increased focus on data stewardship and governance, resulting in higher human capital costs for data management functions
- Enhanced vendor offerings related to data management including:
 - Order Management, Portfolio Management, Accounting vendors enhancing capabilities for market data acquisition, cleansing, etc.
 - Middle office service providers increasingly offering market and reference data services

Obviously, these initiatives come at a cost, including market data costs. Further, these costs are spread across different types of vendors and service providers as well as internal groups within firms. Most firms don't have a clear picture on the totality of these costs. The true cost of market data, beyond license fees, can be significant. For purposes of this study, we include the following as **market data management costs**:

- Cost of people managing market data, including acquisition, scrubbing, validation, and reconciliation from all groups within the organization:
 - *Data Management*: work related to creating and cleansing market and reference data, identifying and resolving data issues, data quality reporting, and other tasks related to data quality management and data governance
 - *Information Technology*: implementing / maintaining data management systems, resolving market and reference data issues, loading data into repositories
 - *Operations*: work related to creating and cleansing market and reference data, and to identifying and resolving data issues
 - *Portfolio Management*: acquisition and cleansing of market and reference data for the front office

Data recognized as a **STRATEGIC ASSET**

2011

0%

of firms view data as a strategic asset that provides competitive advantage

2013

45%

of firms view data as a strategic asset that provides competitive advantage

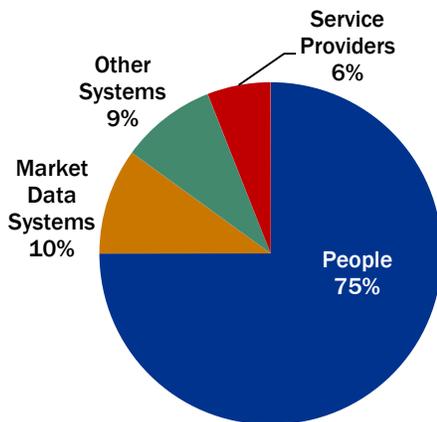
Source: CutterBenchmarking Studies on Data Management

- *Risk Management*: acquisition and cleansing of market and reference data for risk analysis functions
- *Performance Measurement and Attribution*: cleansing and remediation of data for performance analysis
- *Marketing*: managing market data for pitch book creation, collateral, and consultant RFPs
- *Client Reporting*: acquisition and cleansing of market and reference data for client reports
- Cost of data management systems apportioned to market data management
 - Reference data management systems
 - Extract, transform, and load (ETL) tools
 - Data hubs
 - Data warehouses
 - Tools for aggregating and distributing market data
 - Tools for administering market data and tracking usage
- Cost of other investment systems apportioned to market data management
 - Order management / portfolio management
 - Accounting
 - Performance and analytics
 - Client reporting
 - Risk management
 - Other
- Expenses incurred on investment administration service providers apportioned to market data management
 - Middle office service providers
 - Back office service providers
 - Custodians
 - Non-traditional data service providers
 - Other service providers

A Deep Dive into the Hidden Cost of Market Data

While there was considerable variation among participants, some firms reported market data management costs higher than their licensing costs for that data. These market data management costs include the cost of human resources involved in market data management, as well as the various systems and service providers performing market data management functions. Some of these costs include the implementation and ongoing cost of Enterprise Data Management (EDM) tools and the human resources used to cleanse data prior to further analysis. The breakdown of these costs varied significantly among firms, based on differences in the level of automation, the firm's focus on data quality, and other environmental factors. In all cases, the cost of human resources was higher than the total costs of systems and services.

Allocation of Non-License Market Data Costs



The survey revealed that, on average, 75% of a firm's non-license costs for market data can be attributed to the people performing market data management tasks. These include staff that may be dedicated to the data management task as well as those who inherit market data management responsibilities through their use of the data. An example of users that inherit data management tasks might include portfolio management teams that need to validate and cleanse market data prior to its use in investment models. Also, performance measurement teams may go to even greater lengths to cleanse market data because they require even more precise data for their analyses and reports.

Many of these non-license costs are not accounted for when firms are managing budgets. Determining these costs often requires careful allocation from different cost categories, and firms often underestimate these costs.

The Detailed Findings

Included here are the detailed results of our analysis. The data presented has undergone a thorough review and validation process to ensure that all participating firms were accounting for their market data costs in a similar manner. There were significant challenges for Cutter in gathering this data and normalizing it across the participating firms, but we were able to interview all of the firms to ensure the reliability of the results. (Full details of the challenges faced and the processes applied to the study are detailed in the Methodology section.)

*Price is what you pay.
Value is what you get.*
~Warren Buffett

Market Data Management Costs

Participating firms were asked to identify the non-license costs of managing their market data. These costs can be challenging to identify and expose. Below we detail the results of our study and share some insights into their derivation.

People

We found that significant costs came from the people required to maintain market data, such as those in a data management group that might be fully dedicated to the task. Also important were people - such as portfolio managers and risk analysts - who may inherit data management tasks by virtue of the fact that they need cleansed market data to perform their job. Indeed, not all market data is created equal in the sense that some data is more challenging to manage than other data. For example, benchmark data typically comes in high volumes from multiple sources to be reconciled, making it particularly challenging.

More on Benchmark Data...

Benchmark data is increasingly complex and expensive. It is also characteristically different from other market data. For more on the specific challenges associated with managing benchmark data, please see the June 2012 Cutter AdvantEdge, *Benchmarks – Not a Word but a Sentence?*

Average number of FTEs dedicated to ongoing market data management activities, by functional area



We found that participating firms dedicate an average of 15 full time equivalents (FTEs) to the *ongoing* task of managing market data. That number does not include staff involved in an initial system or program implementation. We estimated that on an annualized basis, an equivalent number of staff will be involved in periodic implementations of systems and solutions for managing market data.

Market Data Systems

Investment management firms have implemented a number of systems that directly support the data management process, including reference data management systems, ETL tools, data warehouses, and hubs. In total, the firms in this study spent an average of USD 702,000 of their total annual budget for these systems, which represents 10% of their total non-license costs.

These market data system costs varied significantly across firms, attributable to a multitude of factors. A key factor is the focus on market data quality and the consequent effort required for cleansing, validation, and enrichment. Another factor is the preferred solution architecture across firms, such as application centric versus data centric, and point-to-point integration versus centralized/federated integration. A third factor is the use of other solutions and services that provide market data management and obviate the need for data management systems.

Other Systems

In addition to technology that directly supports data management, firms are using other systems that play an important role in managing market data. Application vendors have responded to demand from their clients for more accurate data by developing various add-on tools and services for acquiring, cleansing, and delivering market data.

We asked participating firms what they spend on data management functions, beyond what they spend on dedicated market data management systems. These functions are provided by components of other systems such as portfolio management, risk management, and performance measurement systems. On average, participating firms spend USD 640,000 annually on such components.

Service Providers

Investment management firms have often sought opportunities to reduce their data management costs by using third party service providers. The firms participating in this study spend an average USD 381,000 annually on these external providers, including custodians, managed service providers, and outsourcing providers (for middle and back office services).

Note that the market data services from these providers are still maturing, especially when it comes to delivering data to the front office. Fewer than half the participants incurred costs related to market data services from these service providers.

What Can an Investment Manager Do?

Clearly, a firm's market data management policies and processes affect the overall cost. How firms are organized around data management, how their vendor contracts are negotiated, and data governance issues play an important role in controlling the cost of market data management. Below are some practical steps that firms can take to improve their market data management program and gain an understanding of the associated costs of all that information.

- Conduct an internal assessment of your firm's market data management costs to determine how they align with the results of this study. Don't underestimate the level of commitment this requires in order to meet the measurement challenges we describe.

- Increase your firm’s focus on the total cost of ownership of market data, particularly the hidden costs discussed here. If we assume that you have the least amount of discretion over your data license fees, then your emphasis can turn to managing the non-license costs.
- Adopt a business intelligence approach to market data management and governance. Analyze *all* of the elements that contribute to your market data costs so you can effectively manage them.
- Implement a data governance program that includes key market data management roles:
 - Data Owners who define policies for different types of market data, including the appropriate data sources and rules around usage and distribution of market data.
 - Data Stewards and Market Data Coordinators who implement the Data Owners’ policies, monitor usage, and eliminate redundant data sources, and inappropriate usage.
- If market data is currently managed in a decentralized fashion, consider moving to a centralized structure. This is can reduce redundancy in market data usage.
- Institute solutions and processes to enhance market data quality by proactive cleansing, validation, and enrichment. While this may lead to increased data management costs, in the long run it has the potential for greater business benefits.
- Explore expanding the footprint of middle/back office service providers and custodians to include market data management services. Some of the firms surveyed indicated that they were able to save significant market data management costs by using these service providers.

Methodology

Cutter Associates conducted this detailed study to uncover the true cost of managing market data. We wanted to understand the hidden costs that are so often unaccounted for when analyzing and budgeting for market data. Our assumption is that if investment managers can expose these costs and see how significant they are, firms are more likely to manage them. Below we detail our methodology for conducting this analysis.

Process

Cutter Associates adopted the following steps in the study:

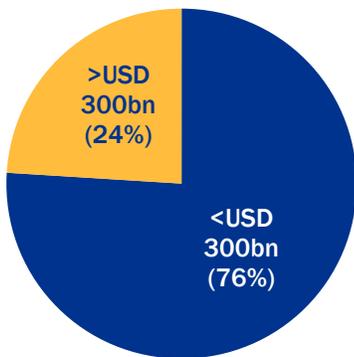
- Created a detailed survey to be administered to asset management firms. The survey addressed all market data licenses and related costs in scope and included questions to enable participants to distinguish all categories of market data costs.
- Identified a list of asset management firms to solicit participation. The initial focus was on medium sized (USD 100 – 300 billion AUM), multi-asset class firms with a reasonable representation of participation from North American and European firms.
- Administered the survey to firms who agreed to participate.
- Scheduled follow up meetings with each firm to review the responses. This was a critical step in the process since different firms had varying interpretations of market data costs. These interviews allowed us to clarify their interpretation and to normalize the data across firms.
- Harmonized the responses based on the interviews to ensure a consistent basis for interpretation across the firms.
- Aggregated and analyzed the responses to identify the different categories of cost.

Profiles of Participating Firms

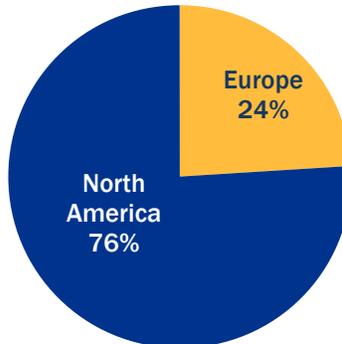
A total of 17 firms participated in the survey. This included European and North American firms, some with global operations, and others regional. All firms invested in two or more asset classes. Below is a summary of the profile under different categories.

Of the participants, four firms have AUM greater than USD 300 billion, while the other 13 firms were under USD 300 billion. Nine of the participating firms are traditional asset managers, four are insurance firms, and four firms are pension funds. Thirteen of the participating firms are based in North America, while four firms are based in Europe.

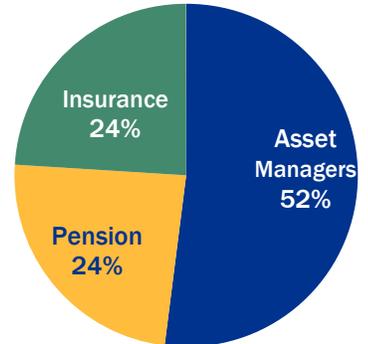
Participating Firms by AUM



Participating Firms by Location



Participating Firms by Type



Addressing the Measurement Challenge

At the outset, this study generated considerable interest amongst Cutter's investment manager client base and considerable enthusiasm for participation. It is so often the case that firms want to benchmark operational costs against their peers. Just as frequently, we are challenged with gathering the information necessary to make valid comparisons. No two firms account for costs in the same way so it is critical to gather the data, understand it, and then harmonize the data across responding firms. Asking a firm to fill out a survey and then adding up the results would be foolish and misleading.

Cutter faced significant issues in gathering responses from potential participants and we answered those challenges with expertise from our Consulting, Research, and Benchmarking practices. Our experience in conducting detailed analyses of investment managers' operations and technology practices gave us a head start. But this study required detailed knowledge of market data as well as the broader data management systems and practices that are relevant to investment managers.

Some of the challenges we encountered and addressed included the following.

- **Time** – most firms do not have the detailed cost information readily available and found that it was too time consuming to gather the underlying data. A few firms that had initially confirmed their intent to participate were forced to withdraw due to the difficulties faced in collecting the data.
- **Bundling** – market data licensing costs are embedded in many vendor contracts where the vendor offers market data bundled with other solutions and services. For purposes of this study, participating firms needed to take the additional step of delineating costs specific to market data.
- **Definition of market data** – participating firms had varying interpretations of what constituted market data. Cutter's follow-up discussions with firms enabled greater clarity and consistency in the data collected.
- **Isolating resource costs** – even in firms with dedicated resources in data management or operations groups, we asked them to separate their efforts for managing market data from operational data (accounts, transactions, etc.). Further, estimating the effort (in FTEs) on market data management expended in other groups such as Portfolio Management and Risk Management posed additional complications. Most of the respondents in participating firms were employed in Operations or Information Technology and their potentially limited visibility into other investment functions may have resulted in understating these efforts.
- **Isolating technology costs** – the cost of data management systems is relatively easy to identify, but the allocation between market/reference data and operational data (position, transactions, etc.) requires further work. For other investment systems (Order Management, Portfolio Management, Risk Management), the picture is even more ambiguous. Some of these investment systems are increasingly providing capabilities in acquiring, cleansing, and enhancing market data, which are built into their costs. Estimating the market data costs of these systems entails making reasonable but subjective assumptions, which may vary across firms.
- **System implementation costs** – the costs associated with the implementation of the systems described above that manage market data. While these are one-time costs, they do occur in periodic cycles as firms constantly enhance, upgrade, or revamp their investment solutions. Cutter needed to account for these costs on an annualized basis, to get a full picture of the market data management costs. It is very difficult for firms to extract these costs with any degree of certitude, in what may be in some cases, many years after the implementation. Based on our experience in various Consulting and Benchmarking projects, Cutter has made some reasonable assumptions based on cost/resource ratios between implementation and ongoing maintenance.

About the Author



Shankar Subramanian has over 25 years of industry experience in investment management and technology solutions. At Cutter Associates, he heads the Data Management practice, providing thought leadership, strategic and tactical advice to clients and vendors. He is a regular featured speaker at industry conferences. Shankar has significant experience with buy side asset management firms, insurance firms, government agencies, and pension funds. He has a deep understanding of data management, equity portfolio management, risk management, and alternative investments.

About Cutter Associates, LLC

Cutter Associates, LLC provides truly independent investment process expertise for the investment management community. Through three interrelated services, Cutter provides investment management firms the knowledge and tools to ensure that their business technologies and processes are competitive. **CutterResearch** offers member firms detailed, actionable research to reduce risk, lower costs and keep up-to-date on systems and operational processes. **CutterBenchmarking** provides bespoke reports measuring firms' investment processes by capabilities, risk and effectiveness through comparisons based on tried and tested capability models. **CutterConsulting** partners with firms to evaluate, select, and implement systems and to develop leading technology and operational strategies. Cutter Associates is headquartered in Rockland, MA and has subsidiaries in Canada and the UK, and is on the web at www.cutterassociates.com.

For firms struggling with any aspect of how to effectively manage market data costs, Cutter Associates can help. With expertise in client facing solutions, data management, and operational best practices, Cutter Associates has the resources and insights needed to succeed. Contact us to find out more by calling 1-781-261-0066 or by email info@cutterassociates.com.