

C A M B R I D G E A S S O C I A T E S L L C

AN OVERVIEW OF ENDOWMENT MANAGEMENT COSTS

2002

Ian Kennedy
Mary Barrick
Barrett Rankin

Copyright © 2002 by Cambridge Associates LLC. All rights reserved.

This report may not be displayed, reproduced, distributed, transmitted or used to create derivative works in any form, in whole or in portion, by any means, without written permission from Cambridge Associates LLC. Copying of this publication is a violation of federal copyright laws (17 U.S.C. 101 et seq.). Violators of this copyright may be subject to liability for substantial monetary damages. The information and material published in this report are confidential and non-transferable. This means that authorized members may not disclose any information or material derived from this report to third parties, or use information or material from this report, without the prior written authorization of Cambridge Associates LLC. An authorized member may disclose information or material from this report to its staff, trustees, or Investment Committee with the understanding that these individuals will treat it confidentially. Additionally, information from this report may be disclosed if disclosure is required by law or court order, but members are required to provide notice to Cambridge Associates LLC reasonably in advance of such disclosure. This report is provided for informational purposes only. It is not intended to constitute an offer of securities of any of the issuers that are described in the report. This report is provided only to persons that Cambridge Associates LLC believes to be "Accredited Investors" as that term is defined in Regulation D under the Securities Act of 1933. The recipient of this report may not provide it to any other person without the consent of Cambridge Associates LLC. Investors should completely review all Fund offering materials before considering an investment. No part of this report is intended as a recommendation of any firm or any security. Factual information contained herein about investment firms and their returns which has not been independently verified has generally been collected from the firms themselves through the mail. We can neither assure nor accept responsibility for accuracy, but substantial legal liability may apply to misrepresentations of results delivered through the mail. The CA Manager Medians are derived from Cambridge Associates LLC's proprietary database covering investment managers. Cambridge Associates LLC does not necessarily endorse or recommend the managers in this universe. Performance results are generally gross of investment management fees and do not include returns for discontinued managers.

CONTENTS

Summary 1

Exhibits

- 1 Comparative Asset Class Manager Returns 6
- 2 Five Broad Models for Organizing and Staffing the Investment Function 8
- 3 Investment Oversight Expenditures 9
- 4 Investment Management and Oversight Costs 10
- 5 Composite Expenses of Externally Managed Assets by Asset Class 11

SUMMARY

Introduction

The costs of managing an endowment fund should be measured in relation to returns—higher costs can obviously be justified if they contribute to higher net returns, but should be avoided if they fail to do so. For this reason it can be misleading to measure one's costs by some sort of presumed standard—the notion of a "standard" cost for any specific investment function should be received with skepticism. Instead, expenses should be seen in the context of such factors as asset size, portfolio complexity, and investment performance. Naturally, fiduciaries should routinely review fund expenses to ensure they are getting value for money, and most institutional investors recognize that even a modest reduction in costs can materially enhance a fund's long-term returns.¹ However, recent trends in asset allocation have caused us to fear that the greater danger may now be that some institutions may be spending *too little* rather than too much, since they have increased the complexity of their portfolios with new allocations to alternative assets, but have not recognized the need to add resources for proper oversight of such investments. In other words, fiduciaries should ask not only "Are we spending too much on investment expenses?" but also "Are we spending too little?"

Just how much is too much or too little? It depends—better questions to ask are whether the *resources* allocated to investment oversight (measured imperfectly at best by costs) are adequate to add significant value and whether these resources are optimally allocated. Substantiating the argument that one can achieve superior results by spending money wisely on thoughtful policy setting and implementation, larger institutions, possessed of greater resources, have consistently outperformed smaller institutions. The considerable differences in the range of returns for managers in different asset classes (Exhibit 1) underscores the potential impact of manager selection and monitoring in alternative asset classes, providing a striking illustration of how the effective application of skilled resources can add substantial value.

Typically, staff salaries and related expenses are the largest component of investment oversight costs. However, differences in financial and investment objectives, asset allocation policies, and implementation practices result in considerable variation in how institutions' exercise investment oversight and therefore how much they need to spend. Exhibit 2 depicts five different organizational models differentiated by investment strategy and staffing structure, and shows that although the size of the

¹ For instance, a fund with an initial value of \$100 million maintaining a 70% U.S. equity, 30% U.S. bond asset allocation (rebalanced annually) and paying annual fees of 75 basis points (bps) for equity and 35 bps for bonds would have grown to \$384.6 million during the ten years ending June 30, 2000. Had the same fund paid just ten bps less in fees for both equity and bonds, or earned just ten bps more in net return, the cumulative result would be an additional \$3.8 million.

investment office staff is driven in large part by the size of the asset base and the complexity of the investment strategy, the nature and scope of investment oversight responsibilities also have a bearing on staffing resources.²

Although we discuss investment supervision in relative terms (in bps), obviously there are tremendous differences in what five bps buys for a \$500 million portfolio versus a \$10 billion portfolio. These distinctions in scale often determine staffing choices. For example, the very largest funds typically attract top investment management talent, at a high price, whereas smaller funds generally cannot afford to compete for professional investment staff and therefore outsource more of their oversight functions. To illustrate, Exhibit 3 depicts oversight costs in relation to portfolio complexity and asset size, identifying when institutions may be paying too little, too much, or a reasonable amount. While we do not have data on oversight costs broken out by asset class, there are clearly important differences in the resources required to monitor and manage allocations to private equity or hedge funds compared to allocations to, say, common stock index funds. In characterizing those alternative asset classes as "inefficient"—which is part of their attraction—what one is saying, in effect, is that "to the winners go the spoils," which in turn implies that institutions should either spend enough to ensure that their alternative investment programs are coherently structured, effectively implemented, and properly supervised, or not invest at all.

Overview of Survey Responses

A selected group of colleges and universities with endowment assets in excess of \$500 million was invited to participate in a rigorous survey on endowment management costs. Three public and 12 private institutions participated.

The survey elicited fiscal year 2000 cost data on management, custody, supervision, legal, and accounting/audit expenses and explored the differences between managing these functions internally and externally. In addition, significant measures were taken to break down management costs into their asset-based and performance-based components.

Though individual respondent data is shared only among survey participants, some of the aggregate highlights have been included in this report.

² See our report, *Investment Office Organization and Management* (2000), for a more detailed discussion of investment office staffing.

Investment Oversight Expenses

Investment supervision, typically the largest component of investment oversight, includes services to the trustee committee, strategy development, due diligence on investment managers, oversight of asset allocation and investment management, consulting, and performance measurement and evaluation. Internal supervision is comprised of staff salaries and benefits, travel, pro rata share of overhead, and research publications. External supervision costs reflect fees paid to various agents for the services described above. Institutions allocate a far greater share of costs to internal supervision and research than to external supervision and research. Average expenses were 4.8 bps for internal supervision and 0.7 bps for external supervision for a total of 5.5 bps.

Custody expenses describe charges incurred for the guaranteed safekeeping of assets by an individual, bank, or external firm. We separated custodial functions into those performed in-house and those performed by external agents. Nearly all of the participants' custodial functions were performed by external agents and the mean for custody costs was 1.8 bps.

The majority of all legal expenses reported by survey respondents related to the review of partnership agreements associated with non-marketable investments. Participants allocated an average of 0.2 bps to legal expenses. Half of the participants handled the legal function internally while the other half outsourced the function.

The mean allocation for accounting/audit expenses was 0.8 bps though there was a wide disparity reflecting perhaps the divergent views on and attention given to the accounting function. Some institutions perform the minimum accounting necessary for accurate control over the endowment, while others have set up elaborate and complex cost control and tracking systems.

Investment Management Expenses

Investment management costs averaged 297 bps among the study's participants amid considerable diversity, with a standard deviation of 137 bps. Investment management costs show a negatively skewed distribution with a cluster of institutions at the high end of the cost scale. This dispersion is not surprising given the significant difference between the average investment costs for marketable assets, 114 bps, and non-marketable assets, 1,396 bps (Exhibit 4).

It should be mentioned that fiscal year 2000 was an exceptional year for private equity and the vast majority of the costs cited above for non-marketable assets derive from the performance-based fees paid to these high-flying asset classes. Fees paid for venture capital, by far the most expensive asset

class in fiscal year 2000, averaged (on a weighted basis) 228 bps for asset-based fees and an astounding 1,787 bps for performance-based fees (Exhibit 5). It is important to note, however, that this asset class produced spectacular returns in fiscal year 2000, earning 216% according to Cambridge Associates' U.S. Venture Capital Index®. While this undoubtedly presents an extreme (perhaps nonrecurring?) bias to the results reflected above, the point concerning the disproportionate costs for non-marketable assets remains.

Further illustrating the effect of significant allocation to non-marketable assets on investment management expenses, survey data shows that performance-based fees accounted for a majority of participants' investment management costs in fiscal year 2000. Much of this can be attributed to the extraordinarily high carry paid for the exceptional performance of private equity in fiscal year 2000. Asset-based fees accounted for an average of 30.8% of total investment management expenses for the year versus 69.2% for performance-based expenses.

While marketable asset allocations averaged 80.2% of total assets, they accounted for only 26.0% of total investment management costs. Assets allocated to non-marketable securities averaged 19.6% of total assets, but the costs of managing these assets accounted for 74.0% of total investment management costs. This starkly quantifies the familiar truth that the management of non-marketable assets is considerably more expensive than that of marketable securities and suggests that institutions should constantly evaluate whether these more expensive investments are indeed providing the requisite return and diversification benefits to compensate for their greater cost.

Funding Sources

Overall, internal and external costs were funded somewhat differently. Internal costs for both investment management and oversight are most often paid out of the investment office budget. External management costs, however, were almost exclusively paid out directly from the investment portfolio. Funding sources for external oversight costs are more varied than for internal oversight costs. Two of the five areas of oversight, custody and supervision, are most often paid from the investment portfolio, whereas the other three areas, legal, accounting/audit, and research, are most typically paid out of the investment office budget. We have always argued that *all* such costs should be regarded in the same light—as endowment management expenses to be paid out of the endowment itself—and should not be charged to an operating budget where they might be vulnerable to periodic, across-the-board administrative budget cuts that might prove penny-wise/pound-foolish by myopically reducing the resources essential to effective management of the portfolio.

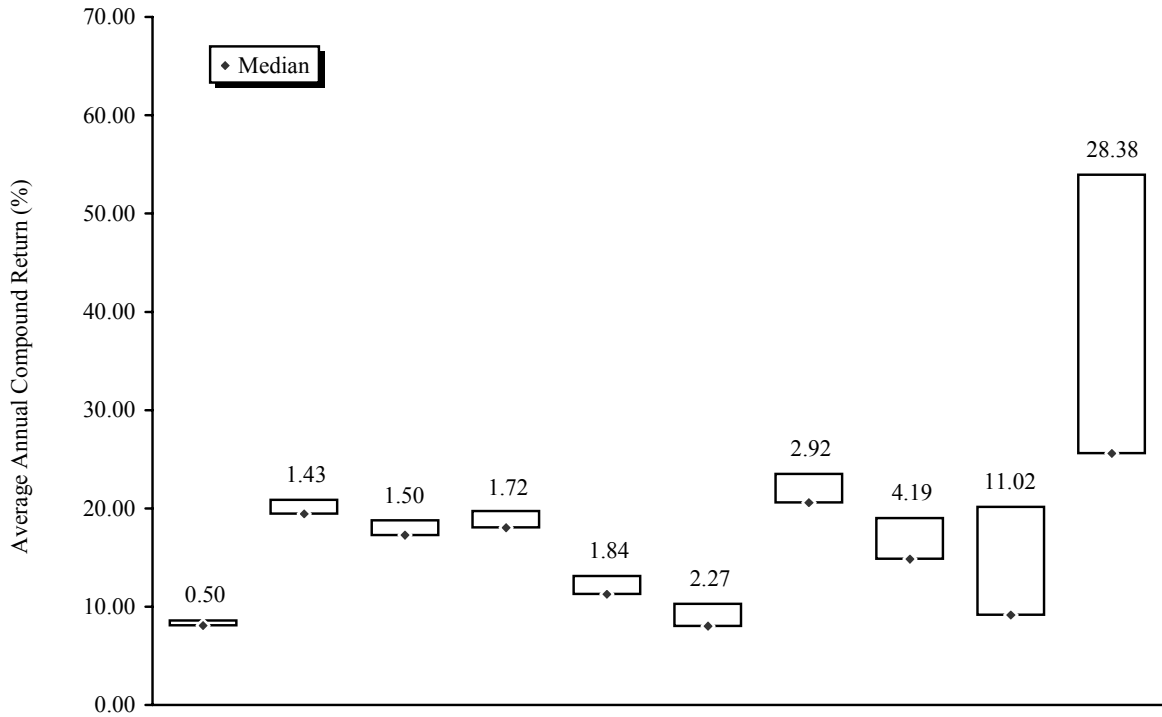
EXHIBITS

Exhibit 1

COMPARATIVE ASSET CLASS MANAGER RETURNS

1991-2000

U.S. Dollar (\$)



	U.S. Bonds	U.S. Large-Cap Growth	U.S. Large-Cap Value	U.S. Small-Cap Value	Global ex U.S. Equity	Emerging Markets Equity	U.S. Small-Cap Growth	Absolute Return	U.S. Private Equity	U.S. Venture Capital
5th Percentile	9.92	28.77	21.05	22.77	16.03	14.93	27.51	24.43	75.66*	238.09*
25th Percentile	8.60	20.88	18.78	19.76	13.13	10.31	23.50	19.03	20.17	53.96
Median	8.10	19.45	17.28	18.04	11.29	8.04	20.58	14.84	9.15	25.58
75th Percentile	7.52	17.65	15.85	17.16	10.29	6.64	18.68	11.97	-0.34	5.96
95th Percentile	6.62	15.43	13.79	15.33	8.37	6.33	15.54	5.97	-35.17*	-28.40*

Sources: Cambridge Associates LLC Investment Manager Database and Cambridge Associates LLC Non-Marketable Alternative Assets Database.

Notes: This graph shows the difference in average annual compound return between the top quartile (i.e., 25th percentile) and the median (i.e., 50th percentile) managers for each asset class. U.S. Venture Capital and U.S. Private Equity returns represent (net IRRs net to limited partners) the average median and top quartile vintage year 1991 through 2000. U.S. Private Equity and U.S. Venture Capital data are from the Cambridge Associates LLC U.S. Private Equity Index® and Benchmark Statistics and Cambridge Associates LLC U.S. Venture Capital Index® and Benchmark Statistics.

* Maximum and minimum data are used for Private Equity and Venture Capital.

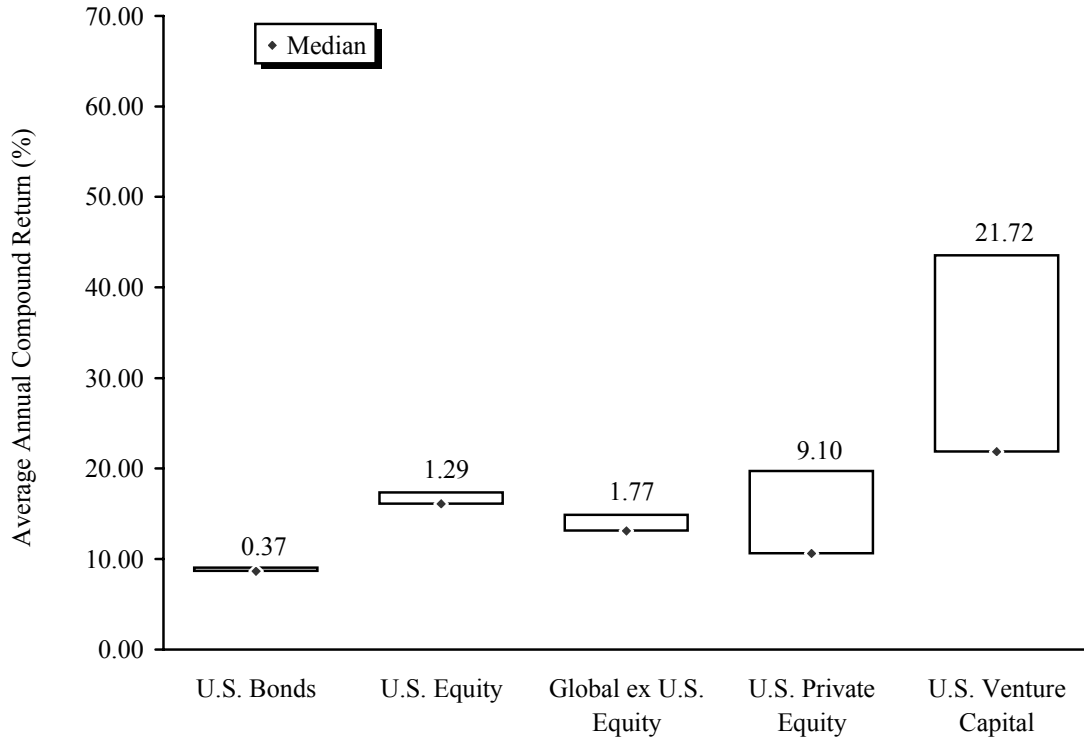
593a

Exhibit 1 (continued)

COMPARATIVE ASSET CLASS MANAGER RETURNS

1986-2000

U.S. Dollar (\$)



5th Percentile	10.19	19.87	17.49	61.36 *	173.66 *
25th Percentile	9.03	17.37	14.88	19.73	43.58
Median	8.66	16.08	13.11	10.62	21.86
75th Percentile	8.22	14.77	12.42	3.37	6.80
95th Percentile	7.35	12.89	11.17	-25.58 *	-20.36 *

Sources: Cambridge Associates LLC Investment Manager Database and Cambridge Associates LLC Non-Marketable Alternative Assets Database.

Notes: This graph shows the difference in average annual compound return between the top quartile (i.e., 25th percentile) and the median (i.e., 50th percentile) managers for each asset class. U.S. Venture Capital and U.S. Private Equity returns represent (net IRRs net to limited partners) the average median and top quartile vintage year 1986 through 2000. U.S. Private Equity and U.S. Venture Capital data are from the Cambridge Associates LLC U.S. Private Equity Index® and Benchmark Statistics and Cambridge Associates LLC U.S. Venture Capital Index® and Benchmark Statistics.

* Maximum and minimum data are used for Private Equity and Venture Capital.

594a

Exhibit 2

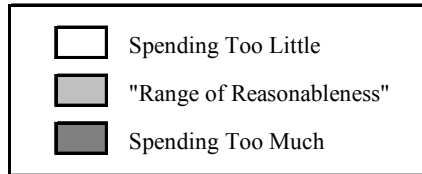
FIVE BROAD MODELS FOR ORGANIZING AND STAFFING THE INVESTMENT FUNCTION

Model	Organization and Staffing	Asset Size	Investment Strategy	Governance
1	<ul style="list-style-type: none"> Internal, integrated investment function; not a distinct office CFO is responsible for the investment function and other broad fiscal and administrative responsibilities No full-time investment staff Compensation within institution's established policy 	Small, Mid-size	<ul style="list-style-type: none"> Relatively simple Limited range of asset classes Heavy reliance on external managers Reliance on consultants as extension of staff Involvement in alternative assets generally limited to pre-packaged investment opportunities 	<ul style="list-style-type: none"> Investment committee members are regular members of the institution's board Trustees often take the initiative on policy changes and investment decisions
2	<ul style="list-style-type: none"> Internal, integrated investment function; not a distinct office CFO may also serve as treasurer and may report to CFO Small staff Compensation within institution's established policy 	Mid-size, Large	<ul style="list-style-type: none"> Relatively simple Limited range of asset classes Heavy reliance on external managers Reliance on consultants as extension of staff Involvement in alternative assets generally limited to pre-packaged investment opportunities 	<ul style="list-style-type: none"> Investment committee members are regular members of the institution's board
3	<ul style="list-style-type: none"> Internal, distinct investment office, within institutional structure Dedicated CIO heads office Specialized investment staff More attractive compensation, within institution's established policy 	Mid-size, Large	<ul style="list-style-type: none"> More complex Diverse range of asset classes Direct (internal) money management limited to fixed income and cash Reliance on external managers Active participation in alternative asset investments Rare direct participation in private equity and real estate investments 	<ul style="list-style-type: none"> Within the established board structure, investment committee may provide more focused and specialized oversight Investment committee may include non-trustee members
4	<ul style="list-style-type: none"> Internal investment management company CIO heads investment company Specialized investment staff Competitive compensation; performance-based component 	Large	<ul style="list-style-type: none"> Complex Diverse range of asset classes Direct (internal) money management limited to fixed income and cash Reliance on external managers Active participation in alternative asset investments Possible use of independent unit for direct private equity and investments 	<ul style="list-style-type: none"> Separate governing board within legal framework of institution Provides focused, specialized oversight May overlap institution's board
5	<ul style="list-style-type: none"> Legally separate investment company (management company) CIO heads investment company (CEO) Large, specialized investment staff Highly competitive performance-based compensation 	Large	<ul style="list-style-type: none"> Complex Diverse range of asset classes Greater emphasis on internal management Active participation in alternative asset investments Greater involvement in direct, stand-alone private equity and real estate investments 	<ul style="list-style-type: none"> Independent board of legally separate, wholly owned non-profit subsidiary

Exhibit 3

INVESTMENT OVERSIGHT EXPENDITURES

Illustrative Examples of Range of Reasonable Expenditures
(not based on real data)



High Equity Allocation (High Complexity)

Basis Points	Asset Size					
	\$20 Billion	\$10 Billion	\$5 Billion	\$1 Billion	\$500 Million	\$100 Million
1	2 M	1 M	500 K	100 K	50 K	10 K
2	4 M	2 M	1 M	200 K	100 K	20 K
4	8 M	4 M	2 M	400 K	200 K	40 K
6	12 M	6 M	3 M	600 K	300 K	60 K
8	16 M	8 M	4 M	800 K	400 K	80 K
10	20 M	10 M	5 M	1 M	500 K	100 K
15	30 M	15 M	7.5 M	1.5 M	750 K	150 K
20	40 M	20 M	10 M	2 M	1 M	200 K
25	50 M	25 M	12.5 M	2.5 M	1.25 M	250 K
30	60 M	30 M	15 M	3 M	1.5 M	300 K

Moderate Equity Allocation (Low Complexity)

Basis Points	Asset Size					
	\$20 Billion	\$10 Billion	\$5 Billion	\$1 Billion	\$500 Million	\$100 Million
1	2 M	1 M	500 K	100 K	50 K	10 K
2	4 M	2 M	1 M	200 K	100 K	20 K
4	8 M	4 M	2 M	400 K	200 K	40 K
6	12 M	6 M	3 M	600 K	300 K	60 K
8	16 M	8 M	4 M	800 K	400 K	80 K
10	20 M	10 M	5 M	1 M	500 K	100 K
15	30 M	15 M	7.5 M	1.5 M	750 K	150 K
20	40 M	20 M	10 M	2 M	1 M	200 K
25	50 M	25 M	12.5 M	2.5 M	1.25 M	250 K
30	60 M	30 M	15 M	3 M	1.5 M	300 K

Notes: Investment oversight includes investment supervision, custody, legal, and accounting/audit expenses. Investment supervision includes services to the trustee committee, strategy development, due diligence on investment managers, oversight of asset allocation and investment management, consulting, and performance measurement and evaluation.

Exhibit 4**INVESTMENT MANAGEMENT AND OVERSIGHT COSTS****As a Percentage of Average Total Assets for Fiscal Years Ended 1999 and 2000 (June 30)****Group Mean (in basis points)**

Total Overall Costs - Investment Management and Oversight	305.0
Investment Management Costs	297.0
Marketable Assets Only ¹	114.0
Non-Marketable Assets Only ²	1,396.0
Investment Oversight Costs	7.9
Investment Supervision ³	5.5
Custody Expenses	1.8
Legal Expenses	0.2
Accounting/Audit Expenses	0.8

Note: Subtotals may not add to category totals.

¹ Relative to marketable assets only; includes internally and externally managed assets.

² Relative to non-marketable assets only; includes internally and externally managed assets.

³ Investment supervision includes services to the trustee committee, strategy development, due diligence on investment managers, oversight of asset allocation and investment management, consulting, and performance measurement.

Exhibit 5

COMPOSITE EXPENSES OF EXTERNALLY MANAGED ASSETS BY ASSET CLASS

Average of Fiscal Years 1999 and 2000 (June 30)

	<u>Asset-Based*</u> (bps)	<u>Performance-Based*</u> (bps)
<u>Marketable Assets</u>		
U.S. Equity	30	15
Non-U.S. Equity	84	0
Global Equity	60	0
U.S. Bonds	19	0
Non-U.S. Bonds	76	0
Global Bonds	39	0
U.S. Cash	15	0
Real Estate	33	0
Hedge Funds	113	788
High-Yield Bonds	94	0
Distressed Securities	146	225
Arbitrage Strategies	97	224
Commodities	42	0
Timber	106	0
<u>Non-Marketable Assets</u>		
Real Estate	118	70
Venture Capital	228	1,787
Non-Venture Private Equity	271	400
Oil & Gas	189	50

Notes: Only disaggregated asset class data are included; data from institutions that lumped together expenses for multiple asset classes were excluded. Composite expenses are based on a dollar-weighted average. Non-marketable 'Other' category is excluded from this exhibit.

* Relative to total externally managed assets.