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THE INTERNATIONAL NEWSPAPER OF MONEY MANAGEMENT | JUNE 6, 2022 | PIONLINE.COM | $50 AN ISSUE / $350 A YEAR

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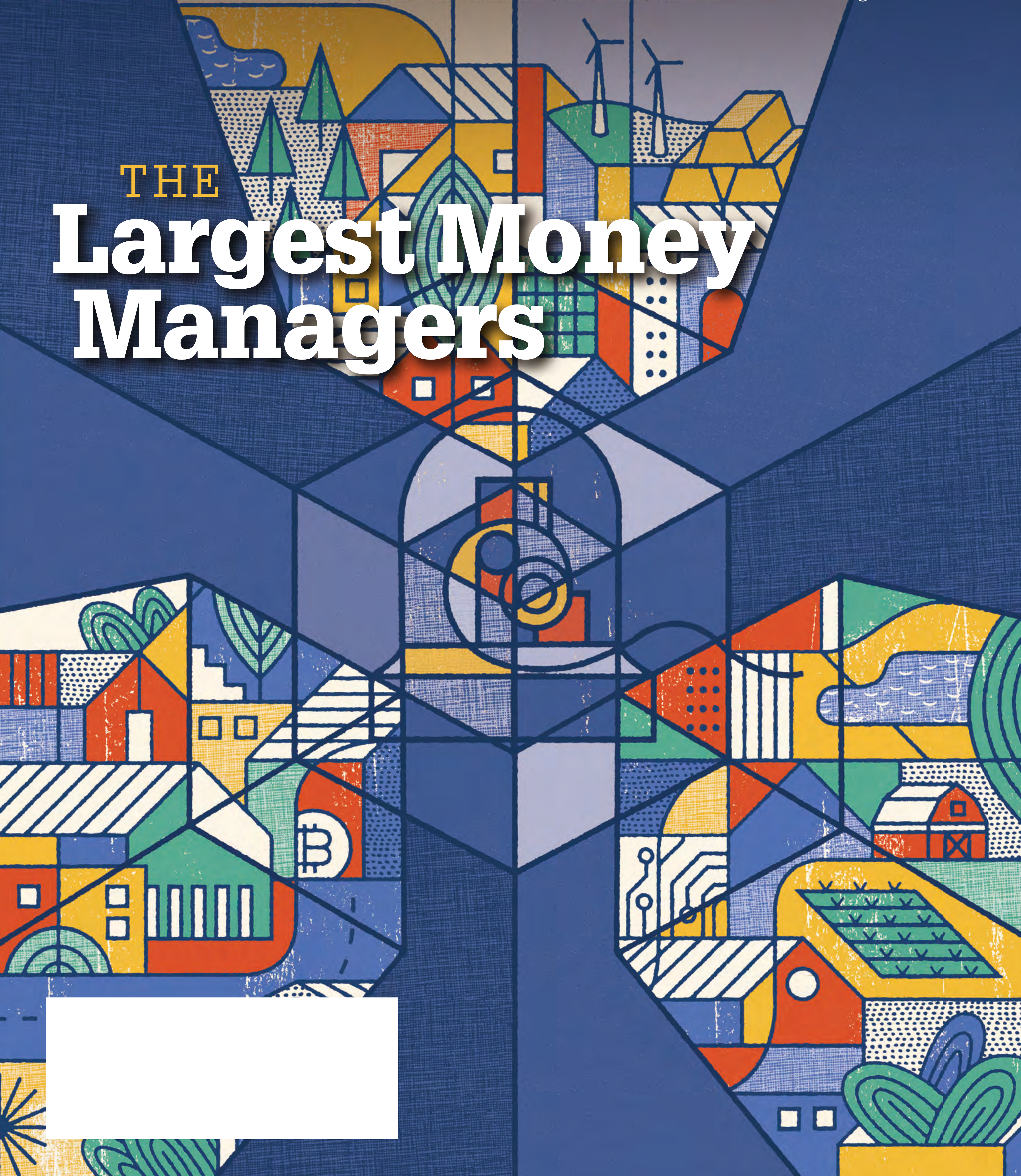
THE Largest Money Managers



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THE INTERNATIONAL NEWSPAPER OF MONEY MANAGEMENT | JUNE 6, 2022 | PIONLINE.COM | $50 AN ISSUE / $350 A YEAR

CRAIN COMMUNICATIONS

THE LARGEST MONEY MANAGERS OVERVIEW

Managers look back with nostalgia at 2021

Solid gains from last year under inflationary pressure with rough start to 2022

By DOUGLAS APPELL

It's not too early for money managers to look back with nostalgia on the solid gains they enjoyed in 2021, after inflationary pressures not seen for decades emerged this year to end an era where equity managers have been able to think of the U.S. Federal Reserve as a friend.

Pensions & Investments' latest annual survey of the largest money managers found worldwide institutional assets overseen by roughly 450 managers around the globe rising 6.3% last year to $59.38 trillion, and 50.5% over the five years through Dec. 31.

U.S. institutional tax-exempt assets managed internally, meanwhile, jumped 11.2% for the year to $20.06 trillion, lifting the gain for the past five years to 46%.

For money managers around the world, the latest year was "really bullish," driven by hopes for a continued recovery from COVID-19 lockdowns, said Fabrice Chemouny, Hong Kong-based head of Asia-Pacific at Natixis Investment Managers.

It was essentially equity-driven, with the flood of liquidity central banks unleashed to combat the COVID-19 crisis from early 2020 crushing sovereign bond yields and making the acronym TINA — "there is no alternative" to equities — part of the vernacular, Mr. Chemouny said. For money managers last year, "all the planets were aligned," he said.

But then the universe tended to disorder.

Russia's invasion of Ukraine in February and unanticipated COVID-related lockdowns in China have combined this year to exacerbate already surging inflation in the U.S., undermining a "buy-the-dip" mentality among institutional investors that had become almost reflexive in recent years, said Amin Rajan, CEO of CREATE-Research, a London-based consulting firm for the global money management industry.

The U.S. consumer price index for April posted a 12-month increase of 8.3%, almost double the 4.2% increase for April 2021, which was at that time the highest level since 2008. Against that inflationary backdrop, the S&P 500 total return index retreated roughly 13% over the first five months of 2022, after surging almost 29% in 2021.

Now, "the Fed has turned very hawkish" and either an anticipated rate hike cycle or the war in Europe could prove to be game

SEE MANAGERS ON PAGE 52

The largest money managers

Ranked by total worldwide institutional assets under management, in millions, as of Dec. 31.

Rank	Manager	Assets
1	BlackRock	$5,694,077
2	Vanguard Group	$5,407,000
3	State Street Global	$2,905,408
4	Fidelity Investments	$2,032,626
5	BNY Mellon	$1,954,467
6	Legal & General Invest.	$1,845,640
7	J.P. Morgan Asset Mgmt.	$1,594,623
8	Wellington Mgmt.	$1,423,435
9	Goldman Sachs Group	$1,361,008
10	Amundi	$1,300,933

Cover illustration by Thom Sevalrud/i2i Art

More from the report

Regulation

Anti-greenwashing proposals get mixed review

MORE DISCLOSURE: Christian D.H. Schultz thinks the SEC is trying to improve ESG transparency to prevent greenwashing.

SEC looking for more disclosure from funds that use ESG factors

By BRIAN CROCE

The Securities and Exchange Commission continued its focus on environmental, social and governance investing coupled with heightened transparency for investors with its latest rule proposals aimed at combating greenwashing that, if implemented, would add a host of new requirements for fund managers and investment advisers.

"I think what you see is the SEC really putting a lot of regulatory and enforcement energy into ESG issues, whether it's company disclosures (or) representations related to ESG and sustainable investment products," said Christian D.H. Schultz, Washington-based partner with Arnold & Porter Kaye Scholer LLP. "And they're really trying to protect against what they're perceiving as greenwashing efforts. They're really trying to ensure that both Main Street investors and institutional investors have transparency into the products that are being presented to them and the representations that are being made to them by investment companies."

The SEC on May 25 issued two proposals on greenwashing — when a fund or company overstates its ESG offerings. One proposal would require investment advisers and fund managers to

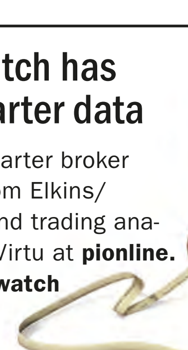
SEE PROPOSALS ON PAGE 52

SOUND BITE

NATIXIS INVESTMENT MANAGERS' **FABRICE CHEMOUNY:** 'We knew at the end of the day somebody will **switch off the music.**' Page 53

Tradewatch has first-quarter data

Find first-quarter broker rankings from Elkins/McSherry and trading analytics from Virtu at **pionline.com/tradewatch**



THE LARGEST MONEY MANAGERS

Vanguard is edging closer to BlackRock in institutional

Firm has closed gap in past 10 years with mostly low-fee funds

By PALASH GHOSH and CHRISTINE WILLIAMSON

A decade ago, BlackRock Inc. managed nearly $1.5 trillion more in worldwide assets for institutional clients than its rival, Vanguard Group Inc.

Ten years of relentless asset gathering later, mostly in low-fee fund offerings, Vanguard has rapidly closed the gap, with $5.41 trillion in assets under management as of Dec. 31.

Vanguard's pace to catch BlackRock has been blistering. Vanguard's worldwide institutional AUM grew 13.6% in the year ended Dec. 31 and 126% for the five-year period, according to *Pensions & Investments'* annual money manager survey.

In contrast, BlackRock saw its worldwide institutional AUM rise 10.6% for the year to $5.69 trillion, up 73% over the past five years. BlackRock also trailed Vanguard's growth in several of the firms' largest areas in U.S. institutional tax-exempt investing, but the firm has recorded huge growth in its retail channels.

The two firms easily eclipse their next biggest rival: State Street Global Advisors, with $2.91 trillion in worldwide institutional assets.

"In the money management industry, only one firm — now BlackRock — can be the largest and only one can be the cheapest — now Vanguard," said Amanda Tepper, founder and CEO of money manager consultant Chestnut Advisory Group LLC, Westport, Conn., in an interview.

The success of both managers in comparison to their rivals is "the way they position themselves as valued partners with clients and how each firm built their business-

SEE TOP SPOT ON PAGE 54

DIFFERENT STRENGTHS: Amanda Tepper said BlackRock and Vanguard each fill a specific niche with their clients.

THE LARGEST MONEY MANAGERS ALTERNATIVES

Alts may face dry spell in 2022 after 10-year ride

Most sectors see AUM increases in 2021, but long trend could reverse

By ARLEEN JACOBIUS

Related content

- **For rankings of the largest managers of direct lending and privately placed debt assets, see page 51**
- **Rankings of other alternatives asset classes begin on page 36**

Alternative investment managers rocked it last year, with assets under management soaring in most sectors — but that party is now over.

Direct lending AUM grew 580% in the year ended Dec. 31 to $15.8 billion; master limited partnerships grew 98%, albeit from a small basis, to $1.8 billion; mezzanine debt was up 48% to $7.3 billion; privately placed debt rose 35% to $116 billion; and private equity was up 26% to $42.8 billion, all according to data from *Pensions & Investments*' 2022 survey of money managers.

Real asset AUM gains were also in the double digits in 2021, with real estate investment trusts up 23.8% to $163.1 billion, while infrastructure grew by 22% to $48.5 billion and equity real estate was up 14.1% to $436.4 billion.

That was oh so 2021, managers say. As the champagne glasses were stowed away from New Year's Eve celebrations, so too, it seemed, were the good times that have rolled on for a decade. Some managers are now wondering if public markets volatility and rising inflation and interest rates will result in their giving back some of the AUM gains they enjoyed last year. Making it an even more challenging investment environment is that nobody is certain, really, what to expect in the coming weeks or months — let alone the remainder of 2022.

While alternative investment return data has not yet been released, research firm PitchBook said in its first quarter 2022 private equity report that it expects returns for the larger funds to suffer the most because bigger, $1 billion-plus companies are more easily valued by using public company comparisons and are more likely to exit by going public. Meanwhile, market indicators aren't pretty. Inflation is up to 8.3% for the 12 months ending April 30, a smaller increase than the 8.5% for the 12-month period ending at the end of March, according to the most recent release by the U.S. Bureau of Labor Statistics. By comparison, inflation was 7% in 2021 and 1.4% in 2020.

DIFFERENT REACTIONS: Peter Hayes said not everyone will draw the same conclusions from current markets.

The challenge is that current market conditions can lead people to draw different conclusions, said Peter Hayes, a London-based managing director and global head of investment research at PGIM Real Estate.

A person could be "super bearish" or bullish, considering that market volatility and inflation are the result of shutting down the world's economies and countries emerging out of a global pandemic, said Mr. Hayes, who earlier in his

SEE ALTERNATIVES ON PAGE 51

THE LARGEST MONEY MANAGERS ESG

Investors put new weight behind ESG mandates

Managers asked to deliver strong returns and big ESG thinking

By BAILEY McCANN

Related content

- **For rankings of the largest managers of ESG assets, see page 44**

Institutional investors have focused on ESG for many years, but the industry may be reaching a tipping point in terms of the specificity and sophistication of ESG mandates. Against a backdrop of increasingly hard to ignore climate risks and social unrest brought on by the COVID-19 pandemic, the death of George Floyd and the war in Ukraine, institutions are moving away from passive exclusion strategies and leveraging new data to engage with management teams, set specific goals and measure impact.

Indications of these shifts are already underway. Thomas Shingler, Summit, N.J.-based senior vice president and ESG practice leader at consultant Callan LLC, said investors may individually be at different places on their environmental, social and governance journey, but broadly nearly all of them are engaged in data gathering, thinking through best practices and/or working through how to implement investment approaches that are measurable and provide value. "The goals of each investor are going to be unique, mandates are going to be different relative to the size and flexibility

SEE ESG ON PAGE 44

MORE INFORMATION: Hannah Simons cited regulations and investor demand for some improvements in ESG transparency.

THE LARGEST MONEY MANAGERS LIABILITY-DRIVEN INVESTING

LDI market reaches maturity, but growth opportunities remain

By ROB KOZLOWSKI

Related content

- **For rankings of the largest managers of LDI assets, see page 43**

The growth of liability-driven investing assets was somewhat tempered in 2021 by a maturation of the market and a reluctance by some plan sponsors to enter the market, industry experts say.

That could change as interest rates are finally rising, they add.

Total worldwide LDI assets under management rose by 1.8% in 2021, to $3.9 trillion as of Dec. 31. The year-over-year increase was significantly less than the 13.9% gain reported in 2020.

Showing more growth during the year, however, were the top 25 LDI managers for U.S. institutional, tax-exempt assets managed internally, which totaled $1.033 trillion as of Dec. 31, up 14.3% from the previous year's total of $904 billion.

The leading money manager of LDI strategies as of Dec. 31 was BNY Mellon Investment Management affiliate Insight Investment, which reported $828.3 billion in LDI AUM, up 3.7% from a year earlier.

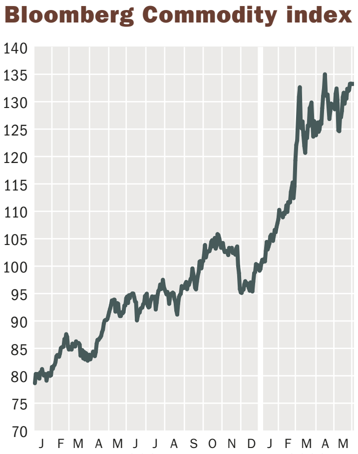
SEE LDI ON PAGE 43

Commodities to the rescue

Commodities have been a bright spot this year, easily outpacing other asset classes that have been dinged by rising interest rates and growing fears of recession. Beyond short-term performance, the recent bout of inflation serves as a reminder of how commodities can play an important role in hedging against that risk over the long term.

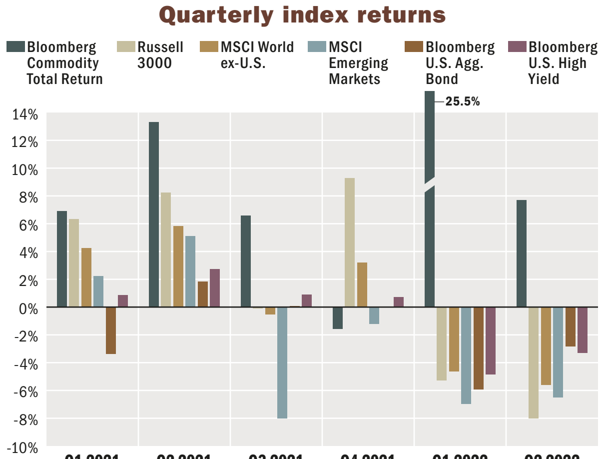
Rising prices: Commodity prices are up sharply this year amid supply chain problems and the war in Ukraine. Year to date through June 2, the Bloomberg Commodity index has increased by 35%.

Bloomberg Commodity index



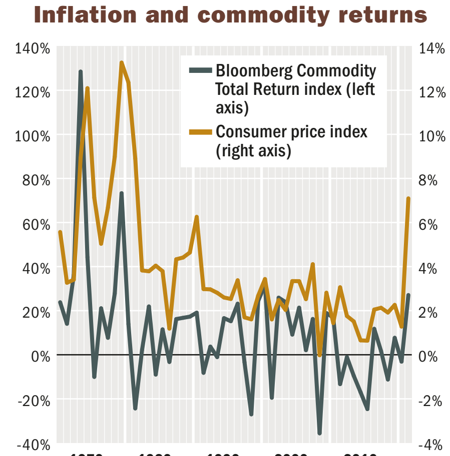
Lonely at the top: Since the start of 2022, the Bloomberg Commodity Total Return index has returned 35.3%, while equity and bond markets have been in negative territory. The two worst performers are the MSCI Emerging Markets index, down 13%, and the Russell 3000 index, losing 12.8%.

Quarterly index returns



Inflation hedge: Since 1990, the correlation between inflation, measured by the consumer price index, and commodity returns is 0.63. By contrast, the correlation between the Russell 3000 index and the CPI was 0.09 over that span.

Inflation and commodity returns



Diversification benefits: Since 1990, the correlation between commodity returns and most other asset classes was between 0.21 and 0.37. There was a -0.03 correlation with the Bloomberg U.S. Aggregate Bond index.

Correlations with Bloomberg Commodity Total Return index*

Index	Correlation
Russell 3000 index	0.21
MSCI World ex-U.S. index	0.34
MSCI Emerging Markets index	0.37
Bloomberg U.S. Aggregate index	-0.03
Bloomberg U.S. High Yield index	0.23

*Correlation of annual returns starting in January 1990. Sources: Bloomberg LP, U.S. Bureau of Labor Statistics, Federal Reserve Economic Data

Compiled and designed by Larry Rothman and Gregg A. Runburg

THE Largest Money Managers

Inside

How P&I compiled the managers data

Illustration by Thom Sevalrud/i2i Art

This issue marks the 49th year *Pensions & Investments* has profiled the largest managers of U.S. institutional tax-exempt assets.

Some 444 investment management firms responded to an online questionnaire for this annual special report, representing $92.21 trillion in total assets under management and $59.38 trillion in worldwide institutional AUM.

All money management firms are encouraged to respond to the survey. To qualify for inclusion in the database, however, the firm must manage assets for U.S. institutional tax-exempt clients, such as qualified retirement plans, endowments or foundations, and answer the minimum required questions.

The report contains detailed information on the worldwide assets under management of the qualified respondents, including asset mix, insurance company, sovereign wealth fund or central bank client assets, and a regional breakout of clients.

More online

- **The entire report can be found at pionline.com/managers2022**
- **For a full set of data, go to pionline.com/researchcenter**

Within the U.S. institutional tax-exempt universe, *P&I* further breaks down the data into asset classes and then into investment style.

This year's survey had a few new questions, including adding real estate debt as an alternative investments category under U.S. institutional tax-exempt assets. Several questions were added about environmental, social and governance investing, including which ESG vendors managers use and what differentiates their ESG strategies, an open-ended question. Regarding managing ESG mandates for U.S. institutional tax-exempt assets, a breakdown of active and passive equity and fixed income has been added to that question. *P&I* also revised the question on what percentage of the total workforce, senior management and investment staff are women or minorities to apply only to U.S. employees.

All qualified firms are included for the charts and tables that are published, but only the largest 50 firms — ranked by worldwide institutional assets — are profiled in print.

Full profiles of all ranked money managers and complete listings by asset class and investment strategy can be found in the *P&I* Research Center at **pionline.com/researchcenter**. The online rankings are interactive and are searchable by asset class, investment strategy, region and clients.

Research Center access is free to plan executives. Money managers, consultants and other service providers have access by subscription.

P&I targeted more than 900 banks, trust companies, insurance companies and independent investment management firms in North America and abroad. The data contained in the stories, profiles, charts and tables in this issue and in the Research Center were developed by *P&I* staff from the firms' answers to the detailed, online questionnaire and through follow-up emails and phone calls.

All information, except where noted, is as of Dec. 31.

Special reports derived from this information will be published throughout the year. A special report focusing on managers of defined contribution assets will be highlighted Aug. 1. More in-depth reports on investment outsourcing and real estate managers will appear in the July 4 and Oct. 3 issues, respectively. Data from this special report also will be used in a ranking of the largest managers in the world, done in conjunction with Willis Towers Watson PLC's Thinking Ahead Institute, to be published Oct. 17.

Money manager statistics at a glance

Assets are in millions as of Dec. 31.

	2021 data	One-year change	Five-year change
Managers profiled	**444**	**-7.3%**	**-24.1%**
Minority- & women-owned firms	**52**	**2.0%**	**-8.8%**
Total employees worldwide	**572,693**	**-13.1%**	**5.8%**
Total worldwide assets	**$92,214,694**	**9.0%**	**57.3%**
Top 100	$85,759,704	10.6%	64.4%
Central banks	**$557,709**	**-10.0%**	**7.0%**
Sovereign wealth funds	**$1,320,303**	**16.3%**	**19.1%**
Non-affiliated insurance companies	**$4,574,491**	**10.4%**	**20.2%**
Investment outsourcing/fiduciary management mandates	**$2,562,949**	**12.6%**	**133.0%**
LDI strategies	**$3,900,657**	**1.8%**	**56.9%**
Assets mgd. under ESG principles	**$28,027,624**	**21.9%**	**415.0%**
Hedge funds	**$585,557**	**-12.3%**	**-29.3%**
Direct	$422,726	-16.8%	-23.6%
Fund of funds	$162,831	1.7%	-40.7%
Mutual funds	**$33,348,240**	**9.6%**	**44.2%**
U.S. 1940 Investment Co. Act	$24,330,605	9.0%	45.8%
Internally managed proprietary 1940 Act funds	$20,739,870	11.0%	48.9%
Sponsored ETFs/ETNs	**$8,552,780**	**27.8%**	**186.6%**
Actively managed	$162,860	32.6%	263.2%

	2021 data	One-year change	Five-year change
Worldwide institutional assets	**$59,376,059**	**6.3%**	**50.5%**
Top 100	$54,474,871	7.6%	57.5%
U.S. tax-exempt assets	**$28,351,958**	**11.5%**	**51.1%**
Top 100	$26,687,112	12.8%	58.2%
U.S. institutional tax-exempt assets	**$22,387,427**	**10.2%**	**46.4%**
Top 100	$20,814,769	11.8%	54.2%
U.S institutional tax-exempt assets managed internally	**$20,060,041**	**11.2%**	**46.0%**
Top 100	$18,829,174	12.7%	53.5%
Active U.S. equity	**$3,107,086**	**6.9%**	**27.1%**
Active U.S. fixed income	**$3,758,749**	**2.5%**	**20.9%**
Active non-U.S. equity	**$1,255,246**	**3.3%**	**16.5%**
Active global/non-U.S. fixed income	**$269,215**	**-13.3%**	**-10.4%**
Active global equity	**$539,051**	**13.9%**	**33.4%**
Indexed assets	**$6,297,838**	**10.1%**	**70.7%**
Passive U.S. equity	$3,871,525	13.1%	82.8%
Passive U.S. fixed income	$1,052,505	1.0%	70.9%
Enhanced index U.S. equity	$60,355	13.5%	-29.1%
Enhanced index U.S. fixed income	$94,396	12.7%	14.8%
Passive non-U.S. equity	$580,323	5.6%	29.4%

THE LARGEST MONEY MANAGERS **ETFs**

JPMAM, other managers find success with active ETFs

Actively managed funds seen as key area for firms to compete with the big 3

Related content

▸ **For rankings of the largest managers of ETFs, see page 44**

By KATHIE O'DONNELL

Some of the exchange-traded fund industry's more recent entrants are building their businesses and even eclipsing the growth rates of its three biggest players — BlackRock Inc., Vanguard Group Inc. and State Street Global Advisors — albeit from much smaller asset bases.

For example, J.P. Morgan Asset Management, which launched its first ETF in 2014 and managed just over $1 billion in by the end of 2016, ended 2021 with $78 billion of ETF assets worldwide, about half in active funds and up 57.4% from a year earlier, data from *Pensions & Investments'* annual survey of the largest money managers show.

JPMAM's growth rate topped that of Vanguard, which had the highest growth rate of the big three last year and added more than $600 billion in AUM. Vanguard's worldwide ETF assets totaled $2.21 trillion as of Dec. 31, up 38% from a year earlier. SSGA posted a 30.1% growth rate, with $1.18 trillion in assets. BlackRock, which remained by far the world's largest ETF provider, ended 2021 with $3.27 trillion in ETF assets, up 22.4% from $2.67 trillion a year earlier.

Stocks had a "great year" in 2021, which saw the S&P 500 index post a 28.7% total return, providing a tailwind for ETF assets, according to Todd Rosenbluth, head of research at VettaFi LLC, a data, analytics and thought-leadership company. Asset growth results from both net inflows as well as appreciation in underlying assets, which means that an ETF provider's product mix can impact its asset growth rate in years when certain asset classes outperform others, Mr. Rosenbluth said.

While the top-three ETF providers saw "tremendous" growth last year, it was encouraging to see significant growth at firms outside the big three, with some midtier firms "growing at an even faster clip," Mr. Rosenbluth said. Citing *P&I*'s data, he noted that in addition to JPMAM, Fidelity Investments and Northern Trust Asset Management each posted growth rates last year north of 40%.

Fidelity's ETF AUM increased 44.9% to $34.9 billion during the year, while Northern Trust was up 41.2% to $20.1 billion.

"And so, there's room for growth for the more midsized ETF providers," he said. "Obviously, it's easier off of a lower asset base to grow, but I think that's still impressive."

Fidelity launched its first ETF in 2003, while Northern Trust launched its FlexShares family of ETFs in 2011.

JPMAM's growth rate was the biggest of the top 10 managers, according to *P&I*'s data, save for Amundi, which posted a nearly 143% growth rate. On Dec. 31, Amundi and Societe Generale announced the closing of Amundi's acquisition from Societe Generale of Lyxor, one of the key players in the European ETF market. In the initial announcement of the deal, Lyxor had €124 billion ($152 billion) in AUM as of Dec. 31, 2020, including €77 billion in ETFs.

STRONG FOUNDATION: Jed Laskowitz thinks institutional investors will become more interested in active ETFs as the funds build longer track records.

Changing landscape

As money managers known historically for mutual funds continue to build out their ETF lineups, Mr. Rosenbluth said he wouldn't be surprised to find names like Capital Group Cos. Inc. among the top 25 ETF providers five years from now. In February, Capital Group, home of American Funds, launched its first suite of active ETFs.

Active management will be key for midtier firms like JPMAM, Fidelity and others seeking to gain further ground in the global ETF league tables, he said. That's because even if they offer inexpensive, index-based ETFs in their lineups, it's extremely difficult for such firms to take share from the big-three ETF providers whose dominance in that area is well established, Mr. Rosenbluth said.

"I agree with that premise," said Daniil Shapiro, New York-based associate director in product development at Boston-based research and consulting firm Cerulli Associates. "If you are a legacy mutual fund manager who is trying to enter the ETF market, it's an obvious choice to use your active capabilities to offer your strategy, preferably in a transparent ETF structure."

While the passive ETF space is "very product saturated," it could still offer a path toward asset growth for some midtier ETF managers, provided they offer some type of "really niche" passive strategies, Mr. Shapiro said.

"But in general, if you're a legacy mutual fund manager, you want to offer an active strategy," he said.

Active emphasis

"First and foremost, our emphasis is on active ETFs," said Jed Laskowitz, New York-based global

SEE **ETFS** ON PAGE 44

	2021 data	One-year change	Five-year change
Enhanced index non-U.S. equity	$8,573	-5.1%	-57.9%
Passive global/non-U.S. fixed income	$21,420	27.3%	-5.4%
Passive global equity	$608,741	12.3%	105.8%
Non-U.S. assets*	**$2,134,777**	**1.6%**	**14.2%**
Equity	$1,844,142	4.0%	19.2%
Fixed income**	$290,635	-11.3%	-10.0%
Global equity*	**$1,147,792**	**13.0%**	**64.0%**
REITs	**$163,050**	**23.8%**	**84.7%**
Low-volatility equity	**$57,005**	**-54.2%**	**-33.8%**
High-yield securities	**$184,631**	**-8.3%**	**2.6%**
Mortgages (whole loans)	**$38,352**	**-53.8%**	**-45.8%**
Bank loans	**$26,415**	**-10.8%**	**-32.1%**
Inflation-protected securities	**$143,631**	**3.3%**	**27.8%**
Collateralized debt obligations	**$4,991**	**16.4%**	**109.4%**
Stable value	**$477,730**	**-5.6%**	**-2.4%**
Convertibles	**$10,308**	**-6.8%**	**-19.2%**
Alternative investments			
Real estate equity	$436,399	14.1%	9.6%
Real estate debt	$69,822	N/A	N/A
Venture capital	$2,279	3.7%	-72.0%

	2021 data	One-year change	Five-year change
Buyout funds	$23,622	-1.2%	-6.3%
Infrastructure	$48,529	21.6%	146.0%
Private securities	$158,925	32.2%	48.1%
Private equity	$42,810	25.5%	40.0%
Privately placed debt	$116,115	34.9%	51.3%
Timber	$8,547	33.5%	-40.1%
Energy	$1,986	-18.1%	-48.5%
MLPs	$1,810	98.2%	-77.4%
Direct lending	$15,765	579.8%	N/A
Distressed debt	$14,912	8.6%	7.7%
Mezzanine debt	$7,332	48.0%	153.2%
Commodities	$21,074	-9.2%	-24.0%
Hedge funds (net assets)	$72,492	-7.2%	-40.6%
DB plan assets managed internally	**$4,946,009**	**6.8%**	**20.9%**
DC plan assets	**$10,122,803**	**14.0%**	**67.8%**
DC plan assets managed internally	$9,036,583	13.6%	69.8%
Endowment/foundation assets managed internally	**$804,018**	**9.9%**	**40.9%**

*Includes indexed assets. **Includes global assets.
Historical data may include retroactive updates.

How to find the money manager data online

Full data profiles of all ranked money managers and complete listings by asset class and investment strategies can be found in *Pensions & Investments'* Research Center.

The online rankings are interactive and are searchable by asset class, investment strategy, region and clients, as well as by year.

Research Center access is free to plan executives. Money managers, consultants and other service providers have access by subscription. ■

THE LARGEST MONEY MANAGERS **STABLE VALUE**

Slumping equity markets could help stable value

If stocks continue to struggle, DC plan participants might seek less-risky investments

By ROBERT STEYER

Retirement investors took on more equity risk last year amid a rebound from the coronavirus pandemic, causing a slump in stable value industry assets after surging in 2020 when investors sought safety.

The stable value asset gains in early 2020 began to evaporate in late 2020 and in 2021, but the big questions for a possible stable value comeback in 2022 depend on the stock market, the bond market, interest rates and competition from money market funds.

"Participant flows tend to follow the stock market," said David O'Meara, New York-based director of investments for Willis Towers Watson PLC. "If stocks struggle, we expect to see participants retrench into money market and stable value. Conversely, if stocks rebound, participants will likely migrate back to the equity market."

For the five months through May 31, the S&P 500 index was down 12.8%. During this period the Bloomberg U.S. Aggregate Bond index was down 8.9%.

An erratic stock market and battered bond funds due to rising interest rates provide a one-two punch against investors that could help stable value funds, said Greg Jenkins, Dallas-based managing director and head of institutional defined contribution for Invesco Ltd. In this environment, stable value is "fulfilling its role in spades by providing downside protection to participants," Mr. Jenkins said.

Invesco's stable value assets under management of $40 billion in 2021 rose 4.27% from the end of 2020, according to *Pensions & Investments*' annual survey of the largest money managers. Invesco was one of the few firms to avoid declines in assets during this period. Aggregate AUM for the 25 largest stable value managers was $468.5 billion last year, down 5.3% from the year earlier, according to *P&I* data. The data reflect U.S. institutional, tax-exempt assets managed internally.

"Historically, volatility in the market — typically the equity market — has led to inflows into stable value options," said Michael Norman, Minneapolis-based senior managing principal and co-president of Galliard Capital Management LLC, a wholly owned subsidiary of Allspring Global Investments. According to *P&I* data, Allspring saw a 7.6% drop in stable value assets to $59.7 billion, a function of pandemic-induced inflows in 2020 and market-recovery-prompted outflows, Mr. Norman said.

Another source for potential stable value growth is from plans that offer only a money market fund for capital preservation.

Stable value crediting rates — the interest rate on a stable value contract — move in conjunction with interest rates, but they don't move as quickly — up or down — as money market funds. "It is very possible that in the early stages of a rapidly rising interest rate environment you could see the crediting rate of a stable value product not immediately start upward in lockstep with interest rates, due to the lag within the stable value products as they work through the contract rate resets and the impact of yield change," Mr. Norman said.

To illustrate, Mr. Norman compared the blended yield for the Galliard Stable Return Fund, excluding management fees, on March 31 for each of the last three years. It was 2.42% in 2020 vs. 2.12% in 2021 and 1.91% in 2022. "We see the trend that the overall yield of the fund has been decreasing over the past three years, following the general trend of interest rates (going) down," said Mr. Norman, adding that it was too early to see the effect of rising rates due to the lagged stable value response.

Periods of low rates

During periods of low interest rates, stable value and money market options have been hurt. For example, a Willis Towers Watson survey of stable value managers reported the median crediting rate for the first quarter of 2022 was 1.5% vs. 2.5% in 2019, Mr. O'Meara said.

It was still a better return than a money market fund. When Morningstar Direct compared annual returns for stable value funds vs. money market funds in its universe between 2012 and early 2022, it found the former always outperformed the latter.

From 2012 to 2015, for example, annual U.S. money market returns were 1 or 2 basis points while stable value returns ranged from 1.37% to 1.84%.

The only times the spread narrowed appreciably were in 2018 when the stable value return was 1.89% and the money market return was 1.38% and in 2019 when the respective returns were 2.15% and 1.69%. Last year, stable value's return was 1.37% vs. money market's return of 2 basis points. Through April 30, stable value returned 41 basis points vs. 1 basis point for money market funds.

Years of low interest rates have enabled stable value to play a bigger role in defined contribution plans' capital preservation strategies.

Forty-nine percent of DC sponsors offered only stable value for capital preservation, according to an annual study published in February by MetLife Inc., based on interviews with 222 DC executives. Thirty-three percent of plans offered both options, 15% offered only money market funds and 3% offered unnamed other options.

A similar MetLife survey in 2015 reported that 38% of plans offered only a stable value fund, 45% offered both and 18% offered only money market funds.

"Stable value is a unique asset class for defined contribution," said Warren Howe, MetLife's New York-based national director for stable value markets. "Stable value has the ability to smooth volatility."

MetLife did not break out its stable value assets in the *P&I* survey.

Although sponsors prefer offering stable value over money market funds for capital preservation, participants' preference for equity and target-date funds, especially during the bull market of the past decade, has eroded stable value's role in retirement accounts. In 2012, stable value represented a 19% asset allocation for participants, according to the 401(k) index compiled by Alight Inc., Lincolnshire, Ill. By 2021, stable value was down to an 8% allocation. The 401(k) index reflects activity of more than 2 million participants with more than $200 billion in Alight recordkeeping accounts.

Arnold Adler

EBB AND FLOW: David O'Meara said participants' investment choices 'tend to follow the stock market.'

Heavily favored

Capital preservation trends have prompted consultants and advisers to overwhelmingly favor stable value vs. money market funds.

A survey published in May by Pacific Investment Management Co. LLC, Newport Beach, Calif., reported that 81% of consultants to large DC plans said stable value was their top choice for capital preservation vs. 15% for money market funds. PIMCO surveyed 26 DC consultants who represent clients with $5.7 trillion in assets.

The same attitude held true for a companion PIMCO survey of 10 consultants and advisers to smaller plans responsible for $1.2 trillion in client DC assets. Seventy-eight percent said stable value was their top choice and 22% preferred money market funds.

Conversations with DC consultants often yield the words "long-term investor" when they discuss their preference for stable value vs. money market funds.

Most of Callan LLC's clients only offer stable value, and that's the usual recommendation by the firm, said Kyle Fekete, the San Francisco-based vice president and manager of research. "Generally, we won't see that kind of movement because they are long-term investors," Mr. Fekete said, referring to his doubt that sponsors might switch from stable value to money market funds if interest rates continue to rise.

As interest rates rise, "there may be some re-evaluation by sponsors," said Mr. O'Meara of Willis Towers Watson, referring to the prospect of improving returns from money market funds. "We don't encourage market timing." A majority of his clients offer stable value or money market funds but not both.

Mr. O'Meara didn't identify a tipping point that might encourage participants to switch. Possible selling points for money market funds are that they are more easily understood by participants and that sponsors believe a money market fund would be more familiar to participants, he said. Mr. O'Meara recalled the strategy of one client who still remembers the 2008-2009 economic crisis and who has insisted on offering only a money market fund. "You can't argue with emotion," he said.

Even as interest rates and money market rates improve, Invesco's Mr. Jenkins said he doubted participants would be jumping back and forth between stable value and money market funds, and he doubted sponsors would be switching options due to the spread in returns between the two options.

"In this kind of environment, you don't try to trade" among capital preservation options, Mr. Jenkins said. "I think most managers are preparing for this (rising-rate) environment."

Stable value providers guard against massive switching by participants with an "equity wash." This is a requirement that plan participants who want to move from a stable value fund to a money market fund must first put their money into a non-competing investment, such as an equity fund, for a certain period — usually 90 days — before investing in the money market fund. Putnam Investments, for example, requires a 90-day equity wash for clients who want to have both a stable value fund and a money market fund, said Steven McKay, Boston-based head of global defined contribution investment only.

Putnam on the rise

Putnam's stable value business bucked the industry trend in 2021, according to *P&I* data. Last year's assets under management of

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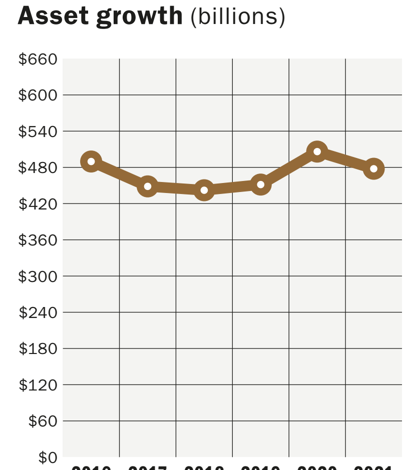
Managers of stable value assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

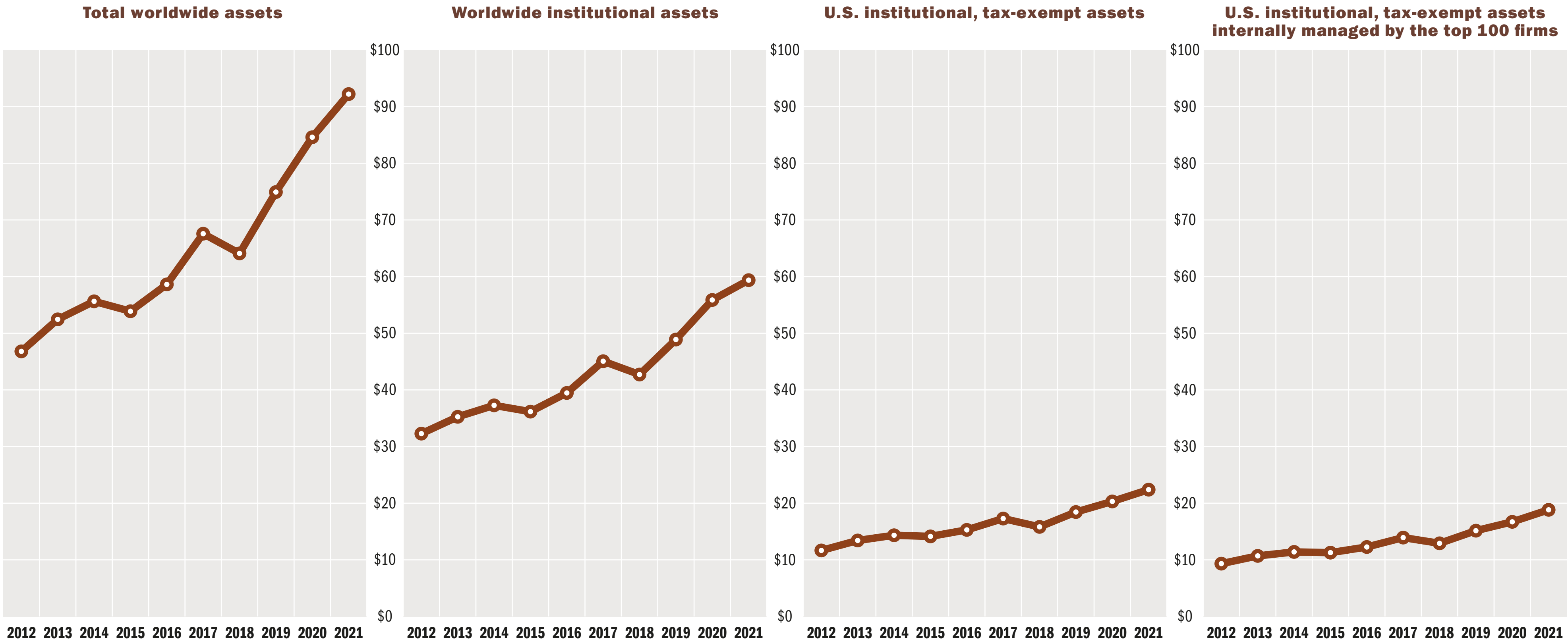
Rank	Manager	Assets
1	Prudential Financial	$81,376
2	Allspring Global Invest.	$59,657
3	Invesco	$39,964
4	Fidelity Investments	$37,337
5	T. Rowe Price Associates	$31,465
6	Vanguard Group	$24,854
7	PIMCO	$24,850
8	BNY Mellon	$21,145
9	Principal Global Investors	$21,126
10	Great-West Investments	$18,072

Asset growth (billions)



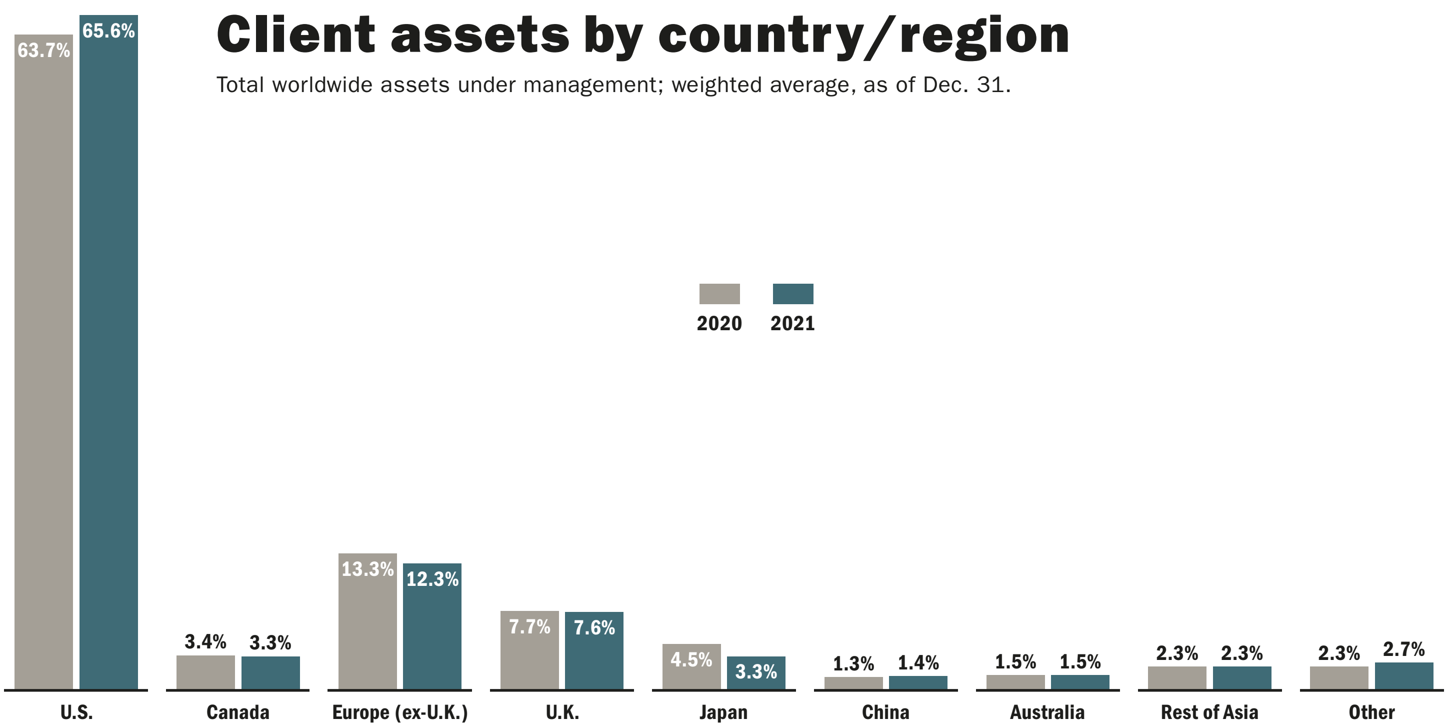
Growth of manager assets

Assets are in trillions as of Dec. 31.



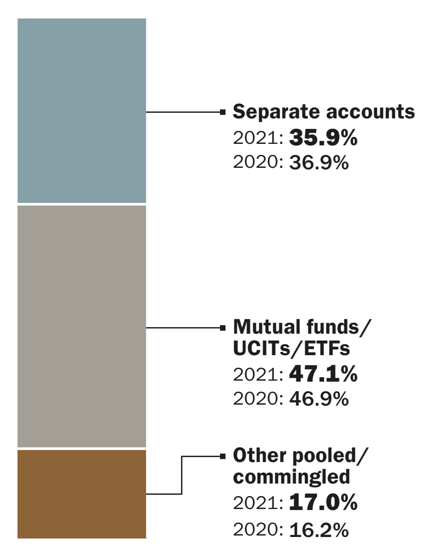
Client assets by country/region

Total worldwide assets under management; weighted average, as of Dec. 31.



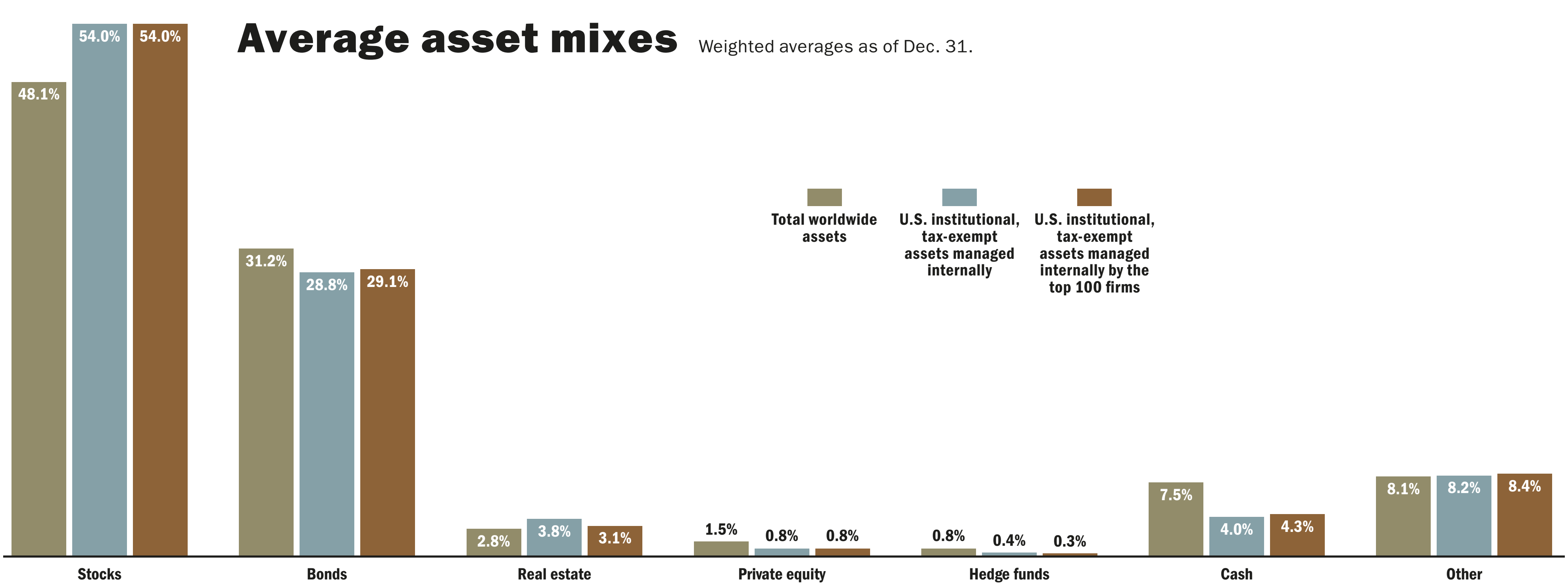
Investment vehicle mix

Total worldwide assets under management; weighted average, as of Dec. 31.



Average asset mixes

Weighted averages as of Dec. 31.



The largest money managers

Ranked by total worldwide institutional assets under management, in millions, as of Dec. 31.

Rank	Prev. rank	Manager	Assets
1	1	BlackRock	$5,694,077
2	2	Vanguard Group	$5,407,000
3	3	State Street Global	$2,905,408
4	5	Fidelity Investments	$2,032,626
5	4	BNY Mellon	$1,954,467
6	6	Legal & General Investment	$1,845,640
7	7	J.P. Morgan Asset Mgmt.	$1,594,623
8	8	Wellington Mgmt.	$1,423,435
9		Goldman Sachs Group	$1,361,008
10	9	Amundi	$1,300,933
11	10	Prudential Financial	$1,251,849
12	11	PIMCO	$1,060,866
13	12	Northern Trust Asset Mgmt.	$1,048,222
14	18	Geode Capital Mgmt.	$1,008,798
15	14	Capital Group	$961,738
16	16	T. Rowe Price Associates	$899,606
17	17	Nuveen	$857,760
18	13	AXA Investment	$827,248
19	20	Dimensional Fund Advisors	$679,480
20	66	MetLife Investment	$669,000
21	21	Federated Hermes	$618,459
22	15	Morgan Stanley Inv. Mgmt.	$588,032
23	26	Principal Global Investors	$536,190
24	25	Schroders	$521,886
25	23	abrdn	$520,815
26	19	Franklin Templeton	$516,264
27	27	New York Life Investments	$503,370
28	22	DWS	$486,748
29	24	Allspring Global Investments	$485,106
30	33	Invesco	$454,556
31	30	Aegon Asset Mgmt.	$453,635
32	50	Kohlberg Kravis Roberts	$439,194
33	31	BNP Paribas Asset Mgmt.	$418,842
34	32	Asset Management One	$407,171
35	36	Mercer	$397,567
36	34	Credit Suisse Asset Mgmt.	$386,339
37	35	Baillie Gifford Overseas	$365,179
38	39	Macquarie Asset Mgmt.	$363,072
39	37	Barings	$359,620
40	41	Janus Henderson Investors	$342,179
41	38	AllianceBernstein	$341,297
42	29	Aviva Investors	$335,249
43	53	Columbia Threadneedle	$333,737
44	48	NISA Investment	$333,607
45	44	Brookfield Asset Mgmt.	$325,941
46	43	Neuberger Berman	$313,097
47	40	HSBC Asset Mgmt.	$307,327
48	46	Manulife Investment	$282,881
49	45	Russell Investments	$280,197
50	47	Voya Investment Mgmt.	$275,040
51	70	SLC Management	$266,125
52	62	Ares Mgmt.	$258,243
53	49	Loomis, Sayles	$255,278
54	51	TCW Group	$242,035
55	42	MassMutual	$238,216
56	52	MFS Investment	$235,277
57	55	Dodge & Cox	$233,701
58	54	RBC Global Asset Mgmt.	$229,507
59	56	SEI Investments	$216,415
60	58	Guggenheim Investments	$200,603
61	60	Aon	$199,612
62	65	WTW Investment Services	$186,776
63	61	Conning	$186,580
64	64	Lazard Asset Mgmt.	$175,415
65	63	Nomura Asset Mgmt.	$170,041
66	67	Artisan Partners	$166,903
67	71	Mesirow	$166,168
68	75	Wilmington Trust	$165,600
69	68	TD Asset Mgmt.	$158,902
70	76	Arrowstreet Capital	$157,410
71	74	Victory Capital	$154,806
72	69	PRIMECAP	$153,658
73	78	CBRE Investment	$141,400
74	72	Robeco	$141,361
75	80	IFM Investors	$130,828
76	79	PFM Asset Mgmt.	$130,175
77	81	Baird Advisors	$129,108
78	84	Ninety One	$128,307
79	73	AQR Capital Mgmt.	$123,459
80	82	Acadian Asset Mgmt.	$117,167
81	86	Man Group	$116,700
82	87	Oaktree Capital	$115,757
83	88	American Century	$114,170
84	85	LSV Asset Mgmt.	$108,805
85	89	Pictet Asset Mgmt.	$104,166
86	91	Mackenzie Investments	$100,780
87	90	Partners Group	$99,966
88	100	Hamilton Lane	$98,088
89	95	RhumbLine Advisers	$96,224
90	101	Prologis	$95,411
91	99	Boston Partners	$95,105
92		First Sentier Investors	$94,791
93	104	Pathway Capital	$92,424
94	96	Income Research & Mgmt.	$91,668
95	117	Starwood Capital	$91,232
96	102	Record Currency Mgmt.	$85,296
97	97	AEW Capital	$85,161
98	109	StepStone Group	$84,864
99	92	New England Asset Mgmt.	$84,636
100	98	Charles Schwab Investment	$84,170
101	94	Ashmore Group	$82,000
102	130	Great-West Investments	$79,419
103	83	PPM America	$79,204
104	105	William Blair	$78,129
105	111	Hines	$74,063
106	114	PineBridge Investments	$73,781
107	107	Fort Washington	$72,822
108	119	CC&L Financial Group	$71,887
109	112	LaSalle Investment	$70,126
110	116	PNC Financial	$69,573
111	115	Grantham, Mayo v. Otterloo	$69,027
112	120	Alan Biller and Associates	$68,649
113	121	GCM Grosvenor	$68,609
114	106	Blackstone Alternative	$68,094
115	103	Nikko Asset Mgmt.	$66,798
116	110	Harding Loevner	$66,228
117	113	Dai-ichi Life Holdings	$64,340
118	132	Harris Associates	$62,277
119	118	Putnam Investments	$61,415
120	123	Harbor Capital Advisors	$60,075
121	128	Sterling Capital	$58,114
122	124	Marathon-London	$57,007
123	131	Oak Hill Advisors	$57,000
124	125	Mondrian Investment	$55,997
125	140	Lexington Partners	$53,622
126	133	Fisher Investments	$52,239
127	137	Adams Street Partners	$51,251
128	145	Cohen & Steers	$50,915
129	139	Heitman	$50,486
130	142	PAG	$50,000
131	135	SECOR Asset Mgmt.	$47,410
132	122	MFG Asset Mgmt.	$47,007
133	144	GoldenTree Asset Mgmt.	$46,279
134	138	Barrow, Hanley	$44,645
135	146	Angelo, Gordon	$43,800
136	143	PanAgora Asset Mgmt.	$43,696
137	152	Harrison Street	$43,256
138	156	Aristotle Capital Mgmt.	$41,935
139	141	Colchester Global Investors	$39,871
140	157	Portfolio Advisors	$37,747
141	158	Los Angeles Capital	$36,596
142	154	Highland Associates	$36,496
143	150	Jarislowsky Fraser	$36,299
144	148	Causeway Capital	$36,195
145	203	Grayscale Investments	$34,880
146	155	MissionSquare Investments	$34,234
147	151	CIBC Asset Mgmt.	$34,088
148	159	Pzena Investment	$33,957
149	160	Hotchkis & Wiley	$31,136
150	167	Kayne Anderson Rudnick	$30,298
151	169	First Pacific Advisors	$29,374
152	171	Shenkman Group	$29,193
153	200	Wasatch Global Investors	$28,809
154	165	AAM	$28,661
155	172	EARNEST Partners	$28,639
156	174	Commonfund	$28,216
157	162	Knights of Columbus Asset	$28,139
158	168	Eagle Capital	$27,944
159	163	Strategic Investment Group	$27,761
160	175	Nomura Corporate Research	$27,687
161		Hayfin Capital	$27,386

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The largest money managers

Ranked by total worldwide institutional assets under management, in millions, as of Dec. 31.

Rank	Prev. rank	Manager	Assets
162	186	Stockbridge Capital Group	$27,349
163	170	Guardian Capital	$27,260
164	177	Beutel, Goodman	$26,736
165	164	DuPont Capital	$26,390
166	194	Calamos Advisors	$25,778
167	176	Scout Investments	$25,379
168	179	Sprucegrove Investment	$24,424
169	188	Rockpoint Group	$23,000
170	178	CIM Group	$22,735
171	193	Sustainable Growth Advisers	$22,505
172	189	Champlain Investment	$22,453
173	187	Canyon Partners	$21,758
174	182	Unigestion	$20,701
175	192	Cantillon Capital Mgmt.	$19,869
176	211	Polen Capital	$19,420
177	183	Matthews Asia	$19,383
178	195	Garcia Hamilton	$18,274
179	198	Brandes Investment	$18,203
180	207	Callan	$18,086
181	208	Longfellow Investment	$17,986
182	190	Eagle Asset Mgmt.	$17,508
183	191	Brown Capital	$17,460
184	220	Fayez Sarofim	$16,973
185	280	Fuller & Thaler	$16,414
186	206	Beach Point Capital	$16,412
187	221	PCCP	$16,339
188	223	Boyd Watterson	$16,327
189	199	Westfield Capital	$16,302
190	213	Polaris Capital	$16,189
191	215	Sit Investment	$15,908
192	209	GW&K Investment	$15,388
193		Muzinich	$15,212
194	226	Driehaus Capital	$15,145
195	204	Amalgamated Bank	$15,062
196	202	TimesSquare Capital	$15,058
197	217	King Street Capital	$14,900
198	229	CenterSquare Investment	$14,871
199	161	Jackson Square Partners	$14,745
200	196	Stone Harbor Investment	$14,688
201	210	Jacobs Levy Equity	$14,677
202	225	Epoch Investment Partners	$14,600
203	233	Abbott Capital	$14,518
204	219	Segall Bryant & Hamill	$14,438
205	224	Yousif Capital	$14,192
206		Crestline Investors	$14,075
207	197	GAM USA	$13,977
208	227	Breckinridge Capital	$13,965
209	180	Genesis Asset Managers	$13,907
210	205	Burgundy Asset Mgmt.	$13,801
211	216	Alger	$13,703
212	242	Intercontinental Real Estate	$13,369
213	241	Pacific Asset Mgmt.	$13,106
214	247	CornerStone Partners	$12,898
215	214	Frontier Capital	$12,796
216	222	Commerce Trust	$12,754
217	234	Beacon Capital	$12,532
218	235	Global Endowment Mgmt.	$12,400
219	231	Lighthouse	$12,150
220	232	Walton Street Capital	$12,001
221	246	Rockwood Capital	$11,951
222	230	GAMCO Investors	$11,740
223	245	Pugh Capital	$11,662
224	238	Manning & Napier	$11,532
225	218	Sage Advisory Services	$11,508
226	244	American Realty Advisors	$11,414
227	257	Cooke & Bieler	$11,402
228	249	London Co.	$11,401
229	228	Westbrook Partners	$11,334
230	236	TT International	$11,296
231	250	Christian Brothers	$10,875
232	253	Jensen Investment	$10,844
233	212	First Quadrant	$10,509
234		Simplex Asset Mgmt.	$10,361
235	240	Westwood Global	$10,213
236	264	Zacks Investment	$10,184
237	252	Ariel Investments	$10,153
238	255	L&B Realty	$10,130
239	239	WEDGE Capital	$10,010
240	237	Advent Capital	$9,979
241	270	CS McKee	$9,904
242	251	National Investment	$9,881
243	267	River Road Asset Mgmt.	$9,647
244	320	Ullico Investment	$8,594
245	259	AGF Investments	$8,450
246	260	Hardman Johnston Global	$8,444
247	261	Polen Capital Credit	$8,314
248	263	Waterfall Asset Mgmt.	$8,298
249	269	Washington Capital	$8,233
250	254	Aetos Alternatives	$8,226
251	256	Martingale Asset Mgmt.	$7,976
252	276	Diamond Hill Capital	$7,949
253	277	Luther King Capital	$7,808
254	266	Agincourt Capital	$7,727
255	273	Stephens Inv. Mgmt. Group	$7,709
256	271	Silvercrest Asset Mgmt.	$7,700
257	281	National Real Estate	$7,690
258	265	Davis Advisors	$7,493
259	274	Lyrical Asset Mgmt.	$7,276
260	268	City of London	$7,141
261	275	AFL-CIO Housing Trust	$7,107
262	284	Great Lakes Advisors	$7,025
263	278	Silver Creek Capital	$7,023
264	328	Ramirez Asset Mgmt.	$6,875
265	286	Congress Asset Mgmt.	$6,727
266	294	Prima Capital Advisors	$6,577
267	303	Sentinel Real Estate	$6,495
268	283	Dana Investment	$6,384
269	282	Richmond Capital	$6,337
270	285	Fiduciary Mgmt./Milwaukee	$6,333
271	288	Corbin Capital	$6,303
272	334	Glenmede Investment	$6,175
273	296	Spider Mgmt.	$6,168
274	295	D.F. Dent	$6,100
275	300	Johnson Asset Mgmt.	$5,904
276	289	Peregrine Capital	$5,901
277	327	Equus Capital	$5,800
278	292	Camden Asset Mgmt.	$5,730
279	307	Sierra Investment	$5,711
280	287	M3 Capital	$5,700
281	314	Torchlight Investors	$5,562
282	290	Hoisington Investment	$5,502
283	306	Kornitzer Capital	$5,458
284	305	Baird Equity Asset Mgmt.	$5,433
285	341	Parnassus Investments	$5,399
286	310	Gramercy	$5,393
287		Madison Realty	$5,322
288	291	Emerald Advisers	$5,274
289	304	AFL-CIO Building Trust	$5,266
290	317	Security Capital Research	$5,228
291	301	LM Capital Group	$4,927
292	311	Granahan Investment	$4,882
293	313	Riverbridge Partners	$4,852
294	312	Atalanta Sosnoff Capital	$4,720
295	302	Mar Vista Investment	$4,674
296	330	CoreCommodity	$4,577
297	329	Cardinal Capital	$4,569
298	315	Resource Mgmt.	$4,515
299	333	Attucks Asset Mgmt.	$4,500
300	297	Smith Graham	$4,446
301	323	Stacey Braun Associates	$4,413
302	318	Kennedy Capital	$4,395
303	335	DePrince, Race & Zollo	$4,347
304	325	Todd Asset Mgmt.	$4,295
305	331	400 Capital Mgmt.	$4,294
306	326	Carmel Partners	$4,277
307	321	Union Labor Life	$4,264
308	357	Winthrop Capital	$4,261
309	322	ClariVest Asset Mgmt.	$4,243
310	316	Aristotle Capital Boston	$4,135
311	324	Forest Investment	$4,031
312	338	Weatherbie Capital	$4,026
313	308	Zevenbergen Capital	$4,004
314		Leading Edge Investment	$3,956
315	340	Palisade Capital	$3,931
316	337	GlobeFlex Capital	$3,669
317	345	Evanston Capital	$3,617
318	346	Conestoga Capital	$3,607
319	343	Oberweis Asset Mgmt.	$3,549
320	354	Snyder Capital	$3,509
321	319	Dolan McEniry	$3,479
322	361	Channing Capital	$3,455
323	347	Hillsdale Investment	$3,417

THE Largest Money Managers

Rank	Prev. rank	Manager	Assets
324	365	Systematic Financial	$3,297
325	372	Angel Oak Capital	$3,281
326	355	Shelton Capital	$3,238
327	339	Dalton Investments	$3,209
328	374	New Century Advisors	$3,200
329	352	EAM Investors	$3,180
330	369	Trillium Asset Mgmt.	$3,154
331	356	Bowen, Hanes	$3,000
332	350	Hood River Capital	$2,928
333	344	Sawgrass Asset Mgmt.	$2,926
334	353	Foundry Partners	$2,884
335	332	Patron Capital	$2,852
336	362	TGM Associates	$2,812
337	349	Global Forest Partners	$2,699
338	336	GTIS Partners	$2,687
339	348	NewSouth Capital	$2,682
340	360	Sound Shore Mgmt.	$2,602
341	351	Rice Hall James	$2,464
342	363	Molpus Woodlands Group	$2,462
343	358	GIA Partners	$2,452
344	364	Zazove Associates	$2,439
345	359	SSI Investment	$2,425
346	373	Verger Capital	$2,404
347	381	Algert Global	$2,281
348	382	Twin Bridge Capital	$2,272
349	387	Adelante Capital	$2,259
350	377	Smith Group Asset Mgmt.	$2,158
351	368	Redwood Investments	$2,061
352	371	Timberland Inv. Resources	$2,038
353		Wexford Capital	$2,000
354		Ranger Investments	$1,852
355	383	Quest Investment	$1,754
356	385	Bivium Capital	$1,733
357	378	Sarofim Realty	$1,714
358	367	KBS	$1,713
359	370	Bridgeway Capital	$1,688
360	391	Heartland Advisors	$1,688
361		CDAM	$1,678
362	375	Penn Capital	$1,638
363	379	Cramer Rosenthal McGlynn	$1,626
364	293	Iridian Asset Mgmt.	$1,625
365	390	Edgar Lomax	$1,600
366	395	Cornerstone Investment	$1,513
367	394	Ativo Capital Mgmt.	$1,458
368	389	Orleans Capital	$1,420
369	386	StoneRidge PMG Advisors	$1,398
370	398	Logan Capital	$1,358
371	388	Discretionary Mgmt. Svcs.	$1,349
372	396	Granite Investment	$1,327
373	405	Associated Capital Group	$1,326
374	393	Tributary Capital	$1,224
375	397	Flaherty & Crumrine	$1,204
376	408	Wilbanks, Smith & Thomas	$1,166
377		Antara Capital	$1,160
378	407	Anchor Capital	$1,103
379	426	Millstreet Capital	$1,070
380		Gateway Investment	$1,053
381	400	TWIN Capital	$1,012
382	399	Thornburg Investment	$1,003
383	431	Covenant Capital Group	$991
384	380	Montag & Caldwell	$986
385	409	Wedgewood Partners	$951
386	404	Pier Capital	$939
387	413	Sasco Capital	$929
388	412	Inverness Counsel	$877
389	410	CS Capital	$861
390	411	James Investment	$810
391	424	Phocas Financial	$746
392	415	Wright Investors' Service	$709
393	406	JKMilne Asset Mgmt.	$705
394	419	Minneapolis Portfolio Mgmt.	$700
395	428	GLOBALT	$698
396	416	Belle Haven Investments	$695
397	427	Hart Realty Advisers	$628
398	441	Miller/Howard Investments	$612
399	423	AMI Asset Mgmt.	$610
400	430	SouthernSun Asset Mgmt.	$589
401	437	Gifford Fong Associates	$572
402	436	Van Hulzen Asset Mgmt.	$570
403	433	Farr, Miller & Washington	$559
404	425	Redstone Advisors	$546
405	432	Domain Timber Advisors	$530
406	422	Monarch Partners	$503
407	438	Speece Thorson Capital	$501
408	420	Windham Capital	$453
409	440	Aristotle Credit Partners	$451
410	417	Denali Advisors	$426
411		TerraCotta Group	$398
412	442	ZWJ Investment Counsel	$355
413	448	Chicago Capital	$343
414	447	Campbell Newman Asset	$334
415	446	Oak Associates	$326
416	451	SMH Capital Advisors	$326
417	445	Argent Capital	$314
418	429	Semper Capital	$305
419	458	Kingdon Capital	$299
420	392	Friess Associates	$269
421	453	Hahn Capital	$225
422	449	Bridge City	$221
423	464	Glovista Investments	$210
424	439	Teton Advisors	$205
425	460	Paradigm Capital	$204
426	457	Winslow Asset Mgmt.	$200
427	459	Osborne Partners	$191
428	450	Abner, Herrman & Brock	$178
429	455	Affinity Investment Advisors	$175
430	465	Tom Johnson Investment	$121
431	469	NovaPoint Capital	$108
432	463	Kestrel Investment	$105
433	456	Argus Investors' Counsel	$100
434	462	Strategy Asset Managers	$95
435	467	Sadoff Investment	$87
436	470	Flippin, Bruce & Porter	$76
437		Cadinha	$52
438	474	Branson, Fowlkes/Russell	$43
439	473	Robinson Value Mgmt.	$40
440	472	Chase Investment Counsel	$38
441	466	Nicholas Co.	$34
442		Marshall & Sullivan	$21
443	475	Texas Institutional	$7
444	477	James Pappas Investment	$1
		TOTAL	$59,802,084

The largest managers listed alphabetically

Manager	Rank
400 Capital Mgmt.	305
AAM	154
Abbott Capital	203
Abner, Herrman & Brock	428
abrdn	25
Acadian Asset Mgmt.	80
Adams Street Partners	127
Adelante Capital	349
Advent Capital	240
Aegon Asset Mgmt.	31
Aetos Alternatives	250
AEW Capital	97
Affinity Investment Advisors	429
AFL-CIO Building Trust	289
AFL-CIO Housing Trust	261
AGF Investments	245
Agincourt Capital	254
Alan Biller and Associates	112
Alger	211
Algert Global	347
AllianceBernstein	41
Allspring Global Investments	29
Amalgamated Bank	195
American Century	83
American Realty Advisors	226
AMI Asset Mgmt.	399
Amundi	10
Anchor Capital	378
Angel Oak Capital	325
Angelo, Gordon	135
Antara Capital	377
Aon	61
AQR Capital Mgmt.	79
Ares Mgmt.	52
Argent Capital	417
Argus Investors' Counsel	433
Ariel Investments	237
Aristotle Capital Boston	310
Aristotle Capital Mgmt.	138
Aristotle Credit Partners	409
Arrowstreet Capital	70
Artisan Partners	66
Ashmore Group	101
Asset Management One	34
Associated Capital Group	373
Atalanta Sosnoff Capital	294
Ativo Capital Mgmt.	367
Attucks Asset Mgmt.	299
Aviva Investors	42
AXA Investment	18
Baillie Gifford Overseas	37
Baird Advisors	77
Baird Equity Asset Mgmt.	284
Barings	39
Barrow, Hanley	134
Beach Point Capital	186
Beacon Capital	217
Belle Haven Investments	396
Beutel, Goodman	164
Bivium Capital	356
BlackRock	1
Blackstone Alternative	114
BNP Paribas Asset Mgmt.	33
BNY Mellon	5
Boston Partners	91
Bowen, Hanes	331
Boyd Watterson	188
Brandes Investment	179
Branson, Fowlkes/Russell	438
Breckinridge Capital	208
Bridge City	422
Bridgeway Capital	359
Brookfield Asset Mgmt.	45
Brown Capital	183
Burgundy Asset Mgmt.	210

Manager	Rank
Cadinha	437
Calamos Advisors	166
Callan	180
Camden Asset Mgmt.	278
Campbell Newman Asset	414
Cantillon Capital Mgmt.	175
Canyon Partners	173
Capital Group	15
Cardinal Capital	297
Carmel Partners	306
Causeway Capital	144
CBRE Investment	73
CC&L Financial Group	108
CDAM	361
CenterSquare Investment	198
Champlain Investment	172
Channing Capital	322
Charles Schwab Investment	100
Chase Investment Counsel	440
Chicago Capital	413
Christian Brothers	231
CIBC Asset Mgmt.	147
CIM Group	170
City of London	260
ClariVest Asset Mgmt.	309
Cohen & Steers	128
Colchester Global Investors	139
Columbia Threadneedle	43
Commerce Trust	216
Commonfund	156
Conestoga Capital	318
Congress Asset Mgmt.	265
Conning	63
Cooke & Bieler	227
Corbin Capital	271
CoreCommodity	296
Cornerstone Investment	366
CornerStone Partners	214
Covenant Capital Group	383
Cramer Rosenthal McGlynn	363
Credit Suisse Asset Mgmt.	36
Crestline Investors	206
CS Capital	389
CS McKee	241
D.F. Dent	274
Dai-ichi Life Holdings	117
Dalton Investments	327
Dana Investment	268
Davis Advisors	258
Denali Advisors	410
DePrince, Race & Zollo	303
Diamond Hill Capital	252
Dimensional Fund Advisors	19
Discretionary Mgmt. Svcs.	371
Dodge & Cox	57
Dolan McEniry	321
Domain Timber Advisors	405
Driehaus Capital	194
DuPont Capital	165
DWS	28
Eagle Asset Mgmt.	182
Eagle Capital	158
EAM Investors	329
EARNEST Partners	155
Edgar Lomax	365
Emerald Advisers	288
Epoch Investment Partners	202
Equus Capital	277
Evanston Capital	317
Farr, Miller & Washington	403
Fayez Sarofim	184
Federated Hermes	21
Fidelity Investments	4
Fiduciary Mgmt./Milwaukee	270
First Pacific Advisors	151

Manager	Rank
First Quadrant	233
First Sentier Investors	92
Fisher Investments	126
Flaherty & Crumrine	375
Flippin, Bruce & Porter	436
Forest Investment	311
Fort Washington	107
Foundry Partners	334
Franklin Templeton	26
Friess Associates	420
Frontier Capital	215
Fuller & Thaler	185
GAM USA	207
GAMCO Investors	222
Garcia Hamilton	178
Gateway Investment	380
GCM Grosvenor	113
Genesis Asset Managers	209
Geode Capital Mgmt.	14
GIA Partners	343
Gifford Fong Associates	401
Glenmede Investment	272
Global Endowment Mgmt.	218
Global Forest Partners	337
GLOBALT	395
GlobeFlex Capital	316
Glovista Investments	423
GoldenTree Asset Mgmt.	133
Goldman Sachs Group	9
Gramercy	286
Granahan Investment	292
Granite Investment	372
Grantham, Mayo v. Otterloo	111
Grayscale Investments	145
Great Lakes Advisors	262
Great-West Investments	102
GTIS Partners	338
Guardian Capital	163
Guggenheim Investments	60
GW&K Investment	192
Hahn Capital	421
Hamilton Lane	88
Harbor Capital Advisors	120
Harding Loevner	116
Hardman Johnston Global	246
Harris Associates	118
Harrison Street	137
Hart Realty Advisers	397
Hayfin Capital	161
Heartland Advisors	360
Heitman	129
Highland Associates	142
Hillsdale Investment	323
Hines	105
Hoisington Investment	282
Hood River Capital	332
Hotchkis & Wiley	149
HSBC Asset Mgmt.	47
IFM Investors	75
Income Research & Mgmt.	94
Intercontinental Real Estate	212
Inverness Counsel	388
Invesco	30
Iridian Asset Mgmt.	364
J.P. Morgan Asset Mgmt.	7
Jackson Square Partners	199
Jacobs Levy Equity	201
James Investment	390
James Pappas Investment	444
Janus Henderson Investors	40
Jarislowsky Fraser	143
Jensen Investment	232
JKMilne Asset Mgmt.	393
Johnson Asset Mgmt.	275
Kayne Anderson Rudnick	150

Manager	Rank
KBS	358
Kennedy Capital	302
Kestrel Investment	432
King Street Capital	197
Kingdon Capital	419
Knights of Columbus Asset	157
Kohlberg Kravis Roberts	32
Kornitzer Capital	283
L&B Realty	238
LaSalle Investment	109
Lazard Asset Mgmt.	64
Leading Edge Investment	314
Legal & General Investment	6
Lexington Partners	125
Lighthouse	219
LM Capital Group	291
Logan Capital	370
London Co.	228
Longfellow Investment	181
Loomis, Sayles	53
Los Angeles Capital	141
LSV Asset Mgmt.	84
Luther King Capital	253
Lyrical Asset Mgmt.	259
M3 Capital	280
Mackenzie Investments	86
Macquarie Asset Mgmt.	38
Madison Realty	287
Man Group	81
Manning & Napier	224
Manulife Investment	48
Mar Vista Investment	295
Marathon-London	122
Marshall & Sullivan	442
Martingale Asset Mgmt.	251
MassMutual	55
Matthews Asia	177
Mercer	35
Mesirow	67
MetLife Investment	20
MFG Asset Mgmt.	132
MFS Investment	56
Miller/Howard Investments	398
Millstreet Capital	379
Minneapolis Portfolio Mgmt.	394
MissionSquare Investments	146
Molpus Woodlands Group	342
Monarch Partners	406
Mondrian Investment	124
Montag & Caldwell	384
Morgan Stanley Inv. Mgmt.	22
Muzinich	193
National Investment	242
National Real Estate	257
Neuberger Berman	46
New Century Advisors	328
New England Asset Mgmt.	99
New York Life Investments	27
NewSouth Capital	339
Nicholas Co.	441
Nikko Asset Mgmt.	115
Ninety One	78
NISA Investment	44
Nomura Asset Mgmt.	65
Nomura Corporate Research	160
Northern Trust Asset Mgmt.	13
NovaPoint Capital	431
Nuveen	17
Oak Associates	415
Oak Hill Advisors	123
Oaktree Capital	82
Oberweis Asset Mgmt.	319
Orleans Capital	368
Osborne Partners	427
Pacific Asset Mgmt.	213

Manager	Rank
PAG	130
Palisade Capital	315
PanAgora Asset Mgmt.	136
Paradigm Capital	425
Parnassus Investments	285
Partners Group	87
Pathway Capital	93
Patron Capital	335
PCCP	187
Penn Capital	362
Peregrine Capital	276
PFM Asset Mgmt.	76
Phocas Financial	391
Pictet Asset Mgmt.	85
Pier Capital	386
PIMCO	12
PineBridge Investments	106
PNC Financial	110
Polaris Capital	190
Polen Capital	176
Polen Capital Credit	247
Portfolio Advisors	140
PPM America	103
Prima Capital Advisors	266
PRIMECAP	72
Principal Global Investors	23
Prologis	90
Prudential Financial	11
Pugh Capital	223
Putnam Investments	119
Pzena Investment	148
Quest Investment	355
Ramirez Asset Mgmt.	264
Ranger Investments	354
RBC Global Asset Mgmt.	58
Record Currency Mgmt.	96
Redstone Advisors	404
Redwood Investments	351
Resource Mgmt.	298
RhumbLine Advisers	89
Rice Hall James	341
Richmond Capital	269
River Road Asset Mgmt.	243
Riverbridge Partners	293
Robeco	74
Robinson Value Mgmt.	439
Rockpoint Group	169
Rockwood Capital	221
Russell Investments	49
Sadoff Investment	435
Sage Advisory Services	225
Sarofim Realty	357
Sasco Capital	387
Sawgrass Asset Mgmt.	333
Schroders	24
Scout Investments	167
SECOR Asset Mgmt.	131
Security Capital Research	290
Segall Bryant & Hamill	204
SEI Investments	59
Semper Capital	418
Sentinel Real Estate	267
Shelton Capital	326
Shenkman Group	152
Sierra Investment	279
Silver Creek Capital	263
Silvercrest Asset Mgmt.	256
Simplex Asset Mgmt.	234
Sit Investment	191
SLC Management	51
SMH Capital Advisors	416
Smith Graham	300
Smith Group Asset Mgmt.	350
Snyder Capital	320
Sound Shore Mgmt.	340

Manager	Rank
SouthernSun Asset Mgmt.	400
Speece Thorson Capital	407
Spider Mgmt.	273
Sprucegrove Investment	168
SSI Investment	345
Stacey Braun Associates	301
Starwood Capital	95
State Street Global	3
Stephens Inv. Mgmt. Group	255
StepStone Group	98
Sterling Capital	121
Stockbridge Capital Group	162
Stone Harbor Investment	200
StoneRidge PMG Advisors	369
Strategic Investment Group	159
Strategy Asset Managers	434
Sustainable Growth Advisers	171
Systematic Financial	324
T. Rowe Price Associates	16
TCW Group	54
TD Asset Mgmt.	69
TerraCotta Group	411
Teton Advisors	424
Texas Institutional	443
TGM Associates	336
Thornburg Investment	382
Timberland Inv. Resources	352
TimesSquare Capital	196
Todd Asset Mgmt.	304
Tom Johnson Investment	430
Torchlight Investors	281
Tributary Capital	374
Trillium Asset Mgmt.	330
TT International	230
Twin Bridge Capital	348
TWIN Capital	381
Ullico Investment	244
Unigestion	174
Union Labor Life	307
Van Hulzen Asset Mgmt.	402
Vanguard Group	2
Verger Capital	346
Victory Capital	71
Voya Investment Mgmt.	50
Walton Street Capital	220
Wasatch Global Investors	153
Washington Capital	249
Waterfall Asset Mgmt.	248
Weatherbie Capital	312
WEDGE Capital	239
Wedgewood Partners	385
Wellington Mgmt.	8
Westbrook Partners	229
Westfield Capital	189
Westwood Global	235
Wexford Capital	353
Wilbanks, Smith & Thomas	376
William Blair	104
Wilmington Trust	68
Windham Capital	408
Winslow Asset Mgmt.	426
Winthrop Capital	308
Wright Investors' Service	392
WTW Investment Services	62
Yousif Capital	205
Zacks Investment	236
Zazove Associates	344
Zevenbergen Capital	313
ZWJ Investment Counsel	412

The largest money managers by asset universe

Assets are in millions as of Dec. 31.

Total worldwide assets

Rank	Manager	Assets
1	BlackRock	$10,010,143
2	Vanguard Group	$8,466,372
3	Fidelity Investments	$4,233,825
4	State Street Global	$4,138,172
5	Capital Group	$2,715,178
6	J.P. Morgan Asset Mgmt.	$2,653,872
7	Goldman Sachs Group	$2,470,000
8	BNY Mellon	$2,434,330
9	Amundi	$2,332,454
10	Legal & General Invest.	$1,923,258
11	Prudential Financial	$1,742,326
12	PIMCO	$1,714,696
13	T. Rowe Price Associates	$1,640,900
14	Invesco	$1,610,915
15	Franklin Templeton	$1,578,124
16	Morgan Stanley Inv. Mgmt.	$1,492,849
17	Wellington Mgmt.	$1,425,481
18	Northern Trust Asset Mgmt.	$1,347,283
19	Nuveen	$1,261,741
20	DWS	$1,054,813
21	Geode Capital Mgmt.	$1,008,798
22	AXA Investment	$1,004,777
23	Schroders	$833,200
24	AllianceBernstein	$778,570
25	Columbia Threadneedle	$755,557
26	Manulife Investment	$721,777
27	New York Life Investments	$710,455
28	MFS Investment	$692,574
29	Dimensional Fund Advisors	$679,480
30	Charles Schwab Invest.	$674,664
31	MetLife Investment	$669,000
32	Federated Hermes	$668,873
33	HSBC Asset Mgmt.	$642,473
34	abrdn	$627,891
35	BNP Paribas Asset Mgmt.	$611,679
36	Nomura Asset Mgmt.	$608,780
37	Dai-ichi Life Holdings	$574,417
38	Allspring Global Invest.	$574,319
39	Principal Global Investors	$573,474
40	Brookfield Asset Mgmt.	$555,659
41	Macquarie Asset Mgmt.	$545,700
42	Credit Suisse Asset Mgmt.	$521,339
43	Asset Management One	$512,172
44	RBC Global Asset Mgmt.	$486,436
45	Kohlberg Kravis Roberts	$470,555
46	Aegon Asset Mgmt.	$465,927
47	Neuberger Berman	$460,476
48	MassMutual	$459,582
49	Baillie Gifford Overseas	$454,879
50	Janus Henderson Investors	$432,345

U.S. institutional tax-exempt assets

Rank	Manager	Assets
1	Vanguard Group	$2,368,602
2	BlackRock	$2,137,007
3	State Street Global	$1,401,754
4	Fidelity Investments	$1,284,190
5	Geode Capital Mgmt.	$979,778
6	T. Rowe Price Associates	$763,853
7	Nuveen	$637,824
8	Capital Group	$623,321
9	Prudential Financial	$572,230
10	Northern Trust Asset Mgmt.	$558,540
11	J.P. Morgan Asset Mgmt.	$495,514
12	Dimensional Fund Advisors	$472,091
13	BNY Mellon	$389,375
14	Principal Global Investors	$368,466
15	Franklin Templeton	$366,370
16	PIMCO	$343,508
17	NISA Investment	$309,239
18	Wellington Mgmt.	$289,923
19	Goldman Sachs Group	$280,655
20	Invesco	$248,370
21	Morgan Stanley Inv. Mgmt.	$243,953
22	MassMutual	$238,216
23	Dodge & Cox	$220,832
24	Federated Hermes	$197,429
25	Allspring Global Invest.	$195,356
26	Loomis, Sayles	$182,553
27	Voya Investment Mgmt.	$173,036
28	TCW Group	$172,511
29	Legal & General Invest.	$164,817
30	SEI Investments	$162,398
31	Mercer	$152,710
32	AllianceBernstein	$151,620
33	MFS Investment	$146,559
34	Victory Capital	$144,803
35	Aon	$144,145
36	Russell Investments	$138,605
37	PFM Asset Mgmt.	$128,430
38	Neuberger Berman	$112,982
39	Arrowstreet Capital	$107,875
40	Manulife Investment	$95,690
41	RhumbLine Advisers	$91,885
42	LSV Asset Mgmt.	$87,683
43	American Century	$87,197
44	Baird Advisors	$83,600
45	Pathway Capital	$79,959
46	Baillie Gifford Overseas	$77,712
47	Kohlberg Kravis Roberts	$73,061
48	Janus Henderson Investors	$71,198
49	WTW Investment Services	$69,553
50	Income Research & Mgmt.	$69,396

U.S. institutional tax-exempt assets managed internally

Rank	Manager	Assets
1	Vanguard Group	$2,146,421
2	BlackRock	$2,137,007
3	State Street Global	$1,381,692
4	Geode Capital Mgmt.	$979,778
5	Fidelity Investments	$865,780
6	T. Rowe Price Associates	$763,853
7	Nuveen	$637,824
8	Capital Group	$623,321
9	Northern Trust Asset Mgmt.	$522,236
10	J.P. Morgan Asset Mgmt.	$480,022
11	Dimensional Fund Advisors	$472,091
12	Prudential Financial	$463,979
13	BNY Mellon	$389,375
14	Franklin Templeton	$366,370
15	PIMCO	$343,508
16	Principal Global Investors	$331,810
17	NISA Investment	$309,239
18	Wellington Mgmt.	$289,923
19	Morgan Stanley Inv. Mgmt.	$237,977
20	Dodge & Cox	$220,832
21	Invesco	$216,710
22	MassMutual	$202,516
23	Federated Hermes	$197,429
24	Goldman Sachs Group	$194,518
25	Loomis, Sayles	$182,553
26	Allspring Global Invest.	$179,141
27	TCW Group	$172,511
28	Legal & General Invest.	$164,817
29	Voya Investment Mgmt.	$149,567
30	MFS Investment	$146,559
31	Victory Capital	$141,873
32	PFM Asset Mgmt.	$108,838
33	Arrowstreet Capital	$107,875
34	Manulife Investment	$95,690
35	Neuberger Berman	$92,831
36	RhumbLine Advisers	$91,885
37	AllianceBernstein	$88,348
38	LSV Asset Mgmt.	$87,683
39	American Century	$87,197
40	Russell Investments	$84,422
41	Baird Advisors	$83,600
42	Baillie Gifford Overseas	$77,712
43	Kohlberg Kravis Roberts	$73,061
44	Janus Henderson Investors	$71,198
45	Income Research & Mgmt.	$69,396
46	Artisan Partners	$64,797
47	AQR Capital Mgmt.	$63,524
48	New York Life Investments	$63,126
49	Brookfield Asset Mgmt.	$57,216
50	MetLife Investment	$54,483

U.S.-client assets

Rank	Manager	Assets
1	Vanguard Group	$8,062,121
2	BlackRock	$6,316,828
3	Fidelity Investments	$4,054,960
4	State Street Global	$2,866,797
5	Capital Group	$2,637,987
6	Goldman Sachs Group	$1,930,000
7	J.P. Morgan Asset Mgmt.	$1,778,895
8	T. Rowe Price Associates	$1,496,279
9	Prudential Financial	$1,316,190
10	Nuveen	$1,192,757
11	Franklin Templeton	$1,175,974
12	Wellington Mgmt.	$1,146,386
13	Northern Trust Asset Mgmt.	$1,138,527
14	Morgan Stanley Inv. Mgmt.	$1,133,498
15	BNY Mellon	$1,102,752
16	Invesco	$1,085,193
17	PIMCO	$1,019,518
18	Geode Capital Mgmt.	$982,875
19	Charles Schwab Invest.	$674,664
20	MetLife Investment	$649,605
21	Federated Hermes	$598,978
22	Dimensional Fund Advisors	$569,273
23	Allspring Global Invest.	$531,984
24	AllianceBernstein	$529,348
25	MFS Investment	$523,391

Institutional U.S.-client assets

Rank	Manager	Assets
1	Vanguard Group	$5,407,000
2	BlackRock	$3,210,716
3	Fidelity Investments	$2,032,626
4	State Street Global	$1,720,561
5	Wellington Mgmt.	$1,145,112
6	J.P. Morgan Asset Mgmt.	$1,098,819
7	Geode Capital Mgmt.	$982,875
8	Goldman Sachs Group	$950,877
9	Capital Group	$926,831
10	Prudential Financial	$839,786
11	Northern Trust Asset Mgmt.	$839,500
12	T. Rowe Price Associates	$808,062
13	Nuveen	$789,121
14	BNY Mellon	$745,134
15	MetLife Investment	$649,605
16	PIMCO	$576,933
17	Federated Hermes	$574,844
18	Dimensional Fund Advisors	$569,273
19	Principal Global Investors	$473,262
20	Allspring Global Invest.	$443,910
21	Franklin Templeton	$436,481
22	Invesco	$374,449
23	New York Life Investments	$373,950
24	NISA Investment	$332,727
25	Kohlberg Kravis Roberts	$302,358

THE Largest Money Managers

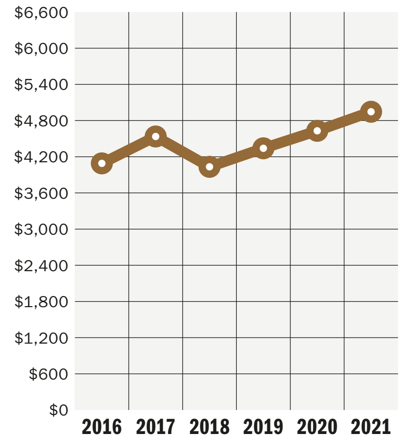
Managers of defined benefit assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$708,157
2	State Street Global	$470,311
3	NISA Investment	$292,479
4	BNY Mellon	$270,856
5	Prudential Financial	$222,147
6	PIMCO	$188,218
7	J.P. Morgan Asset Mgmt.	$167,618
8	Northern Trust Asset Mgmt.	$156,455
9	Wellington Mgmt.	$116,650
10	Legal & General Investment	$112,334

Asset growth (billions)



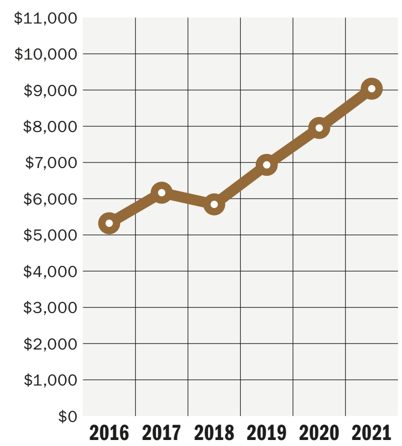
Managers of defined contribution assets

U.S. institutional, tax-exempt assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Vanguard Group	$2,045,911
2	BlackRock	$1,390,708
3	Fidelity Investments	$1,198,640
4	T. Rowe Price Associates	$694,021
5	State Street Global	$613,747
6	Nuveen	$604,160
7	Capital Group	$587,643
8	Prudential Financial	$299,383
9	J.P. Morgan Asset Mgmt.	$287,140
10	Northern Trust Asset Mgmt.	$240,011

Asset growth (billions)



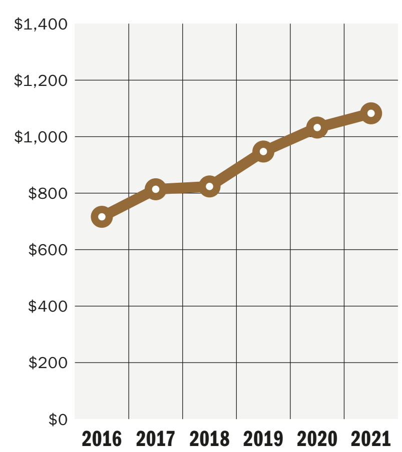
Managers of endowment & foundation assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$170,508
2	Vanguard Group	$135,624
3	BlackRock	$57,894
4	Northern Trust Asset Mgmt.	$37,232
5	Morgan Stanley Inv. Mgmt.	$35,331
6	PIMCO	$28,404
7	Mercer	$27,434
8	PNC Financial	$27,385
9	Franklin Templeton	$26,168
10	Commonfund	$24,383

Asset growth (billions)



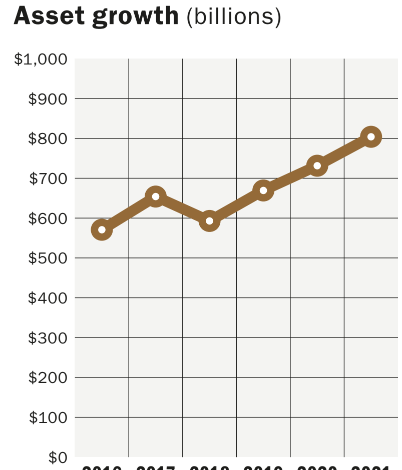
Managers of endowment & foundation assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$161,464
2	Vanguard Group	$135,624
3	Wellington Mgmt.	$47,749
4	BlackRock	$38,142
5	Northern Trust Asset Mgmt.	$37,232
6	PIMCO	$28,389
7	Morgan Stanley Inv. Mgmt.	$22,246
8	BNY Mellon	$17,341
9	J.P. Morgan Asset Mgmt.	$15,275
10	PNC Financial	$13,641

Asset growth (billions)



Profiles of the 50 largest money managers

25 abrdn

1 George St., Edinburgh EH2 2LL Scotland; phone: 44-131-245-5330; www.abrdn.com

	(millions)
Total assets managed worldwide	$627,891
Total worldwide institutional assets	$520,815
Total U.S. client assets	$62,161
Total U.S. institutional client assets	$40,935
Total U.S. tax-exempt assets	$29,081
Total U.S. institutional tax-exempt	$29,081
Assigned to external managers	$19,556
Internally managed	$9,524
ESG investing	$9,524

WORLDWIDE ASSETS UNDER MANAGEMENT

ESG investing	$526,894
ESG mandates	$40,436

Chief executive officer: Stephen Bird

U.S. client contact: Eric Roberts

31 Aegon Asset Management

Aegonplein 6, The Hague 2591 TV Netherlands; phone: 877-234-6862; www.aegonam.com

	(millions)
Total assets managed worldwide	$465,927
Total worldwide institutional assets	$453,635
Total U.S. client assets	$114,065
Total U.S. institutional client assets	$114,065
Total U.S. tax-exempt assets	$4,192
Total U.S. institutional tax-exempt	$4,192
Internally managed	$4,192

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX	
Fixed income	100%
INVESTMENT STRATEGIES	
U.S. equity, active	$2
U.S. bond, active	$4,189
FIXED-INCOME STRATEGIES	
Core	$126
High-yield	$632
High-yield mandates	$632

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets	$36
Mutual fund assets	$126,846
Investment outsourcing mandates	$45,262
LDI strategies	$187,035
Managed for retirement plans	$37,539
ESG investing	$202,025
ESG mandates	$3,198

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT	
Total	$532
Internally managed	$532

WORKFORCE

Total number of employees	1,259
Number of cybersecurity professionals	12
Number of U.S.-based employees	516
PERCENT U.S.-BASED FEMALE EMPLOYEES	
Total	48%
Senior management	25%
Investment	23%
PERCENT U.S.-BASED MINORITY EMPLOYEES	
Total	8%
Investment	13%

Parent company: Aegon NV

Chief executive officers: Bas NieuweWeme, Christopher Thompson

Chief investment officers: Russell Morrison, Stephen Jones, Scott Cote

U.S. client contact: Anthony Mazzella

Other client contact: Bradley Dawson

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Aegon Asset Management NL**
- **Aegon Asset Management Spain**
- **Aegon Asset Management UK**
- **Aegon Asset Management US:** total assets: $129.1 billion; U.S. institutional, tax-exempt assets: $4.2 billion; CIO: Russell Morrison/

More data online

- **For a full set of manager data, plus profiles of all 444 managers, go to pionline.com/managers2022**

Scott Cote; client contact: Bradley Dawson, phone: 312-777-2732, email: brdawson@aegonam.com

41 AllianceBernstein LP

501 Commerce St., Nashville, TN 37203; phone: 212-969-1000; www.alliancebernstein.com

	(millions)
Total assets managed worldwide	$778,570
Total worldwide institutional assets	$341,297
Total U.S. client assets	$529,348
Total U.S. institutional client assets	$251,524
Total U.S. tax-exempt assets	$255,405
Total U.S. institutional tax-exempt	$151,620
Assigned to external managers	$63,272
Internally managed	$88,348

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX	
Equity	85%
Fixed income	13%
Hedge funds	2%
INVESTMENT STRATEGIES	
U.S. equity, active	$26,083
U.S. equity, passive	$24,264
Non-U.S. equity, active	$11,084
Non-U.S. equity, passive	$1,783
Global equity, active	$10,395
Global equity, passive	$1,334
U.S. bond, active	$4,417
U.S. bond, passive	$109
Global/non-U.S. bond, active	$6,904
Global/non-U.S. bond, passive	$4
Real estate debt	$259
Hedge funds	$1,548
Cash	$163
ACTIVE DOMESTIC EQUITY STRATEGIES	
GROWTH	
Large-cap	$9,611
Smidcap	$3,402
Small-cap	$5,327
Broad-market	$121
VALUE	
Large-cap	$562
Smidcap	$3,548
Small-cap	$1,357
CORE	
Large-cap	$1,238
Small-cap	$2
Broad-market	$915
PASSIVE DOMESTIC EQUITY STRATEGIES	
GROWTH	
Large-cap	$1,989
CORE	
Large-cap	$20,425
Midcap	$24
Smidcap	$509
Small-cap	$154
Broad-market	$1,163
Low-volatility strategies	$1,138
REITs	$719
NON-U.S. STRATEGIES	
Emerging markets equity	$558
Emerging markets equity mandates	$420
Frontier markets equity	$138
Emerging markets debt	$1,680
Emerging markets debt mandates	$1,680
FIXED-INCOME STRATEGIES	
Core	$769
Core-plus	$5,831
High-yield	$1,063
High-yield mandates	$1,063

Continued on Page 26

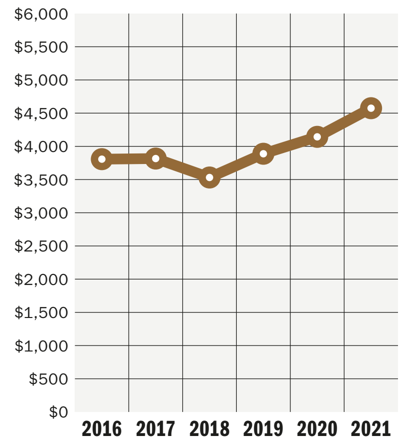
Managers of non-affiliated insurance co. assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$507,751
2	PIMCO	$308,604
3	J.P. Morgan Asset Mgmt.	$275,294
4	State Street Global	$260,091
5	T. Rowe Price Associates	$231,811
6	DWS	$202,297
7	Prudential Financial	$193,637
8	Schroders	$169,784
9	Wellington Mgmt.	$156,204
10	Macquarie Asset Mgmt.	$127,963

Asset growth (billions)



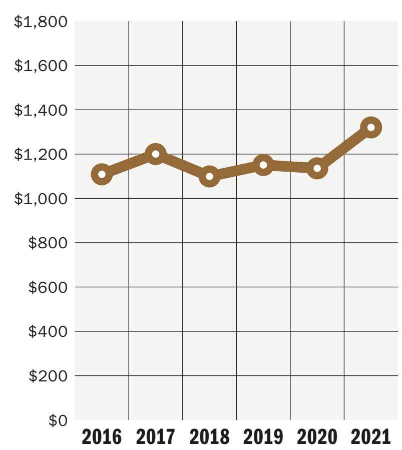
Managers of sovereign wealth fund assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BNY Mellon	$116,332
2	State Street Global	$104,187
3	BlackRock	$100,840
4	Brookfield Asset Mgmt.	$72,118
5	J.P. Morgan Asset Mgmt.	$59,580
6	Legal & General Investment	$55,759
7	Franklin Templeton	$52,080
8	Macquarie Asset Mgmt.	$48,809
9	Northern Trust Asset Mgmt.	$30,964
10	Pathway Capital	$30,565

Asset growth (billions)



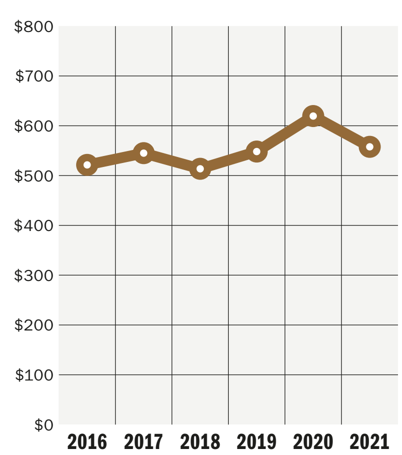
Managers of central bank assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$121,199
2	State Street Global	$88,138
3	PIMCO	$49,728
4	Northern Trust Asset Mgmt.	$32,759
5	BNP Paribas Asset Mgmt.	$30,493
6	J.P. Morgan Asset Mgmt.	$25,467
7	Franklin Templeton	$23,874
8	HSBC Asset Mgmt.	$23,100
9	Prudential Financial	$19,297
10	Schroders	$14,515

Asset growth (billions)



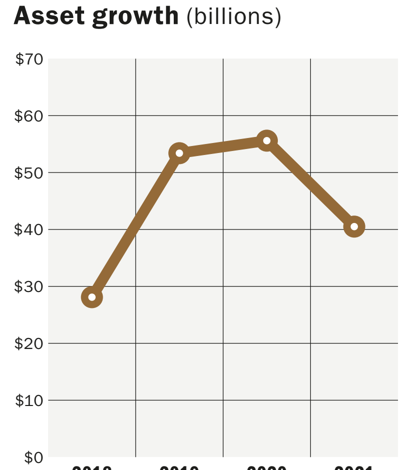
Managers of 529 plan assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Nuveen	$12,733
2	Invesco	$6,401
3	Dimensional Fund Advisors	$5,377
4	Fidelity Investments	$5,194
5	Voya Investment Mgmt.	$3,278
6	American Century	$3,166
7	State Street Global	$1,901
8	Principal Global Investors	$1,776
9	AllianceBernstein	$268
10	AEW Capital	$141

Asset growth (billions)



Continued from Page 24

Inflation-protected securities $149
Risk-parity strategies $29
ESG investing $43,629
ESG mandates $428
Equity, active $422
Bond, active $6

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $11,457
Hedge fund-of-fund assets $1,316
Mutual fund assets $272,288
U.S. 1940 Investment Co. Act $153,401
Factor-based strategies $1,220
ESG investing $523,835
ESG mandates $31,496

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $30,607

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $91,333
Internally managed $28,188

Primary custodian: State Street
Parent company: Equitable Holdings Inc.
Chief executive officer: Seth Bernstein
U.S. client contact: Miguel Rozensztroch
Other client contact: Onur Erzan
DC client contact: Jennifer DeLong

29 Allspring Global Investments

10715 David Taylor Drive, Suite 400, Charlotte, NC 28262; phone: 800-222-8222; www.allspringglobal.com

(millions)

Total assets managed worldwide $574,319
Total worldwide institutional assets $485,106
Total U.S. client assets $531,984
Total U.S. institutional client assets $443,910
Total U.S. RIA assets $35,602
Total U.S. tax-exempt assets $199,700
Total U.S. institutional tax-exempt $195,356
Assigned to external managers $16,215
Internally managed $179,141

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 28%
Fixed income 68%
Cash 4%

INVESTMENT STRATEGIES

U.S. equity, active $23,610
U.S. equity, passive $447
U.S. equity, enhanced index $8,915
Non-U.S. equity, active $12,483
Non-U.S. equity, enhanced index $2,868
Global equity, active $863
U.S. bond, active $116,408
U.S. bond, passive $2,270
U.S. bond, enhanced index $964
Global/non-U.S. bond, active $2,197
Global/non-U.S. bond, passive $134
Hedge funds $62
Cash $7,748

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $5,249
Midcap $1,615
Smidcap $1,583
Small-cap $1,052
Broad-market $662

VALUE

Large-cap $197
Midcap $6,594
Small-cap $4,176

CORE

Large-cap $166
Midcap $292
Small-cap $94
Broad-market $27

PASSIVE DOMESTIC EQUITY STRATEGIES

CORE

Large-cap $360
Low-volatility strategies $2,368

NON-U.S. STRATEGIES

Emerging markets equity $6,199
Emerging markets equity mandates . $6,199
Emerging markets debt $284
Emerging markets debt mandates $134

FIXED-INCOME STRATEGIES

Core $28,864
Core-plus $1,474
Unconstrained $10
High-yield $328
High-yield mandates $215
Inflation-protected securities $20
Stable value $59,657
Bank loans $14
LDI strategies $3,737
ESG investing $3,116

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $1,058
Mutual fund assets $320,863
U.S. 1940 Investment Co. Act $313,405
Investment outsourcing mandates $2,457
LDI strategies $3,737
Managed for retirement plans $3,737
Proprietary stable value $74,377
Factor-based strategies $18,705
ESG investing $34,684

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $9

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $125,538
Internally managed $109,326

WORKFORCE

Total number of employees 1,483
Number of U.S.-based employees 1,365

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 39%
Senior management 33%
Investment 23%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 16%
Senior management 22%
Investment 14%

Primary custodian: State Street
Parent company: Allspring Global Investments Holdings LLC
Chief executive officer: Joseph A. Sullivan
Chief investment officer: Jon Baranko
U.S. client contact: Susan Raynes

10 Amundi

91-93 boulevard Pasteur, Paris 75015 France; phone: 33-1-7633-3030; www.amundi.com

(millions)

Total assets managed worldwide $2,332,454
Total worldwide institutional assets $1,300,933
Total U.S. client assets $72,114
Total U.S. institutional client assets $24,833
Total U.S. RIA assets $2,677
Total U.S. tax-exempt assets $33,358
Total U.S. institutional tax-exempt $19,710
Internally managed $19,710

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $1,435
Hedge fund-of-fund assets $17
Mutual fund assets $889,676
U.S. 1940 Investment Co. Act $54,337
Sponsored ETFs/ETNs $241,693
Factor-based strategies $23,527
ESG investing $957,144
ESG mandates $350,148

WORKFORCE

Total number of employees 5,300
Percent employee owned 1%

Parent company: Credit Agricole SA
Chief executive officer: Valerie Baudson
Chief investment officer: Vincent Mortier
U.S. client contact: Joseph Carrabes

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Amundi Asset Management US Inc.**

34 Asset Management One Co. Ltd.

Tekko Building, 8-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-0005 Japan; phone: 81-3-6774-6075; www.am-one.co.jp

	(millions)
Total assets managed worldwide	$512,172
Total worldwide institutional assets	$407,171
Total U.S. client assets	$245
Total U.S. institutional client assets	$245
Total U.S. tax-exempt assets	$245
Total U.S. institutional tax-exempt	$245
Internally managed	$245

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	44%
Fixed income	16%
Multiasset	40%

INVESTMENT STRATEGIES

U.S. equity, active	$30
Non-U.S. equity, active	$76
U.S. bond, active	$40

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets	$94,831
Sponsored ETFs/ETNs	$10,170
ESG investing	$18,092
ESG mandates	$18,092

WORKFORCE

Total number of employees	1,048
Number of cybersecurity professionals	23
Number of U.S.-based employees	53

Parent company: Mizuho Financial Group Inc. Dai-ichi Life Holdings Inc.
Chief executive officer: Akira Sugano
Chief investment officer: Nobutaka Aoki
U.S. client contact: Tetsuji Toda

42 Aviva Investors

St. Helen's, 1 Undershaft, London EC3P 3DQ England; phone: 44-20-7809-6000; www.avivainvestors.com

	(millions)
Total assets managed worldwide	$362,692
Total worldwide institutional assets	$335,249
Total U.S. client assets	$1,994
Total U.S. institutional client assets	$1,994
Total U.S. tax-exempt assets	$1,913
Total U.S. institutional tax-exempt	$1,913
Internally managed	$1,913

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	7%
Fixed income	93%

INVESTMENT STRATEGIES

U.S. equity, active	$126
U.S. bond, active	$1,787

ACTIVE DOMESTIC EQUITY STRATEGIES

VALUE

Smidcap	$126
High-yield	$32
High-yield mandates	$32
ESG investing	$1,913

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets	$108,150
LDI strategies	$45,557
Managed for retirement plans	$13,578
ESG investing	$362,692
ESG mandates	$18,094

WORKFORCE

Total number of employees	1,166
Number of cybersecurity professionals	51
Number of U.S.-based employees	49

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total	33%
Senior management	4%
Investment	8%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total	16%
Senior management	4%
Investment	4%
Percent employee owned	1%

Primary custodian: J.P. Morgan
Parent company: Aviva PLC
Chief executive officer: Mark Versey

18 AXA Investment Managers

100 W. Putnam Ave., 3rd Floor, Greenwich, CT 06830; phone: 203-983-4200; www.axa-im.com

	(millions)
Total assets managed worldwide	$1,004,777
Total worldwide institutional assets	$827,248
Total U.S. client assets	$24,967
Total U.S. institutional client assets	$24,245
Total U.S. tax-exempt assets	$628
Total U.S. institutional tax-exempt	$628
Internally managed	$628

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	18%
Fixed income	82%

INVESTMENT STRATEGIES

U.S. equity, active	$112
U.S. bond, active	$516

FIXED-INCOME STRATEGIES

Core	$516
High-yield	$516

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund-of-fund assets	$7,703
Mutual fund assets	$302,204
Investment outsourcing mandates	$23,953
LDI strategies	$18,618
Managed for retirement plans	$13,993
Factor-based strategies	$8,597
ESG investing	$858,798
ESG mandates	$646,510

WORKFORCE

Total number of employees	2,463
Number of cybersecurity professionals	3
Number of U.S.-based employees	162

Primary custodian: State Street
Parent company: AXA Group
Chief executive officer: Marco Morelli
Chief investment officer: Godefroy de Colombe
U.S. client contact: Leigh Troy

37 Baillie Gifford Overseas Ltd.

Calton Square, 1 Greenside Row, Edinburgh EH1 3AN Scotland; phone: 44-131-275-2000; www.bailliegifford.com

	(millions)
Total assets managed worldwide	$454,879
Total worldwide institutional assets	$365,179
Total U.S. client assets	$166,756
Total U.S. institutional client assets	$161,167
Total U.S. tax-exempt assets	$79,116
Total U.S. institutional tax-exempt	$77,712
Internally managed	$77,712

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	100%

INVESTMENT STRATEGIES

U.S. equity, active	$1,120
Non-U.S. equity, active	$65,868
Global equity, active	$10,712
Global/non-U.S. bond, active	$12

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Broad-market	$1,120

NON-U.S. STRATEGIES

Emerging markets equity	$14,130
Emerging markets equity mandates	$14,130
ESG investing	$77,712
ESG mandates	$948

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets	$18,887
U.S. 1940 Investment Co. Act	$18,887
ESG investing	$454,879
ESG mandates	$24,207

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total	$4,804
Internally managed	$4,804

WORKFORCE

Total number of employees	1,630
Percent employee owned	100%

Primary custodian: BNY Mellon

Continued on Page 28

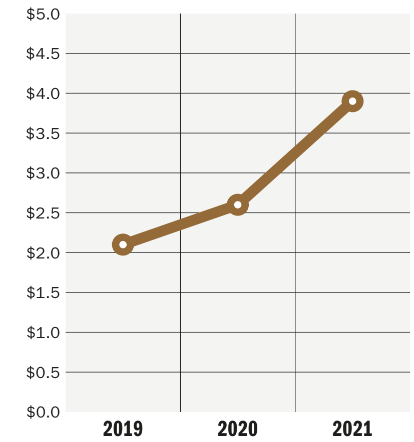
Managers of HSA assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Fidelity Investments	$2,581
2	Nuveen	$1,278
3	Voya Investment Mgmt.	$19
4	Winthrop Capital	$3

Asset growth (billions)



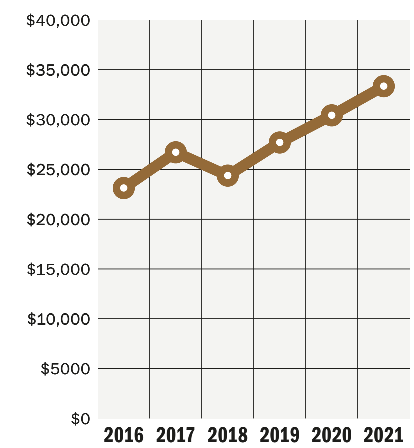
Managers of mutual fund assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Vanguard Group	$6,115,315
2	Fidelity Investments	$3,749,570
3	Capital Group	$2,528,386
4	J.P. Morgan Asset Mgmt.	$1,474,868
5	BlackRock	$1,470,218
6	PIMCO	$1,046,008
7	T. Rowe Price Associates	$926,996
8	Amundi	$889,676
9	Franklin Templeton	$866,068
10	Wellington Mgmt.	$792,304

Asset growth (billions)



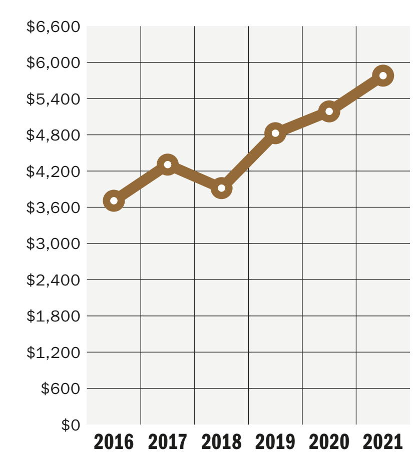
Managers assigning assets to others

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Fidelity Investments	$1,050,676
2	Vanguard Group	$805,101
3	Mercer	$415,327
4	Goldman Sachs Group	$413,700
5	SEI Investments	$306,164
6	Prudential Financial	$218,507
7	Manulife Investment	$213,632
8	Aon	$199,612
9	WTW Investment Services	$186,776
10	Russell Investments	$110,501

Asset growth (billions)



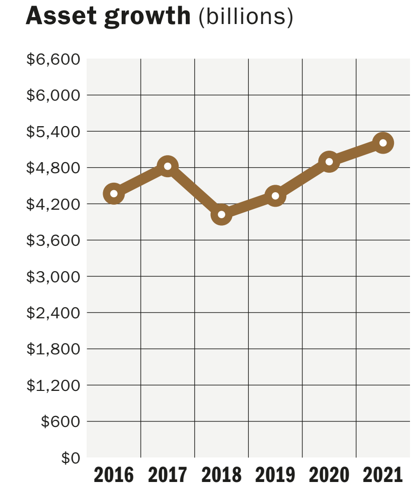
Managers of subadvised assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Wellington Mgmt.	$792,304
2	BlackRock	$468,053
3	Principal Global Investors	$297,172
4	PIMCO	$279,911
5	T. Rowe Price Associates	$239,960
6	J.P. Morgan Asset Mgmt.	$154,853
7	Loomis, Sayles	$142,142
8	State Street Global	$135,777
9	Prudential Financial	$131,857
10	Legal & General Investment	$119,389

Asset growth (billions)



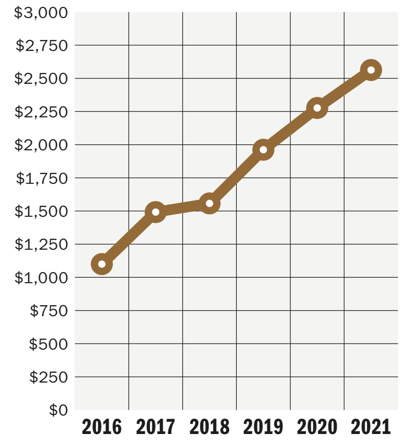
Managers of outsourcing/fiduciary mgmt. mandates

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Mercer	$415,327
2	SEI Investments	$223,940
3	BlackRock	$201,979
4	Aon	$199,612
5	State Street Global	$191,792
6	Russell Investments	$189,718
7	WTW Investment Services	$186,776
8	Columbia Threadneedle	$144,204
9	StepStone Group	$127,008
10	Northern Trust Asset Mgmt.	$90,409

Asset growth (billions)



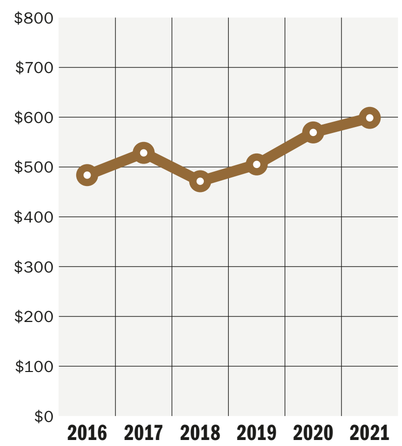
Managers of overlay assets

U.S. institutional, tax-exempt assets covered as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	NISA Investment	$193,598
2	Parametric	$96,066
3	Russell Investments	$58,739
4	J.P. Morgan Asset Mgmt.	$52,773
5	Legal & General Investment	$51,144
6	State Street Global	$34,413
7	AllianceBernstein	$30,607
8	Voya Investment Mgmt.	$29,381
9	Record Currency Mgmt.	$15,801
10	Nuveen	$14,256

Asset growth (billions)



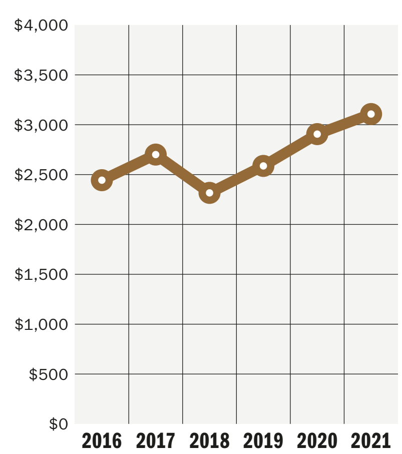
Managers of active U.S equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	T. Rowe Price Associates	$646,093
2	Fidelity Investments	$449,724
3	Capital Group	$331,469
4	Dimensional Fund Advisors	$192,740
5	Nuveen	$105,447
6	Franklin Templeton	$88,989
7	Dodge & Cox	$83,869
8	MFS Investment	$75,621
9	J.P. Morgan Asset Mgmt.	$71,426
10	Prudential Financial	$70,701

Asset growth (billions)



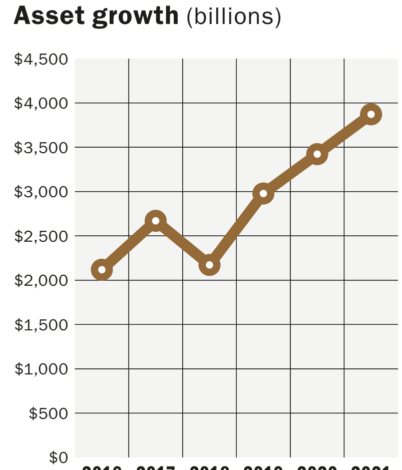
Managers of passive U.S. equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Vanguard Group	$1,568,635
2	BlackRock	$948,400
3	State Street Global	$544,141
4	Northern Trust Asset Mgmt.	$303,082
5	BNY Mellon	$140,637
6	RhumbLine Advisers	$78,360
7	Principal Global Investors	$64,682
8	Nuveen	$54,899
9	Legal & General Investment	$32,084
10	Invesco	$24,785

Asset growth (billions)



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Parent company: Baillie Gifford & Co.
Chief executive officer: Andrew Telfer
U.S. client contacts: Larysa Bemko, Bill Pacula, Mike Saliba, Ryan Fitzpatrick
DC client contact: Mike Saliba

39 Barings

300 S. Tryon St., Suite 2500, Charlotte, NC 28202; phone: 877-766-0014; www.barings.com

(millions)

Total assets managed worldwide $391,487
Total worldwide institutional assets $359,620
Total U.S. client assets $266,926
Total U.S. institutional client assets....... $251,059
Total U.S. tax-exempt assets.................. $26,251
Total U.S. institutional tax-exempt........... $26,251
Internally managed $26,251

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
Equity 13%
Fixed income 64%
Equity real estate 17%
Private equity.. 6%

INVESTMENT STRATEGIES
Global equity, active $3,462
U.S. bond, active............................ $13,305
Global/non-U.S. bond, active $1,716
Equity real estate, domestic $4,060
Equity real estate, non-U.S. $426
Real estate debt $373
Private equity, domestic $1,589
Direct lending $1,112
Distressed debt $66
Mezzanine debt...................................$142

NON-U.S. STRATEGIES
Emerging markets debt $191

FIXED-INCOME STRATEGIES
Core $5,297
Core-plus..$207
High-yield $2,726
Inflation-protected securities $383
CDOs $227
Stable value $7,452
Bank loans $982
ESG investing.................................. $26,251

WORLDWIDE ASSETS UNDER MANAGEMENT
Mutual fund assets $24,235
Investment outsourcing mandates $4,721
Proprietary stable value......................... $10,343
ESG investing $391,487

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT
Total.. $11,488
Internally managed $11,488

WORKFORCE
Total number of employees...................... 1,821
Number of cybersecurity professionals...........18
Number of U.S.-based employees............ 1,018

PERCENT U.S.-BASED FEMALE EMPLOYEES
Total... 36%
Senior management................................. 38%
Investment.. 27%

PERCENT U.S.-BASED MINORITY EMPLOYEES
Total... 20%
Senior management................................. 15%
Investment.. 17%

Primary custodian: State Street
Parent company: Massachusetts Mutual Life Insurance Co.
Chief executive officer: Mike Freno
U.S. client contact: Andrew Schaeffer

1 BlackRock Inc.

Park Avenue Plaza, 55 E. 52nd St., New York, NY 10055; phone: 212-810-5300; www.blackrock.com

(millions)

Total assets managed worldwide $10,010,143
Total worldwide institutional assets $5,694,077
Total U.S. client assets $6,316,828
Total U.S. institutional client assets.....$3,210,716
Total U.S. tax-exempt assets..............$3,274,114
Total U.S. institutional tax-exempt........$2,137,007
Internally managed $2,137,007

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
Equity 62%
Fixed income 17%
Cash.. 2%
Other 19%
Other type: Advisory, multiasset, alternatives

INVESTMENT STRATEGIES
U.S. equity, active $19,285
U.S. equity, passive...................... $948,400
Non-U.S. equity, active $11,775
Non-U.S. equity, passive $220,820
Global equity, active $19,213
Global equity, passive $315,892
U.S. bond, active.......................... $137,498
U.S. bond, passive $214,296
U.S. bond, enhanced index................ $8,076
Global/non-U.S. bond, active $3,326
Global/non-U.S. bond, passive $3,561
Equity real estate, domestic $8,516
Hedge funds $2,018
Commodities $1,012
Cash... $52,097

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH
Large-cap $2,880
Midcap...$947
Small-cap $249

VALUE
Large-cap $3,270

CORE
Small-cap $5,628
Broad-market $310

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH
Large-cap $13,945
Small-cap $545
Broad-market $747

VALUE
Large-cap $7,492
Smidcap...$587
Small-cap $1,883

CORE
Large-cap $661,733
Midcap.. $15,190
Smidcap...................................... $112,443
Small-cap $15,931
Broad-market $97,280
REITs $8,164

NON-U.S. STRATEGIES
Emerging markets equity................. $27,750

FIXED-INCOME STRATEGIES
Core $129,857
Core-plus...................................... $13,803
Inflation-protected securities $11,785
LDI strategies $129,076

WORLDWIDE ASSETS UNDER MANAGEMENT
Hedge fund assets............................... $58,034
Hedge fund-of-fund assets $28,694
Mutual fund assets $1,470,218
U.S. 1940 Investment Co. Act............ $479,150
Sponsored ETFs/ETNs.......................$3,267,353
Investment outsourcing mandates $201,979
LDI strategies..................................... $380,528
Factor-based strategies $311,853
ESG investing $509,399
ESG mandates $509,399

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT
Total...$1,390,708
Internally managed $1,390,708

WORKFORCE
Total number of employees.................... 18,369

Primary custodian: J.P. Morgan
Chief executive officer: Laurence D. Fink
Chief investment officers: Rick Rieder, Christopher Jones, Tim Webb, Ken Kroner
U.S. client contact: Zach Buchwald
DC client contact: Anne Ackerley

33 BNP Paribas Asset Management

200 Park Ave., 11th Floor, New York, NY 10166; phone: 212-681-3181; www.bnpparibas-am.com

(millions)

Total assets managed worldwide $611,679
Total worldwide institutional assets $418,842
Total U.S. client assets $5,613
Total U.S. institutional client assets........... $5,584
Total U.S. tax-exempt assets..................... $4,635
Total U.S. institutional tax-exempt.............. $4,635
Internally managed $4,635

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Fixed income 59%
Other 41%
Other type: Balanced, currency

INVESTMENT STRATEGIES

U.S. bond, active.............................. $2,102
Global/non-U.S. bond, active $588
Inflation-protected securities $1,364

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets..................................... $704
Hedge fund-of-fund assets $303
Mutual fund assets $293,210
Sponsored ETFs/ETNs........................... $16,477
LDI strategies....................................... $19,042
Managed for retirement plans $17,838
Factor-based strategies $20,000
ESG investing $517,972
ESG mandates $95,029

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total.. $989

WORKFORCE

Total number of employees 2,302
Number of U.S.-based employees............... 104

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total.. 40%
Senior management................................. 60%
Investment... 27%

Primary custodian: BNP Paribas
Parent company: BNP Paribas
Chief executive officer: Sandro Pierri
Chief investment officer: Robert Gambi
U.S. client contact: Kenneth Corwin
Other client contact: Johanna Lasker

5 BNY Mellon Investment Management

240 Greenwich St., New York, NY 10286; phone: 212-495-1784; www.bnymellon.com

(millions)

Total assets managed worldwide $2,434,330
Total worldwide institutional assets $1,954,467
Total U.S. client assets $1,102,752
Total U.S. institutional client assets....... $745,134
Total U.S. tax-exempt assets................ $389,375
Total U.S. institutional tax-exempt.......... $389,375
Internally managed $389,375

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 58%
Fixed income 15%
Cash.. 18%
Other 9%
Other type: Multiasset, alternatives, LDI, overlay

INVESTMENT STRATEGIES

U.S. equity, active $11,985
U.S. equity, passive...................... $140,637
Non-U.S. equity, active $21,084
Non-U.S. equity, passive $9,219
Global equity, active $13,563
Global equity, passive $19,823
U.S. bond, active............................ $35,869
U.S. bond, passive $26,109
Global/non-U.S. bond, active $2,046
Global/non-U.S. bond, passive $2,222
Cash.. $68,591

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $794
Smidcap..$538
Small-cap $206

VALUE

Large-cap $1,211
Midcap.. $541
Smidcap..$866
Small-cap $901

CORE

Large-cap $1,017
Broad-market $19

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $1,544
Small-cap $169

VALUE

Large-cap $711
Small-cap $937

CORE

Large-cap $26,583
Midcap.. $4,463
Smidcap.. $1,404
Small-cap $4,763

NON-U.S. STRATEGIES

Emerging markets debt $223

FIXED-INCOME STRATEGIES

Core $189
Core-plus... $3,450
Unconstrained $23
High-yield $946
Inflation-protected securities $1,963
Stable value $21,145
LDI strategies...................................... $15,987

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $425,431
U.S. 1940 Investment Co. Act........... $316,956
Sponsored ETFs/ETNs............................ $1,264
Actively managed.....................................$68
LDI strategies.................................... $828,322
Managed for retirement plans $805,777
Proprietary stable value......................... $21,145

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total.. $101,162
Internally managed $101,162

Primary custodian: BNY Mellon
Parent company: Bank of New York Mellon
Chief executive officer: Hanneke Smits
U.S. client contact: Kyle Pham

45 Brookfield Asset Management

250 Vesey St., 15th Floor, New York, NY 10281-1023; phone: 212-417-7000; www.brookfield.com

(millions)

Total assets managed worldwide $555,659
Total worldwide institutional assets $325,941
Total U.S. client assets $85,475
Total U.S. institutional client assets......... $74,704
Total U.S. RIA assets $2,147
Total U.S. tax-exempt assets.................. $57,237
Total U.S. institutional tax-exempt........... $57,216
Internally managed $57,216

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 7%
Equity real estate 45%
Private equity....................................... 18%
Other 30%
Other type: Infrastructure, multiasset

INVESTMENT STRATEGIES

U.S. equity, active $556
Global equity, active $3,699
U.S. bond, active................................$136
Equity real estate, domestic $3,979
Equity real estate, non-U.S. $20,354
Timber $168
Buyout funds $10,187
Infrastructure................................ $16,841
Mezzanine debt................................ $1,288
Commodities $8

ACTIVE DOMESTIC EQUITY STRATEGIES

VALUE

Broad-market $556

Continued on Page 30

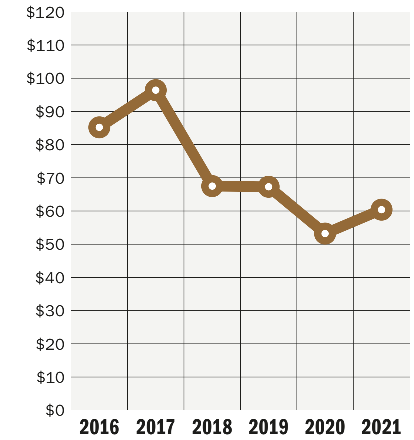
Managers of enhanced index U.S equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	T. Rowe Price Associates	$23,831
2	Allspring Global Invest.	$8,915
3	PIMCO	$6,841
4	Highland Associates	$5,360
5	Legal & General Investment	$4,885
6	J.P. Morgan Asset Mgmt.	$3,649
7	MFS Investment	$1,739
8	Voya Investment Mgmt.	$1,725
9	Franklin Templeton	$1,427
10	TWIN Capital	$758

Asset growth (billions)



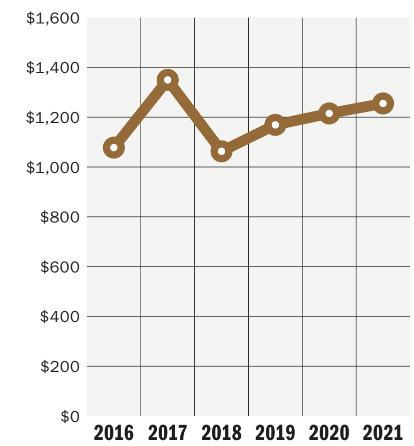
Managers of active non-U.S. equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Dimensional Fund Advisors	$154,845
2	Fidelity Investments	$120,436
3	Capital Group	$99,192
4	Baillie Gifford Overseas	$65,868
5	MFS Investment	$53,770
6	Arrowstreet Capital	$41,552
7	Nuveen	$40,588
8	J.P. Morgan Asset Mgmt.	$40,397
9	Acadian Asset Mgmt.	$40,051
10	Mondrian Investment	$38,655

Asset growth (billions)



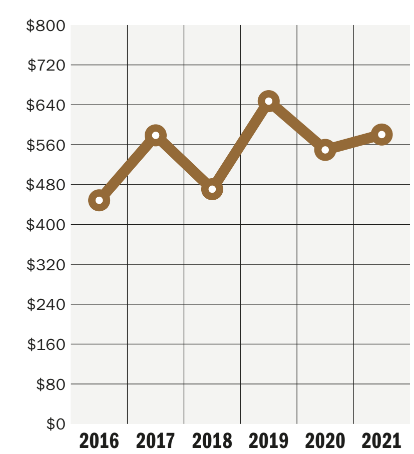
Managers of passive non-U.S. equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$220,820
2	State Street Global	$130,828
3	Vanguard Group	$89,178
4	Northern Trust Asset Mgmt.	$81,889
5	Morgan Stanley Inv. Mgmt.	$13,207
6	Nuveen	$9,738
7	BNY Mellon	$9,219
8	Legal & General Investment	$8,176
9	RhumbLine Advisers	$4,712
10	Voya Investment Mgmt.	$3,441

Asset growth (billions)



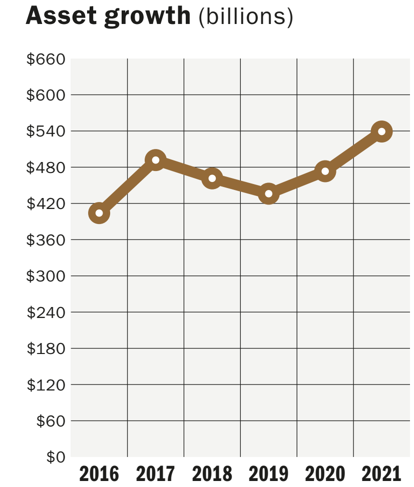
Managers of active global equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Arrowstreet Capital	$61,889
2	Capital Group	$42,511
3	Nuveen	$34,548
4	American Century	$34,305
5	Wellington Mgmt.	$32,033
6	Dimensional Fund Advisors	$29,904
7	Artisan Partners	$20,234
8	BlackRock	$19,213
9	Invesco	$17,032
10	T. Rowe Price Associates	$16,913

Asset growth (billions)



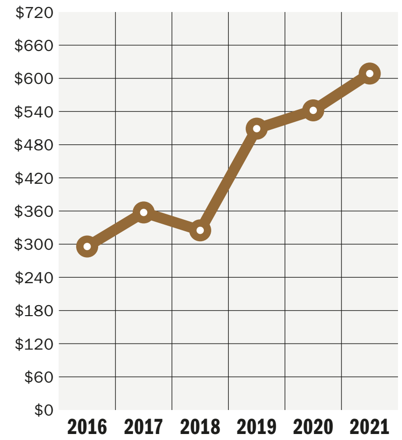
Managers of passive global equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$315,892
2	State Street Global	$259,352
3	BNY Mellon	$19,823
4	Legal & General Investment	$6,069
5	RhumbLine Advisers	$3,095
6	Highland Associates	$1,740
7	AllianceBernstein	$1,334
8	Invesco	$721
9	Principal Global Investors	$664
10	Yousif Capital	$39

Asset growth (billions)



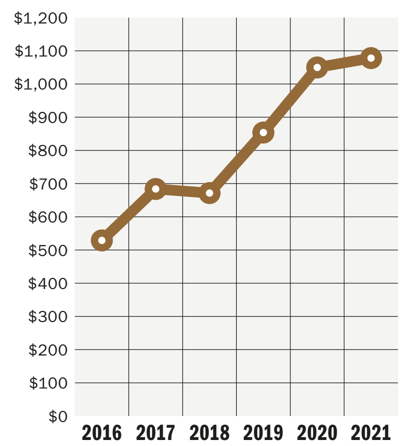
Managers of active U.S. large-cap growth assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	T. Rowe Price Associates	$531,238
2	Fidelity Investments	$293,548
3	Prudential Financial	$28,216
4	Loomis, Sayles	$27,301
5	Franklin Templeton	$25,508
6	Nuveen	$24,606
7	Polen Capital	$11,994
8	Sustainable Growth Adv.	$11,589
9	Alger	$11,359
10	Wellington Mgmt.	$9,922

Asset growth (billions)



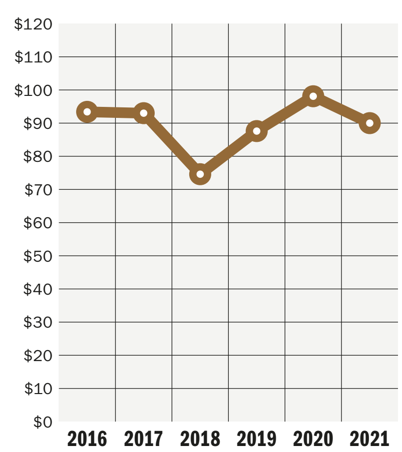
Managers of active U.S. midcap growth assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	T. Rowe Price Associates	$31,308
2	Artisan Partners	$12,263
3	MFS Investment	$6,476
4	Federated Hermes	$5,530
5	TimesSquare Capital	$4,772
6	Baird Equity Asset Mgmt.	$3,300
7	Voya Investment Mgmt.	$3,065
8	Victory Capital	$2,586
9	Frontier Capital	$2,564
10	Invesco	$2,339

Asset growth (billions)



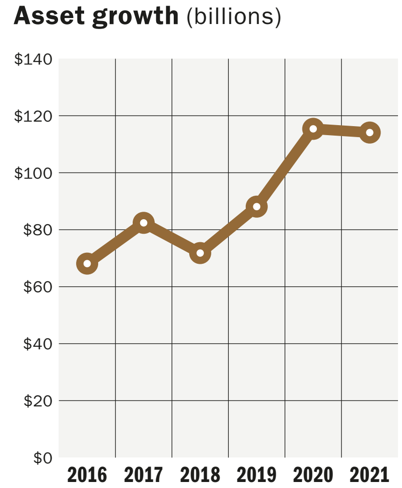
Managers of active U.S. small-cap growth assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	T. Rowe Price Associates	$18,819
2	Franklin Templeton	$10,552
3	Fidelity Investments	$7,136
4	AllianceBernstein	$5,327
5	Invesco	$5,297
6	Federated Hermes	$5,194
7	Emerald Advisers	$5,104
8	Brown Capital	$4,916
9	Victory Capital	$4,285
10	TimesSquare Capital	$3,617

Asset growth (billions)



Continued from Page 29

REITs $3,110

FIXED-INCOME STRATEGIES

Unconstrained $136
High-yield $136

ESG investing $57,216

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $931
Mutual fund assets $2,195
U.S. 1940 Investment Co. Act $2,195
ESG investing $555,659

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $149
Internally managed $149

WORKFORCE

Total number of employees 150,000

15 Capital Group

333 S. Hope St., Los Angeles, CA 90071; phone: 213-486-9200; www.capitalgroup.com

(millions)

Total assets managed worldwide $2,715,178
Total worldwide institutional assets $961,738
Total U.S. client assets $2,637,987
Total U.S. institutional client assets $926,831
Total U.S. tax-exempt assets $1,540,893
Total U.S. institutional tax-exempt $623,321
Internally managed $623,321

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 77%
Fixed income 18%
Cash 5%

INVESTMENT STRATEGIES

U.S. equity, active $331,469
Non-U.S. equity, active $99,192
Global equity, active $42,511
U.S. bond, active $103,074
Global/non-U.S. bond, active $16,424
Cash $30,652

LDI strategies $13,414

ESG investing $623,321

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $2,528,386
U.S. 1940 Investment Co. Act $2,528,386
LDI strategies $14,031
Managed for retirement plans $14,031
ESG investing $2,715,178

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $587,643
Internally managed $587,643

WORKFORCE

Total number of employees 4,514
Percent employee owned 100%

Chief executive officer: Timothy D. Armour

U.S. client contact: Walt Best

43 Columbia Threadneedle Investments

290 Congress St., Boston, MA 02210; phone: 617-385-9840; www.columbiathreadneedle.com

(millions)

Total assets managed worldwide $755,557
Total worldwide institutional assets $333,737
Total U.S. client assets $440,086
Total U.S. institutional client assets $109,019
Total U.S. tax-exempt assets $30,501
Total U.S. institutional tax-exempt $22,828
Assigned to external managers $11,087
Internally managed $11,741

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $1,382
Sponsored ETFs/ETNs $1,824
Investment outsourcing mandates $144,204
LDI strategies $3,351
Proprietary stable value $4,855
ESG investing $53,817

WORKFORCE

Total number of employees 2,015
Number of U.S.-based employees 1,087

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 38%
Senior management 17%
Investment 29%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 19%
Senior management 12%
Investment 22%

Parent company: Ameriprise Financial Inc.

Chief executive officer: Ted Truscott

Chief investment officer: William Davies

U.S. client contact: Francine Asselta

36 Credit Suisse Asset Management LLC

11 Madison Ave., New York, NY 10010; phone: 212-325-2300; www.credit-suisse.com/us

(millions)

Total assets managed worldwide $521,339
Total worldwide institutional assets $386,339
Total U.S. client assets $54,197
Total U.S. institutional client assets $42,625
Total U.S. tax-exempt assets $38,770
Total U.S. institutional tax-exempt $35,077
Internally managed $35,077

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $13,661
Mutual fund assets $7,167
U.S. 1940 Investment Co. Act $7,167
Sponsored ETFs/ETNs $8,062
Actively managed $8,062
ESG investing $138,500

Parent company: Credit Suisse Group AG

19 Dimensional Fund Advisors LP

6300 Bee Cave Road, Building One, Austin, TX 78746; phone: 512-306-7400; www.dfafunds.com

(millions)

Total assets managed worldwide $679,480
Total worldwide institutional assets $679,480
Total U.S. client assets $569,273
Total U.S. institutional client assets $569,273
Total U.S. tax-exempt assets $472,091
Total U.S. institutional tax-exempt $472,091
Internally managed $472,091

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 83%
Fixed income 17%

INVESTMENT STRATEGIES

U.S. equity, active $192,740
U.S. equity, passive $11,691
U.S. equity, enhanced index $388
Non-U.S. equity, active $154,845
Global equity, active $29,904
U.S. bond, active $57,120
Global/non-U.S. bond, active $24,168
Commodities $1,235

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $2,961
Small-cap $974

VALUE

Large-cap $29,021
Smidcap $14,142
Small-cap $16,559
Broad-market $8,483

CORE

Large-cap $11,703
Small-cap $24,810
Broad-market $84,087

PASSIVE DOMESTIC EQUITY STRATEGIES

CORE

Large-cap $11,691

REITs $25,795

NON-U.S. STRATEGIES

Emerging markets equity $58,281
Emerging markets equity mandates $58,281

FIXED-INCOME STRATEGIES

Core $14,032
Inflation-protected securities $11,810

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $591,317
U.S. 1940 Investment Co. Act $578,911
Sponsored ETFs/ETNs $10,356
LDI strategies $471
Factor-based strategies $666,843
ESG investing $54,932
ESG mandates $21,292

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $46,452
Internally managed $46,452

WORKFORCE

Total number of employees 1,430

Primary custodian: State Street

Chief executive officers: David Butler, Gerard O'Reilly

Chief investment officer: Gerard O'Reilly

DC client contact: Tim Kohn

28 DWS Group GmbH & Co. KGaA

875 Third Ave., 26th Floor, New York, NY 10022; phone: 212-454-6260; www.dws.com

(millions)

Total assets managed worldwide $1,054,813
Total worldwide institutional assets $486,748
Total U.S. client assets $244,117
Total U.S. institutional client assets $161,703
Total U.S. tax-exempt assets $31,005
Total U.S. institutional tax-exempt $31,005
Internally managed $31,005

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 26%
Fixed income 3%
Equity real estate 65%
Private equity 1%
Cash 3%
Infrastructure 2%

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $377,651
U.S. 1940 Investment Co. Act $97,664
Sponsored ETFs/ETNs $189,425
LDI strategies $29,226
Managed for retirement plans $28,999
ESG investing $121,210

WORKFORCE

Total number of employees 4,202
Number of cybersecurity professionals 10
Number of U.S.-based employees 825

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 41%
Senior management 4%
Investment 7%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 30%
Senior management 2%
Investment 8%

Primary custodian: State Street

Parent company: Deutsche Bank AG

Chief executive officer: Stefan Hoops

Chief investment officer: Stefan Kreuzkamp

U.S. client contacts: Mark Cullen, JJ Wilczewski, Laura Gaylord, Amanda Rebello, Ashley Cooke

21 Federated Hermes Inc.

1001 Liberty Ave., 23rd Floor, Pittsburgh, PA 15222-3779; phone: 800-245-0242; www.federatedinvestors.com

(millions)

Total assets managed worldwide $668,873
Total worldwide institutional assets $618,459
Total U.S. client assets $598,978
Total U.S. institutional client assets $574,844
Total U.S. tax-exempt assets $197,429
Total U.S. institutional tax-exempt $197,429
Internally managed $197,429

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 13%
Fixed income 29%
Cash 56%
Stable value 2%

INVESTMENT STRATEGIES

U.S. equity, active $21,823
U.S. equity, enhanced index $436
Non-U.S. equity, active $2,735
Global equity, active $32
U.S. bond, active $61,557
Global/non-U.S. bond, active $41
Cash $110,805

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $2,589
Midcap $5,530
Small-cap $5,194

VALUE

Large-cap $7,031
Small-cap $164
Broad-market $27

CORE

Small-cap $818
Broad-market $470

NON-U.S. STRATEGIES

Emerging markets equity $32
Emerging markets debt $21

FIXED-INCOME STRATEGIES

Core $12,104
Core-plus $7,373
High-yield $7,809
High-yield mandates $1,322
Inflation-protected securities $106
Stable value $3,393
Mortgages (whole loans) $554

LDI strategies $3,454
ESG investing $911

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $448,078
U.S. 1940 Investment Co. Act $405,697
Sponsored ETFs/ETNs $50
Actively managed $50
LDI strategies $3,454
Proprietary stable value $3,393
Factor-based strategies $7,956
ESG investing $66,085

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $60,998
Internally managed $60,998

WORKFORCE

Total number of employees 1,968
Number of U.S.-based employees 1,393
Percent employee owned 15%

Primary custodian: State Street

Chief executive officer: John B. Fisher

Chief investment officers: Robert J. Ostrowski, Stephen F. Auth, Deborah A. Cunningham

U.S. client contacts: Paul A. Uhlman, Stephen Cronin, Amy Michaliszyn, Michael Bappert

DC client contacts: Paul A. Uhlman, Stephen Cronin

4 Fidelity Investments

245 Summer St., Boston, MA 02210; phone: 800-343-3548; www.fidelity.com

(millions)

Total assets managed worldwide $4,233,825
Total worldwide institutional assets $2,032,626
Total U.S. client assets $4,054,960
Total U.S. institutional client assets $2,032,626
Total U.S. tax-exempt assets $2,638,932
Total U.S. institutional tax-exempt $1,284,190
Assigned to external managers $418,410
Internally managed $865,780

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 67%
Fixed income 25%
Cash 8%

INVESTMENT STRATEGIES

U.S. equity, active $449,724
U.S. equity, passive $10
Non-U.S. equity, active $120,436
Global equity, active $9,554
U.S. bond, active $130,875
U.S. bond, passive $86,578
Global/non-U.S. bond, active $2,115

Continued on Page 32

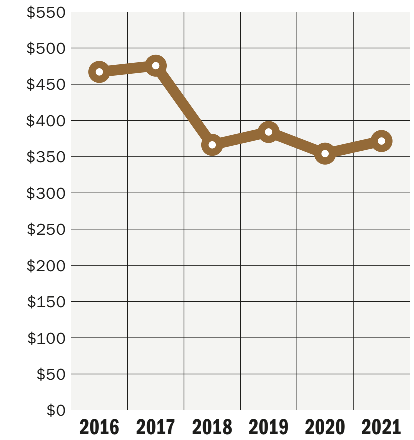
Managers of active U.S. large-cap value assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Dodge & Cox	$83,869
2	MFS Investment	$31,164
3	Dimensional Fund Advisors	$29,021
4	Fidelity Investments	$26,043
5	T. Rowe Price Associates	$25,743
6	Barrow, Hanley	$21,108
7	Franklin Templeton	$15,494
8	Invesco	$10,997
9	Principal Global Investors	$9,743
10	Boston Partners	$9,626

Asset growth (billions)



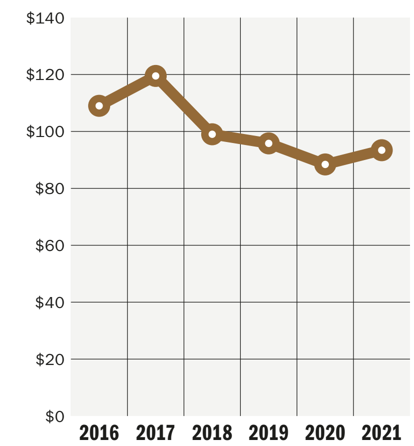
Managers of active U.S. midcap value assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Fidelity Investments	$28,266
2	Victory Capital	$23,567
3	MFS Investment	$7,170
4	Allspring Global Invest.	$6,594
5	T. Rowe Price Associates	$6,133
6	American Century	$5,982
7	Boston Partners	$3,084
8	Macquarie Asset Mgmt.	$1,078
9	Wellington Mgmt.	$988
10	Iridian Asset Mgmt.	$934

Asset growth (billions)



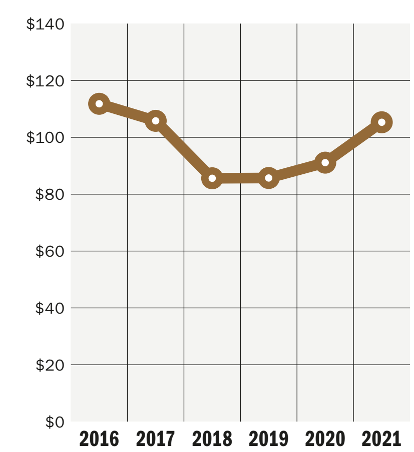
Managers of active U.S. small-cap value assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Dimensional Fund Advisors	$16,559
2	Victory Capital	$13,596
3	Fisher Investments	$7,382
4	Allspring Global Invest.	$4,176
5	T. Rowe Price Associates	$3,997
6	EARNEST Partners	$3,888
7	Kennedy Capital	$3,252
8	Systematic Financial	$3,190
9	Franklin Templeton	$2,673
10	American Century	$2,460

Asset growth (billions)



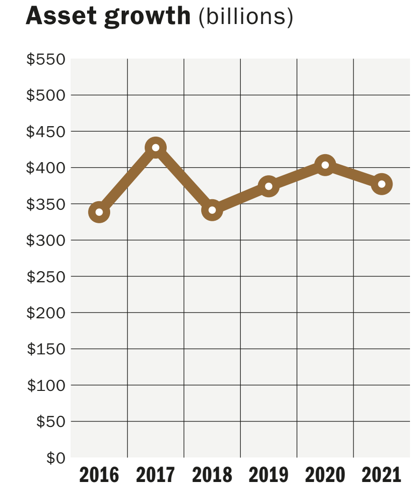
Managers of emerging markets equity assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Dimensional Fund Advisors	$58,281
2	Fidelity Investments	$35,063
3	BlackRock	$27,750
4	State Street Global	$20,522
5	Northern Trust Asset Mgmt.	$15,367
6	Invesco	$14,264
7	Baillie Gifford Overseas	$14,130
8	J.P. Morgan Asset Mgmt.	$13,407
9	Nuveen	$11,784
10	Acadian Asset Mgmt.	$11,371

Asset growth (billions)



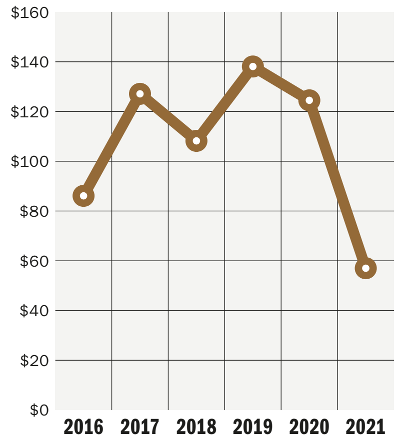
Managers of low-volatility equity strategies

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	MFG Asset Mgmt.	$11,097
2	Franklin Templeton	$6,257
3	Acadian Asset Mgmt.	$6,137
4	Martingale Asset Mgmt.	$4,740
5	J.P. Morgan Asset Mgmt.	$4,499
6	State Street Global	$4,465
7	Neuberger Berman	$3,519
8	Allspring Global Invest.	$2,368
9	River Road Asset Mgmt.	$1,948
10	Robeco	$1,713

Asset growth (billions)



Managers of risk-parity strategies

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	PanAgora Asset Mgmt.	$16,507
2	AQR Capital Mgmt.	$12,689
3	Invesco	$10,950
4	StepStone Group	$7,313
5	Neuberger Berman	$1,147
6	J.P. Morgan Asset Mgmt.	$813
7	Morgan Stanley Inv. Mgmt.	$213
8	AllianceBernstein	$29

Asset growth (billions)

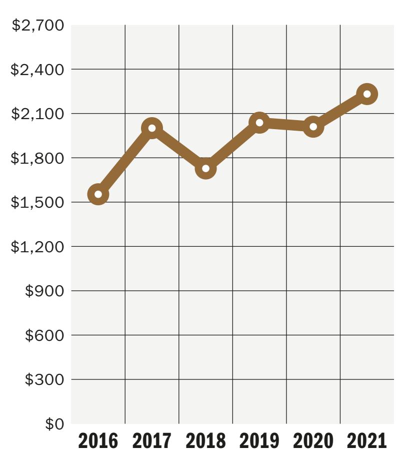
Managers of factor-based strategies

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Dimensional Fund Advisors	$666,843
2	BlackRock	$311,853
3	State Street Global	$226,457
4	Invesco	$140,186
5	AQR Capital Mgmt.	$104,824
6	Prudential Financial	$91,526
7	Northern Trust Asset Mgmt.	$75,078
8	Legal & General Investment	$70,813
9	Robeco	$47,870
10	Charles Schwab Investment	$40,950

Asset growth (billions)



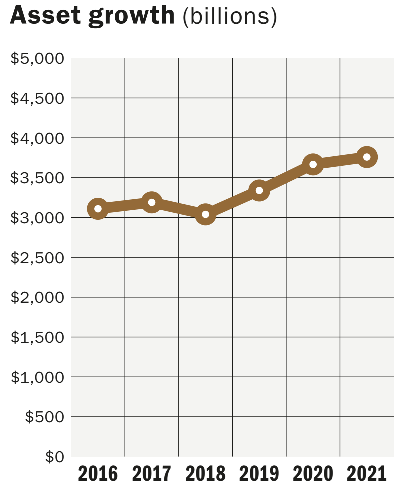
Managers of active U.S. bond assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	NISA Investment	$306,425
2	Prudential Financial	$288,240
3	PIMCO	$272,874
4	Nuveen	$198,572
5	TCW Group	$157,814
6	Franklin Templeton	$144,925
7	Loomis, Sayles	$141,500
8	BlackRock	$137,498
9	Fidelity Investments	$130,875
10	Allspring Global Invest.	$116,408

Asset growth (billions)



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Global/non-U.S. bond, passive $885
Cash..$65,603

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $293,548
Midcap...$1,309
Small-cap $7,136

VALUE

Large-cap $26,043
Midcap... $28,266
Small-cap $1,711

CORE

Large-cap $15,580
Midcap...$4,104
Small-cap $8,467

NON-U.S. STRATEGIES

Emerging markets equity................. $35,063
Emerging markets equity mandates... $35,063
High-yield $15,000
Inflation-protected securities $16,320
Stable value $37,337

LDI strategies $35,156

ESG investing................................ $865,780
ESG mandates $247
Equity, active $180
Bond, active $1
Bonds, passive $66

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $3,749,570
U.S. 1940 Investment Co. Act.........$3,628,087
Sponsored ETFs/ETNs.......................... $34,923
Actively managed................................$4,130
Investment outsourcing mandates $12,600
LDI strategies..................................... $35,156
Proprietary stable value......................... $39,056
Factor-based strategies $3,850
ESG investing $4,233,825
ESG mandates $8,513

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total..$1,198,640
Internally managed $787,800

WORKFORCE

Total number of employees 57,000

Parent company: FMR LLC
Chief executive officer: Bart Grenier
Chief investment officer: Joe DeSantis
U.S. client contact: Casey Condron
DC client contact: Ted Madden

26 Franklin Templeton

1 Franklin Parkway, Building 970, 1st Floor, San Mateo, CA 94403; phone: 650-312-2000; www.franklintempleton.com

(millions)

Total assets managed worldwide $1,578,124
Total worldwide institutional assets $516,264
Total U.S. client assets $1,175,974
Total U.S. institutional client assets....... $436,481
Total U.S. tax-exempt assets................ $401,221
Total U.S. institutional tax-exempt.......... $366,370
Internally managed $366,370

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 31%
Fixed income 47%
Equity real estate 11%
Hedge funds 1%
Cash 5%
Balanced 5%

INVESTMENT STRATEGIES

U.S. equity, active $88,989
U.S. equity, enhanced index $1,427
Non-U.S. equity, active $11,840
Global equity, active $10,109
U.S. bond, active.......................... $144,925
Global/non-U.S. bond, active $23,506
Global/non-U.S. bond, passive $2,875
Equity real estate, domestic $26,283
Equity real estate, non-U.S. $52
Hedge funds $2,789
Infrastructure......................................$471
MLPs $320
Cash $128

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $25,508
Midcap...$79
Smidcap.. $1,265
Small-cap $10,552
Broad-market $4,257

VALUE

Large-cap $15,494
Midcap.. $102
Small-cap $2,673
Broad-market $290

CORE

Large-cap $4,843
Midcap.. $1,948
Small-cap $978
Broad-market $3,270

Low-volatility strategies $6,257

NON-U.S. STRATEGIES

Emerging markets debt..................... $2,423
Emerging markets debt mandates.........$284

FIXED-INCOME STRATEGIES

Core $28,994
Core-plus....................................... $39,436
Unconstrained $13,426
High-yield $8,645
High-yield mandates $3,774
Inflation-protected securities $717
CDOs $358
Stable value $6,267
Mortgages (whole loans).......................$364
Bank loans $152

LDI strategies $53,576

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets............................... $13,410
Hedge fund-of-fund assets $3,135
Mutual fund assets $866,068
U.S. 1940 Investment Co. Act........... $760,644
Sponsored ETFs/ETNs........................... $13,228
Actively managed.............................. $13,228
Investment outsourcing mandates $25,663
LDI strategies....................................... $73,445
Managed for retirement plans $48,643
Proprietary stable value.......................... $6,267

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total.. $1,427

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total.. $28,089
Internally managed $28,089

WORKFORCE

Total number of employees 10,218

Parent company: Franklin Resources Inc.
Chief executive officer: Jenny Johnson
U.S. client contact: Michael Foley

14 Geode Capital Management

100 Summer St., 12th Floor, Boston, MA 02110; phone: 800-777-6757; www.geodecapital.com

(millions)

Total assets managed worldwide $1,008,798
Total worldwide institutional assets $1,008,798
Total U.S. client assets $982,875
Total U.S. institutional client assets....... $982,875
Total U.S. tax-exempt assets................ $979,778
Total U.S. institutional tax-exempt.......... $979,778
Internally managed $979,778

WORKFORCE

Total number of employees 168
Percent employee owned 12%

Parent company: Geode Capital Holdings LLC
Chief executive officer: Bob Minicus
Chief investment officers: Jess Stauth, Diane Hsiung
U.S. client contacts: Michaela Rothmann, Bill Miller

9 The Goldman Sachs Group Inc.

200 West St., New York, NY 10282; phone: 212-902-1000; www.gs.com

	(millions)
Total assets managed worldwide	$2,470,000
Total worldwide institutional assets	$1,361,008
Total U.S. client assets	$1,930,000
Total U.S. institutional client assets	$950,877
Total U.S. tax-exempt assets	$292,906
Total U.S. institutional tax-exempt	$280,655
Assigned to external managers	$86,137
Internally managed	$194,518

47 HSBC Asset Management

8 Canada Square, London E14 5HQ England; phone: 44-20-7991-8888; www.assetmanagement.hsbc.com

	(millions)
Total assets managed worldwide	$642,473
Total worldwide institutional assets	$307,327
Total U.S. client assets	$65,033
Total U.S. institutional client assets	$57,249
Total U.S. tax-exempt assets	$209
Total U.S. institutional tax-exempt	$209
Internally managed	$209
INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS	
ASSET MIX	
Equity	100%
INVESTMENT STRATEGIES	
Non-U.S. equity, active	$209
NON-U.S. STRATEGIES	
Emerging markets equity	$209
Emerging markets equity mandates	$209
ESG investing	$209
WORLDWIDE ASSETS UNDER MANAGEMENT	
Hedge fund-of-fund assets	$13,200
Mutual fund assets	$261,372
U.S. 1940 Investment Co. Act	$36,765
Sponsored ETFs/ETNs	$16,510
Actively managed	$632
Factor-based strategies	$29,895
ESG investing	$629,273
ESG mandates	$29,692
WORKFORCE	
Total number of employees	2,671
Number of U.S.-based employees	116
PERCENT U.S.-BASED FEMALE EMPLOYEES	
Total	36%
Senior management	27%
Investment	14%

Parent company: HSBC Holdings PLC
Chief executive officer: Nicolas Moreau
Chief investment officer: Xavier Baraton
U.S. client contacts: Christopher Wilson, Paul Dawe

30 Invesco

1555 Peachtree St. N.E., Suite 1800, Atlanta, GA 30309; phone: 404-479-1095; www.invesco.com

	(millions)
Total assets managed worldwide	$1,610,915
Total worldwide institutional assets	$454,556
Total U.S. client assets	$1,085,193
Total U.S. institutional client assets	$374,449
Total U.S. RIA assets	$435,000
Total U.S. tax-exempt assets	$389,094
Total U.S. institutional tax-exempt	$248,370
Assigned to external managers	$31,660
Internally managed	$216,710
INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS	
ASSET MIX	
Equity	50%
Fixed income	28%
Equity real estate	17%
Private equity	1%
Cash	3%
Commodities	1%
INVESTMENT STRATEGIES	
U.S. equity, active	$42,095
U.S. equity, passive	$24,785
U.S. equity, enhanced index	$28
Non-U.S. equity, active	$22,945
Non-U.S. equity, passive	$668
Global equity, active	$17,032
Global equity, passive	$721
U.S. bond, active	$54,467
Global/non-U.S. bond, active	$5,890
Equity real estate, domestic	$31,667
Equity real estate, non-U.S.	$4,550
Real estate debt	$24
Venture capital	$24
Infrastructure	$14
Private equity, domestic	$1,053
Distressed debt	$767
Mezzanine debt	$1,540
MLPs	$202
Commodities	$1,865
Convertible securities	$101
Cash	$6,272
ACTIVE DOMESTIC EQUITY STRATEGIES	
GROWTH	
Large-cap	$6,541
Midcap	$2,339
Small-cap	$5,297
Broad-market	$1,949
VALUE	
Large-cap	$10,997
Midcap	$720
Small-cap	$536
Broad-market	$1,949
CORE	
Large-cap	$3,825
Midcap	$1,028
Small-cap	$493
Broad-market	$6,421
PASSIVE DOMESTIC EQUITY STRATEGIES	
GROWTH	
Large-cap	$1,666
Midcap	$4
Smidcap	$336
Small-cap	$33
VALUE	
Large-cap	$1,560
Midcap	$659
Smidcap	$313
Small-cap	$8
CORE	
Large-cap	$9,666
Midcap	$96
Small-cap	$359
Broad-market	$10,085
Low-volatility strategies	$258
REITs	$2,928
NON-U.S. STRATEGIES	
Emerging markets equity	$14,264
Emerging markets equity mandates	$14,264
Emerging markets debt	$13
Emerging markets debt mandates	$13
FIXED-INCOME STRATEGIES	
Core	$2,382
Core-plus	$1,033
Unconstrained	$51
High-yield	$875
High-yield mandates	$875
Inflation-protected securities	$22
Stable value	$39,964
Bank loans	$1,182
Risk-parity strategies	$10,950
ESG investing	$1,390
WORLDWIDE ASSETS UNDER MANAGEMENT	
Mutual fund assets	$678,355
U.S. 1940 Investment Co. Act	$491,198
Sponsored ETFs/ETNs	$476,542
Actively managed	$9,755
Proprietary stable value	$70,358
Factor-based strategies	$140,186
Cryptocurrency assets	$1,330
ESG investing	$96,331
ESG mandates	$19,177
DEFINED CONTRIBUTION ASSETS	
U.S. INSTITUTIONAL TAX-EXEMPT	
Total	$148,441
Internally managed	$118,047
WORKFORCE	
Total number of employees	8,476
Number of cybersecurity professionals	123
Number of U.S.-based employees	3,293
PERCENT U.S.-BASED FEMALE EMPLOYEES	
Total	41%

Continued on Page 34

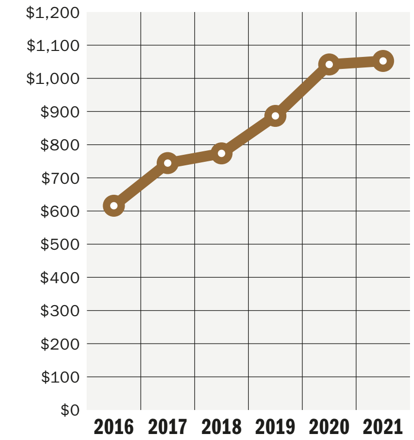
Managers of passive U.S. bond assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Vanguard Group	$364,199
2	State Street Global	$254,426
3	BlackRock	$214,296
4	Fidelity Investments	$86,578
5	Northern Trust Asset Mgmt.	$64,640
6	BNY Mellon	$26,109
7	Principal Global Investors	$15,094
8	RhumbLine Advisers	$5,718
9	Yousif Capital	$4,179
10	Voya Investment Mgmt.	$3,791

Asset growth (billions)



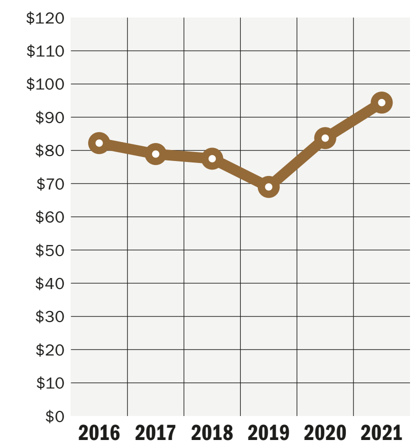
Managers of enhanced index U.S. bond assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Baird Advisors	$83,600
2	BlackRock	$8,076
3	Neuberger Berman	$1,698
4	Allspring Global Invest.	$964
5	T. Rowe Price Associates	$58

Asset growth (billions)



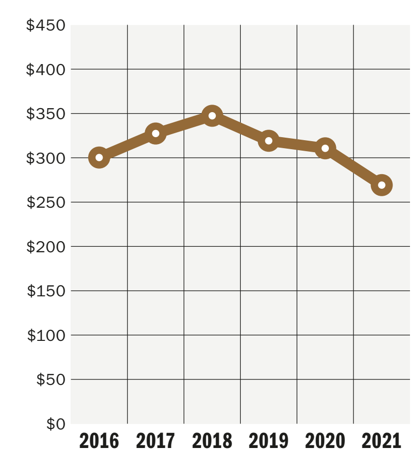
Managers of active global/non-U.S. bond assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Wellington Mgmt.	$29,606
2	Dimensional Fund Advisors	$24,168
3	Franklin Templeton	$23,506
4	PIMCO	$19,408
5	Prudential Financial	$17,765
6	Capital Group	$16,424
7	Principal Global Investors	$12,728
8	Nuveen	$12,309
9	Ares Mgmt.	$10,494
10	J.P. Morgan Asset Mgmt.	$8,261

Asset growth (billions)



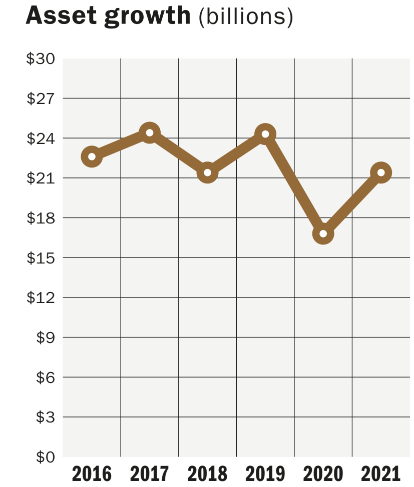
Managers of passive global/non-U.S. bond assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$8,053
2	Vanguard Group	$3,588
3	BlackRock	$3,561
4	Franklin Templeton	$2,875
5	BNY Mellon	$2,222
6	Fidelity Investments	$885
7	Allspring Global Invest.	$134
8	Northern Trust Asset Mgmt.	$94
9	AllianceBernstein	$4
10	SECOR Asset Mgmt.	$4

Asset growth (billions)



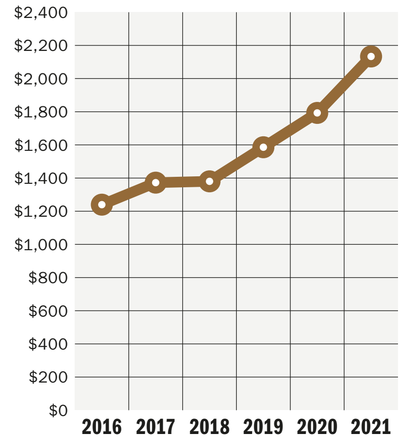
Managers of core bond strategies

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Vanguard Group	$411,458
2	NISA Investment	$306,425
3	State Street Global	$258,561
4	Prudential Financial	$214,708
5	Nuveen	$175,154
6	BlackRock	$129,857
7	Legal & General Investment	$106,797
8	Dodge & Cox	$56,600
9	Baird Advisors	$55,846
10	J.P. Morgan Asset Mgmt.	$32,263

Asset growth (billions)



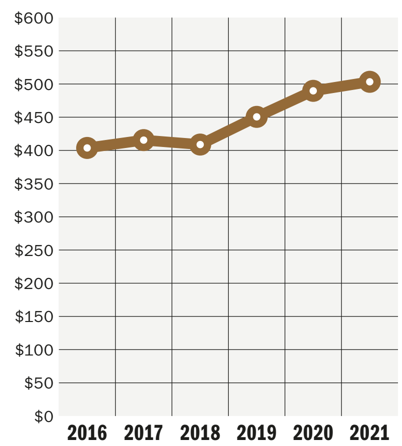
Managers of core-plus bond strategies

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	TCW Group	$101,457
2	PIMCO	$62,238
3	Loomis, Sayles	$47,364
4	Franklin Templeton	$39,436
5	Prudential Financial	$35,843
6	Baird Advisors	$27,754
7	State Street Global	$26,278
8	Victory Capital	$18,984
9	Principal Global Investors	$15,896
10	BlackRock	$13,803

Asset growth (billions)



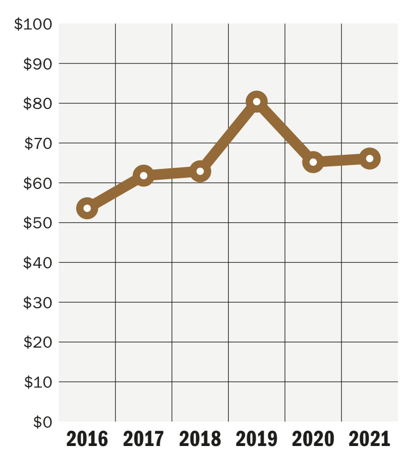
Managers of unconstrained bond strategies

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Great-West Investments	$18,072
2	Franklin Templeton	$13,426
3	Neuberger Berman	$6,502
4	Scout Investments	$6,220
5	TCW Group	$5,644
6	SLC Management	$4,909
7	PIMCO	$4,212
8	Prudential Financial	$1,880
9	American Century	$998
10	Voya Investment Mgmt.	$682

Asset growth (billions)



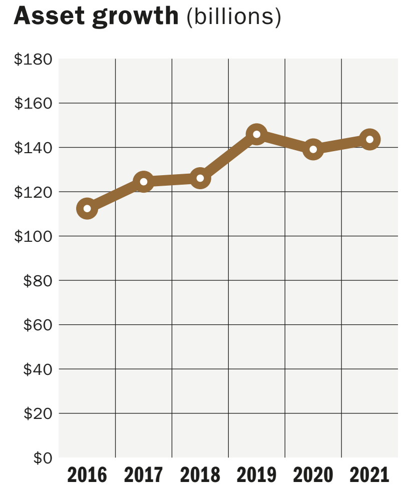
Managers of inflation-protected securities

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$31,895
2	Fidelity Investments	$16,320
3	Vanguard Group	$15,352
4	Northern Trust Asset Mgmt.	$12,644
5	Dimensional Fund Advisors	$11,810
6	BlackRock	$11,785
7	PIMCO	$11,435
8	Nuveen	$7,822
9	NISA Investment	$6,027
10	Income Research & Mgmt.	$2,558

Asset growth (billions)



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Senior management.... 38%
Investment.... 19%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total.... 37%
Senior management.... 12%
Investment.... 28%

Percent employee owned.... 8%

Parent company: Invesco Ltd.
Chief executive officer: Martin L. Flanagan
DC client contact: John Galateria

40 Janus Henderson Investors

201 Bishopsgate, London EC2M 3AE England; phone: 44-20-7818-1818; www.janushenderson.com

(millions)

Total assets managed worldwide.... $432,345
Total worldwide institutional assets.... $342,179
Total U.S. client assets.... $239,438
Total U.S. institutional client assets.... $156,490
Total U.S. RIA assets.... $11,034
Total U.S. tax-exempt assets.... $71,198
Total U.S. institutional tax-exempt.... $71,198
Internally managed.... $71,198

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity.... 82%
Fixed income.... 18%

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total.... $58,066
Internally managed.... $58,066

WORKFORCE

Total number of employees.... 2,235
Number of cybersecurity professionals.... 24
Number of U.S.-based employees.... 1,073

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total.... 38%
Senior management.... 25%
Investment.... 16%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total.... 26%
Senior management.... 10%
Investment.... 24%

Percent employee owned.... 5%

Primary custodian: State Street
Parent company: Janus Henderson Group PLC
Chief executive officer: Ali Dibadj
DC client contact: Russ Shipman

32 Kohlberg Kravis Roberts & Co. LP

30 Hudson Yards, New York, NY 10001; phone: 212-750-8300; www.kkr.com

(millions)

Total assets managed worldwide.... $470,555
Total worldwide institutional assets.... $439,194
Total U.S. client assets.... $328,669
Total U.S. institutional client assets.... $302,358
Total U.S. tax-exempt assets.... $75,931
Total U.S. institutional tax-exempt.... $73,061
Internally managed.... $73,061

WORLDWIDE ASSETS UNDER MANAGEMENT

ESG investing.... $1,807

WORKFORCE

Total number of employees.... 1,940
Number of U.S.-based employees.... 1,206

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total.... 43%
Senior management.... 23%
Investment.... 30%

Percent employee owned.... 30%

Primary custodian: J.P. Morgan
Chief executive officers: Joe Bae, Scott Nuttall

6 Legal & General Investment Management (Holdings) Ltd.

1 Coleman St., London EC2R 5AA England; phone: 44-20-3124-3000; www.lgim.com

(millions)

Total assets managed worldwide.... $1,923,258
Total worldwide institutional assets.... $1,845,640
Total U.S. client assets.... $172,485
Total U.S. institutional client assets.... $172,485
Total U.S. tax-exempt assets.... $164,817
Total U.S. institutional tax-exempt.... $164,817
Internally managed.... $164,817

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity.... 32%
Fixed income.... 66%
Derivatives.... 2%

INVESTMENT STRATEGIES

U.S. equity, passive.... $32,084
U.S. equity, enhanced index.... $4,885
Non-U.S. equity, passive.... $8,176
Non-U.S. equity, enhanced index.... $2,238
Global equity, passive.... $6,069
U.S. bond, active.... $105,479
U.S. bond, passive.... $3,264
Global/non-U.S. bond, active.... $98

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap.... $1,295
Midcap.... $80
Small-cap.... $39

CORE

Large-cap.... $25,248
Midcap.... $1,493
Small-cap.... $3,433
Broad-market.... $494

NON-U.S. STRATEGIES

Emerging markets equity.... $1,004
Emerging markets equity mandates.... $1,004

FIXED-INCOME STRATEGIES

Core.... $106,797
Core-plus.... $2,044
High-yield.... $98
High-yield mandates.... $98

LDI strategies.... $63,427

ESG investing.... $10,088
ESG mandates.... $10,088
Equity, passive.... $10,088

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets.... $746,983
U.S. 1940 Investment Co. Act.... $43,879
Sponsored ETFs/ETNs.... $12,039
Investment outsourcing mandates.... $4,339
LDI strategies.... $775,035
Managed for retirement plans.... $775,035
Factor-based strategies.... $70,813
ESG investing.... $392,370
ESG mandates.... $392,370

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total.... $51,144

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total.... $9,291
Internally managed.... $9,291

WORKFORCE

Total number of employees.... 2,426
Number of U.S.-based employees.... 250

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total.... 31%
Senior management.... 43%
Investment.... 17%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total.... 26%
Senior management.... 14%
Investment.... 14%

Parent company: Legal & General Group
Chief executive officer: Michelle Scrimgeour
Chief investment officer: Sonja Laud
U.S. client contact: Donald Andrews
DC client contact: Rob Capone

The assets of the following subsidiaries or affiliates are included in the figures above:

▸ **Legal & General Investment Management America Inc.:** total assets: $275 billion; U.S. institutional, tax-exempt assets: $164.8 billion; CIO: John Bender; client contact: Donald Andrews, phone: 312-585-0380, email: donald.andrews@lgima.com

38 Macquarie Asset Management

50 Martin Place, Sydney NSW 2000 Australia; phone: 61-2-8232-3708; www.macquarie.com

	(millions)
Total assets managed worldwide	$545,700
Total worldwide institutional assets	$363,072
Total U.S. client assets	$265,232
Total U.S. institutional client assets	$117,000
Total U.S. RIA assets	$148,232
Total U.S. tax-exempt assets	$55,086
Total U.S. institutional tax-exempt	$32,603
Assigned to external managers	$688
Internally managed	$31,915

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	38%
Fixed income	60%
Cash	1%
Other	1%

INVESTMENT STRATEGIES

U.S. equity, active	$11,116
Global equity, active	$1,476
U.S. bond, active	$18,203
Global/non-U.S. bond, active	$1,120

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap	$161
Midcap	$256
Small-cap	$140

VALUE

Large-cap	$5,723
Midcap	$1,078
Smidcap	$541
Small-cap	$279

CORE

Large-cap	$894
Smidcap	$713
Small-cap	$926
Broad-market	$405
REITs	$497

NON-U.S. STRATEGIES

Emerging markets equity	$1,109
Emerging markets equity mandates	$1,109
Emerging markets debt	$219
Emerging markets debt mandates	$219

FIXED-INCOME STRATEGIES

Core	$1,706
Core-plus	$11,343
High-yield	$463
High-yield mandates	$463
Bank loans	$105
LDI strategies	$1,805
ESG investing	$3,900
ESG mandates	$536
Equity, active	$536

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets	$581
Mutual fund assets	$164,606
U.S. 1940 Investment Co. Act	$72,268
LDI strategies	$5,212
Managed for retirement plans	$1,962
Proprietary stable value	$2,247
ESG investing	$14,100
ESG mandates	$7,200

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total	$4,224
Internally managed	$4,224

WORKFORCE

Total number of employees	2,033
Number of U.S.-based employees	795

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total	40%
Senior management	15%
Investment	28%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total	29%
Senior management	7%
Investment	24%

Primary custodian: BNY Mellon
Parent company: Macquarie Group

48 Manulife Investment Management

200 Bloor St. E., Toronto, ON M4W 1E5 Canada; phone: 617-375-1500; www.manulifeim.com

	(millions)
Total assets managed worldwide	$721,777
Total worldwide institutional assets	$282,881
Total U.S. client assets	$350,293
Total U.S. institutional client assets	$177,385
Total U.S. tax-exempt assets	$95,690
Total U.S. institutional tax-exempt	$95,690
Internally managed	$95,690

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets	$339,803
ESG investing	$357,663
ESG mandates	$114,248

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total	$77,993
Internally managed	$77,993

Primary custodian: State Street
Parent company: Manulife Financial Corp.
Chief executive officer: Paul Lorentz

35 Mercer

1166 Avenue of the Americas, New York, NY 10036; phone: 212-345-7000; www.mercer.com

	(millions)
Total assets managed worldwide	$415,327
Total worldwide institutional assets	$397,567
Total U.S. client assets	$152,726
Total U.S. institutional client assets	$152,726
Total U.S. tax-exempt assets	$152,710
Total U.S. institutional tax-exempt	$152,710
Assigned to external managers	$152,710

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund-of-fund assets	$7,111
Investment outsourcing mandates	$415,327
LDI strategies	$255,413
Managed for retirement plans	$255,413

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total	$74,971

WORKFORCE

Total number of employees	24,415
Number of U.S.-based employees	6,240

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total	59%
Senior management	37%
Investment	35%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total	23%
Senior management	11%
Investment	21%

Primary custodian: State Street
Parent company: Marsh McLennan
Chief executive officer: Christine Mahoney
Chief investment officer: Stan Mavromates
U.S. client contact: Rich Joseph
Other client contact: Samantha Davidson
DC client contact: Holly Verdeyen

20 MetLife Investment Management

1 MetLife Way, Whippany, NJ 07981; phone: 973-355-4000; www.metlife.com/investments

	(millions)
Total assets managed worldwide	$669,000
Total worldwide institutional assets	$669,000
Total U.S. client assets	$649,605
Total U.S. institutional client assets	$649,605
Total U.S. tax-exempt assets	$54,483
Total U.S. institutional tax-exempt	$54,483
Internally managed	$54,483

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Fixed income	95%

Continued on Page 36

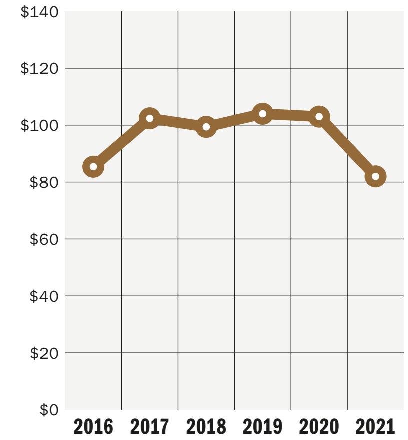
Managers of emerging markets debt assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Nuveen	$12,309
2	Wellington Mgmt.	$10,557
3	Prudential Financial	$9,056
4	TCW Group	$7,774
5	Ashmore Group	$6,700
6	Principal Global Investors	$4,555
7	PIMCO	$3,453
8	Stone Harbor Investment	$2,917
9	Franklin Templeton	$2,423
10	Colchester Global Investors	$2,390

Asset growth (billions)



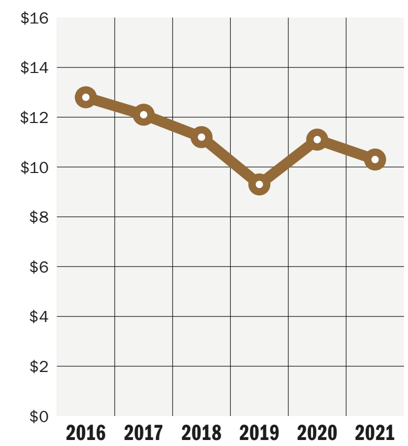
Managers of convertible securities

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Advent Capital	$5,805
2	Victory Capital	$1,858
3	Oaktree Capital	$818
4	Palisade Capital	$743
5	Income Research & Mgmt.	$356
6	New York Life Investments	$208
7	AAM	$145
8	Camden Asset Mgmt.	$126
9	Invesco	$101
10	GAMCO Investors	$91

Asset growth (billions)



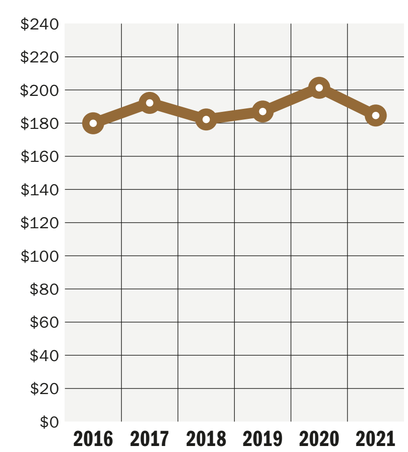
Managers of high-yield securities

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	New York Life Investments	$15,125
2	Fidelity Investments	$15,000
3	Nuveen	$11,784
4	Nomura Corporate Research	$11,158
5	Loomis, Sayles	$9,701
6	Franklin Templeton	$8,645
7	Principal Global Investors	$8,410
8	Shenkman Group	$8,020
9	Victory Capital	$7,916
10	Federated Hermes	$7,809

Asset growth (billions)



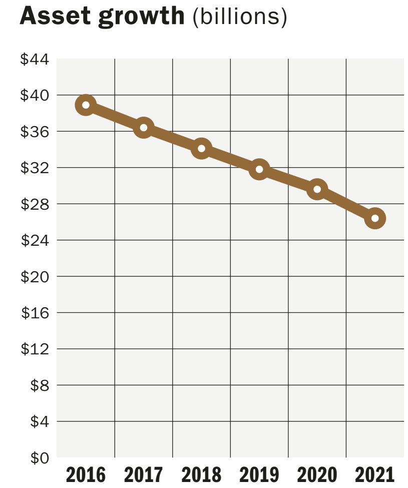
Managers of bank loans

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	PineBridge Investments	$6,614
2	Nuveen	$3,279
3	Pacific Asset Mgmt.	$2,844
4	Voya Investment Mgmt.	$2,552
5	T. Rowe Price Associates	$2,237
6	Beach Point Capital	$2,178
7	Loomis, Sayles	$1,210
8	Invesco	$1,182
9	Barings	$982
10	Neuberger Berman	$912

Asset growth (billions)



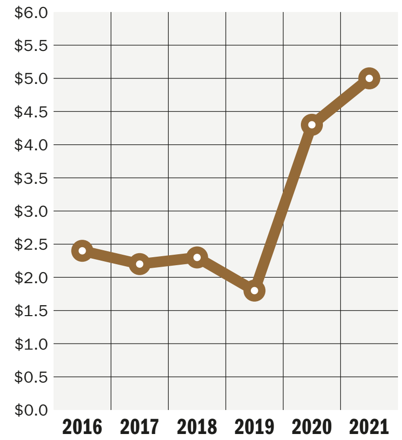
Managers of collateralized debt obligations

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	SLC Management	$2,350
2	Conning	$807
3	GAM USA	$618
4	Ares Mgmt.	$415
5	Franklin Templeton	$358
6	Barings	$227
7	Carmel Partners	$159
8	Putnam Investments	$57

Asset growth (billions)



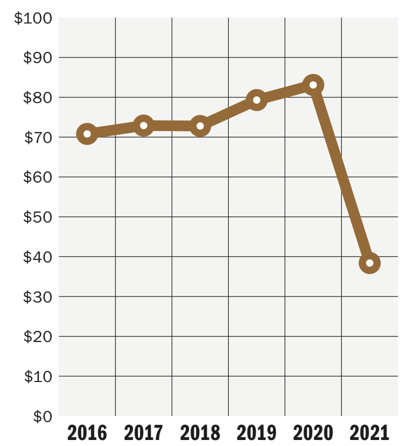
Managers of mortgages (whole loans)

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Prudential Financial	$19,096
2	Principal Global Investors	$8,695
3	Union Labor Life	$3,919
4	Heitman	$3,189
5	Prima Capital Advisors	$1,699
6	AEW Capital	$758
7	Federated Hermes	$554
8	Franklin Templeton	$364
9	T. Rowe Price Associates	$37
10	Amalgamated Bank	$34

Asset growth (billions)



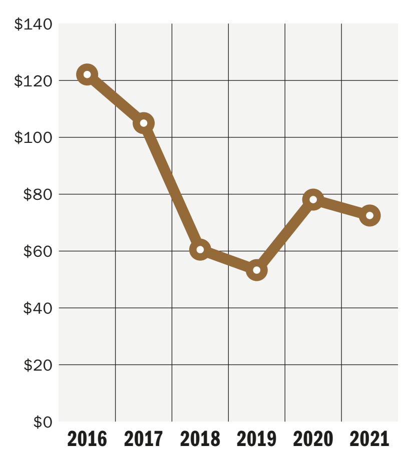
Managers of hedge fund assets*

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Wellington Mgmt.	$29,220
2	PIMCO	$7,471
3	Beach Point Capital	$4,809
4	Waterfall Asset Mgmt.	$3,068
5	Grantham, Mayo v. Otterloo	$2,899
6	King Street Capital	$2,800
7	Franklin Templeton	$2,789
8	BlackRock	$2,018
9	Prudential Financial	$1,869
10	Gramercy	$1,801

Asset growth (billions)



Managers of private equity assets**

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Nuveen	$14,624
2	State Street Global	$7,228
3	Oaktree Capital	$4,951
4	Neuberger Berman	$2,194
5	DuPont Capital	$2,015
6	Morgan Stanley Inv. Mgmt.	$1,930
7	Voya Investment Mgmt.	$1,749
8	Barings	$1,589
9	Unigestion	$1,499
10	Prudential Financial	$1,307

Asset growth (billions)

*Reported on a net basis. ** Excludes private equity assets broken out elsewhere.

Continued from Page 35

Equity real estate 5%

INVESTMENT STRATEGIES

U.S. equity, passive $105
U.S. bond, active $49,430
Global/non-U.S. bond, active $1,518
Equity real estate, domestic $2,954
Privately placed debt $476

NON-U.S. STRATEGIES

Emerging markets debt $1,518
Emerging markets debt mandates $1,518

FIXED-INCOME STRATEGIES

Core $272
Core-plus $1,505
High-yield $49
High-yield mandates $49

LDI strategies $7,854

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $302
U.S. 1940 Investment Co. Act $302
LDI strategies $7,854
Managed for retirement plans $306

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $1,041
Internally managed $1,041

WORKFORCE

Total number of employees 1,583
Number of cybersecurity professionals 159
Number of U.S.-based employees 1,217

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 35%
Senior management 17%
Investment 31%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 36%
Senior management 22%
Investment 27%

Parent company: MetLife Inc.
Chief investment officer: Steven J. Goulart
U.S. client contact: Brendan Kilfeather
Other client contacts: Nela D'Agosta (Global), Thomas Metzler (Global), Nigel Murdoch (Europe, Middle East & Africa), Maya Kiyokawa (Japan), Angus Campbell (Global)
DC client contact: Brendan Kilfeather

7 J.P. Morgan Asset Management

383 Madison Ave., New York, NY 10179; phone: 212-648-0523; www.jpmorgan.com/institutional

(millions)

Total assets managed worldwide $2,653,872
Total worldwide institutional assets $1,594,623
Total U.S. client assets $1,778,895
Total U.S. institutional client assets $1,098,819
Total U.S. RIA assets $103,167
Total U.S. tax-exempt assets $501,897
Total U.S. institutional tax-exempt $495,514
Assigned to external managers $15,492
Internally managed $480,022

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 38%
Fixed income 35%
Equity real estate 17%
Cash 8%
Other 2%
Other type: Currency, private credit

INVESTMENT STRATEGIES

U.S. equity, active $71,426
U.S. equity, passive $850
U.S. equity, enhanced index $3,649
Non-U.S. equity, active $40,397
Global equity, active $2
U.S. bond, active $99,961
Global/non-U.S. bond, active $8,261
Equity real estate, domestic $43,061
Equity real estate, non-U.S. $1,033
Hedge funds $1,106
Venture capital $380
Buyout funds $427
Infrastructure $7,002
Cash $23,889

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $3,498
Midcap $225
Small-cap $64
Broad-market $1,141

VALUE

Large-cap $3,238
Midcap $897
Small-cap $76
Broad-market $3,108

CORE

Large-cap $51,838
Small-cap $1,429
Broad-market $5,913

PASSIVE DOMESTIC EQUITY STRATEGIES

CORE

Large-cap $850

Low-volatility strategies $4,499
REITs $3,060

NON-U.S. STRATEGIES

Emerging markets equity $13,407
Emerging markets equity mandates $13,407
Emerging markets debt $1,024
Emerging markets debt mandates $1,024

FIXED-INCOME STRATEGIES

Core $32,263
Core-plus $8,480
Unconstrained $346
High-yield $4,320
High-yield mandates $4,320
Inflation-protected securities $244
Stable value $6,012

Risk-parity strategies $813
LDI strategies $19,089
ESG investing $465,263
ESG mandates $403
Equity, active $365
Bond, active $2

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $3,438
Hedge fund-of-fund assets $15,600
Mutual fund assets $1,474,868
U.S. 1940 Investment Co. Act $928,725
Sponsored ETFs/ETNs $78,017
Actively managed $39,538
Investment outsourcing mandates $33,647
LDI strategies $107,366
Managed for retirement plans $23,056
Proprietary stable value $11,636
Factor-based strategies $15,922
ESG investing $2,572,273
ESG mandates $11,506

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $52,773

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $287,140
Internally managed $283,139

WORKFORCE

Total number of employees 7,384
Number of cybersecurity professionals 1,446
Number of U.S.-based employees 3,202

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 40%
Senior management 21%
Investment 25%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 36%
Senior management 16%
Investment 23%

Percent employee owned 3%

Parent company: J.P. Morgan Chase & Co.
Chief executive officer: George Gatch
U.S. client contact: Andrea Lisher
Other client contact: Keith Cahill
DC client contact: Jennifer Archer

22 Morgan Stanley Investment Management

522 Fifth Ave., New York, NY 10036; phone: 212-761-4000; www.morganstanley.com/im

	(millions)
Total assets managed worldwide	$1,492,849
Total worldwide institutional assets	$588,032
Total U.S. client assets	$1,133,498
Total U.S. institutional client assets	$267,589
Total U.S. tax-exempt assets	$293,152
Total U.S. institutional tax-exempt	$243,953
Assigned to external managers	$5,976
Internally managed	$237,977

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	29%
Fixed income	14%
Equity real estate	11%
Private equity	2%
Cash	4%
Alternatives	40%

INVESTMENT STRATEGIES

U.S. equity, active	$26,661
Non-U.S. equity, active	$16,077
Non-U.S. equity, passive	$13,207
Global equity, active	$11,962
U.S. bond, active	$24,472
Global/non-U.S. bond, active	$7,758
Equity real estate, domestic	$24,683
Equity real estate, non-U.S.	$669
Hedge funds	$13
Infrastructure	$1,910
Private equity, domestic	$414
Private equity, non-U.S.	$1,516
Privately placed debt	$3,195
Energy	$32
Commodities	$298
Cash	$9,043
Risk-parity strategies	$213
LDI strategies	$9,550
ESG investing	$77,345
ESG mandates	$48,616
Equity, active	$27,471
Equity, passive	$2,382
Bond, active	$18,763

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets	$4,581
Hedge fund-of-fund assets	$18,380
Mutual fund assets	$738,347
U.S. 1940 Investment Co. Act	$544,293
Investment outsourcing mandates	$20,976
LDI strategies	$9,707
Managed for retirement plans	$9,707
Factor-based strategies	$11,788
ESG investing	$483,314
ESG mandates	$48,616

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total	$96,066

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total	$12,012
Internally managed	$12,012

WORKFORCE

Total number of employees	4,190
Number of U.S.-based employees	3,054

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total	38%
Senior management	29%
Investment	26%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total	33%
Senior management	21%
Investment	31%

Primary custodian: State Street

Parent company: Morgan Stanley

U.S. client contact: Susan Brengle

DC client contact: James Costabile

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Atlanta Capital:** total assets: $23.1 billion; U.S. institutional, tax-exempt assets: $7 billion; client contact: Kelly Williams, phone: 404-682-2528
- **Calvert Research and Management:** total assets: $38.7 billion; U.S. institutional, tax-exempt assets: $277 million; client contact: Susan Brengle, phone: 617-672-8540
- **Eaton Vance Management:** total assets: $178.6 billion; U.S. institutional, tax-exempt assets: $10.9 billion; client contact: Susan Brengle, phone: 617-672-8540
- **Parametric Portfolio Associates:** total assets: $397.1 billion; U.S. institutional, tax-exempt assets: $125.3 billion; client contact: Rob Ciro, phone: 206-381-6441

46 Neuberger Berman

1290 Avenue of the Americas, New York, NY 10104; phone: 212-476-9000; www.nb.com

	(millions)
Total assets managed worldwide	$460,476
Total worldwide institutional assets	$313,097
Total U.S. client assets	$269,588
Total U.S. institutional client assets	$150,420
Total U.S. tax-exempt assets	$133,377
Total U.S. institutional tax-exempt	$112,982
Assigned to external managers	$20,151
Internally managed	$92,831

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity	31%
Fixed income	51%
Equity real estate	5%
Private equity	9%
Other	4%

Other type: Alternatives, quantitative, multiasset

INVESTMENT STRATEGIES

U.S. equity, active	$23,384
Non-U.S. equity, active	$4,673
Global equity, active	$878
U.S. bond, active	$40,500
U.S. bond, passive	$2,219
U.S. bond, enhanced index	$1,698
Global/non-U.S. bond, active	$2,376
Equity real estate, domestic	$4,644
Hedge funds	$371
Private equity, domestic	$2,194
Privately placed debt	$1,773

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap	$514
Midcap	$1,012
Small-cap	$131

VALUE

Large-cap	$1,175
Midcap	$6
Smidcap	$186
Small-cap	$1,100
Broad-market	$95

CORE

Large-cap	$1,993
Small-cap	$8,827
Broad-market	$4,804
Low-volatility strategies	$3,519
REITs	$428

NON-U.S. STRATEGIES

Emerging markets equity	$1,758
Emerging markets equity mandates	$1,758
Emerging markets debt	$1,192
Emerging markets debt mandates	$1,192

FIXED-INCOME STRATEGIES

Core	$4,938
Core-plus	$3,783
Unconstrained	$6,502
High-yield	$6,037
High-yield mandates	$6,037
Inflation-protected securities	$1,033
Bank loans	$912
Risk-parity strategies	$1,147
LDI strategies	$3,648
ESG investing	$77,184

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets	$7,670
Hedge fund-of-fund assets	$7,692
Mutual fund assets	$91,717
U.S. 1940 Investment Co. Act	$55,993

Continued on Page 38

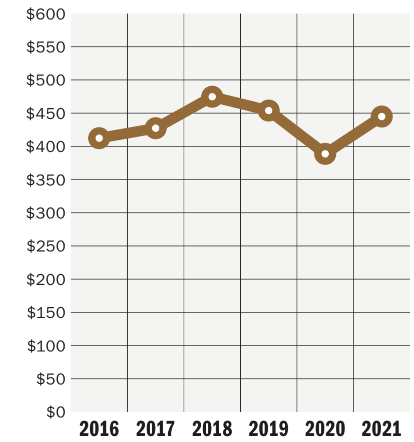
Managers of real estate equity assets*

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Nuveen	$55,431
2	J.P. Morgan Asset Mgmt.	$44,094
3	Invesco	$36,217
4	Franklin Templeton	$26,335
5	Morgan Stanley Inv. Mgmt.	$25,352
6	Brookfield Asset Mgmt.	$24,501
7	Principal Global Investors	$21,118
8	Heitman	$20,949
9	AEW Capital	$18,416
10	State Street Global	$15,357

Asset growth (billions)



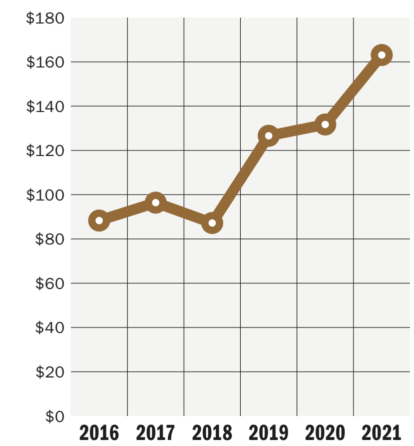
Managers of REIT assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Prudential Financial	$33,720
2	Dimensional Fund Advisors	$25,795
3	Principal Global Investors	$17,065
4	Vanguard Group	$13,568
5	Northern Trust Asset Mgmt.	$13,351
6	Cohen & Steers	$8,682
7	State Street Global	$8,305
8	CenterSquare Investment	$8,248
9	BlackRock	$8,164
10	AEW Capital	$4,262

Asset growth (billions)



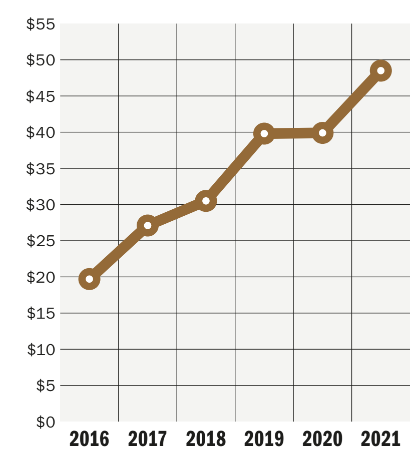
Managers of infrastructure assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Brookfield Asset Mgmt.	$16,841
2	IFM Investors	$13,318
3	J.P. Morgan Asset Mgmt.	$7,002
4	Ullico Investment	$2,665
5	Nuveen	$2,049
6	Morgan Stanley Inv. Mgmt.	$1,910
7	Cohen & Steers	$1,750
8	CBRE Investment	$1,700
9	Franklin Templeton	$471
10	StepStone Group	$370

Asset growth (billions)



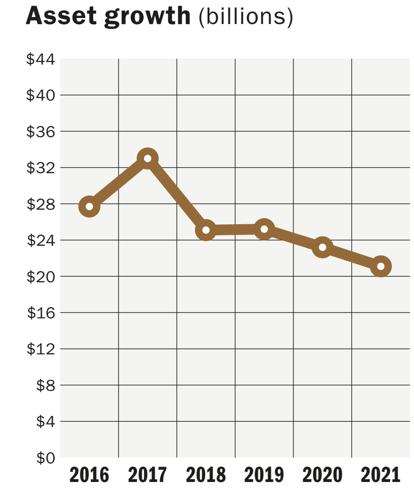
Managers of commodities

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$7,595
2	PIMCO	$3,978
3	CoreCommodity	$2,714
4	Invesco	$1,865
5	Victory Capital	$1,835
6	Dimensional Fund Advisors	$1,235
7	BlackRock	$1,012
8	Morgan Stanley Inv. Mgmt.	$298
9	Prudential Financial	$217
10	MFS Investment	$197

Asset growth (billions)



*Net of leverage.

THE Largest Money Managers

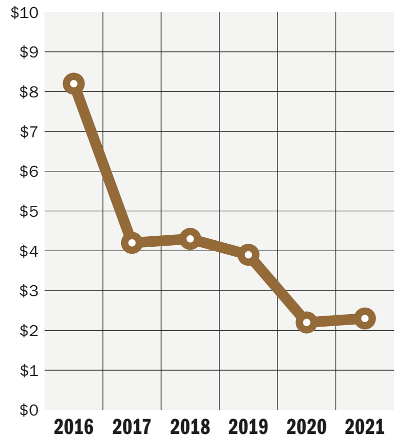
Managers of venture capital

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Adams Street Partners	$1,160
2	Wexford Capital	$400
3	J.P. Morgan Asset Mgmt.	$380
4	StepStone Group	$313
5	Invesco	$24
6	PineBridge Investments	$2

Asset growth (billions)



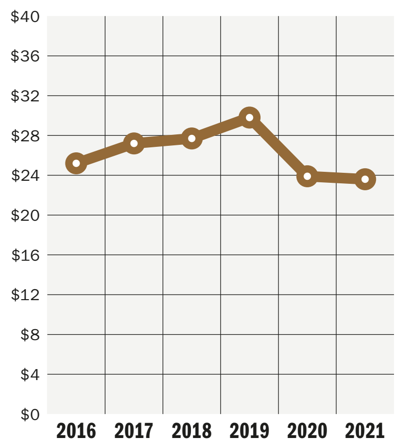
Managers of buyout funds

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Brookfield Asset Mgmt.	$10,187
2	Ares Mgmt.	$7,658
3	New York Life Investments	$1,851
4	Twin Bridge Capital	$1,663
5	Adams Street Partners	$966
6	StepStone Group	$865
7	J.P. Morgan Asset Mgmt.	$427
8	PineBridge Investments	$5

Asset growth (billions)



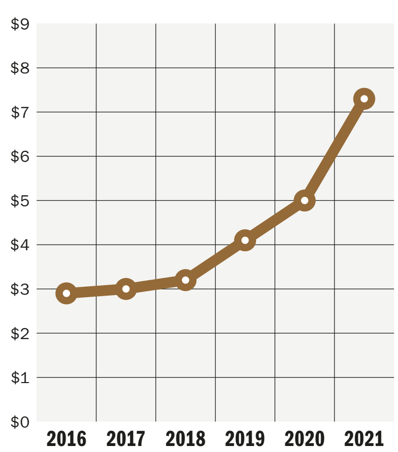
Managers of mezzanine debt

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	SLC Management	$2,600
2	Invesco	$1,540
3	Brookfield Asset Mgmt.	$1,288
4	Oaktree Capital	$793
5	AEW Capital	$758
6	Barings	$142
7	Rockwood Capital	$63
8	StepStone Group	$62
9	TCW Group	$33
10	Prudential Financial	$27

Asset growth (billions)



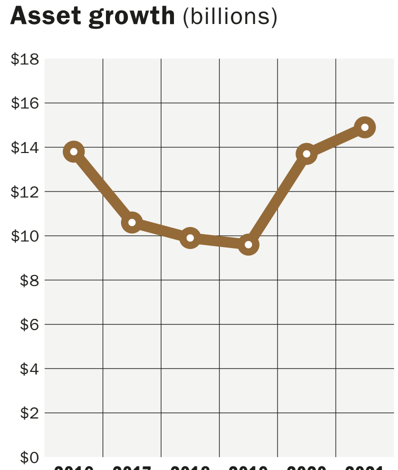
Managers of distressed debt

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Oaktree Capital	$11,129
2	Ares Mgmt.	$2,176
3	Invesco	$767
4	Beach Point Capital	$703
5	Barings	$66
6	StepStone Group	$35
7	Prudential Financial	$33
8	SLC Management	$3

Asset growth (billions)



Continued from Page 37

Investment outsourcing mandates $1,916
LDI strategies $4,159
Factor-based strategies $8,893
Cryptocurrency assets $52
ESG investing $395,741

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $17,729
Internally managed $17,723

WORKFORCE

Total number of employees 2,443
Number of U.S.-based employees 1,777

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 36%
Senior management 27%
Investment 20%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 34%
Senior management 24%
Investment 26%

Percent employee owned 100%

Primary custodian: State Street
Chief executive officer: George Walker
Chief investment officers: Joseph Amato, Brad Tank, Anthony Tutrone, Erik Knutzen
U.S. client contact: Matt Malloy
Other client contact: Lesley Nurse
DC client contact: Scott Kilgallen

27 New York Life Investments

51 Madison Ave., New York, NY 10010; phone: 212-576-7000; www.nylim.com

(millions)

Total assets managed worldwide $710,455
Total worldwide institutional assets $503,370
Total U.S. client assets $492,308
Total U.S. institutional client assets $373,950
Total U.S. RIA assets $373,950
Total U.S. tax-exempt assets $69,126
Total U.S. institutional tax-exempt $64,303
Assigned to external managers $1,177
Internally managed $63,126

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 2%
Fixed income 79%
Equity real estate 13%
Private equity 4%
Hedge funds 1%
Convertibles 1%

INVESTMENT STRATEGIES

U.S. equity, passive $444
Non-U.S. equity, active $636
U.S. bond, active $47,096
Equity real estate, domestic $1,614
Equity real estate, non-U.S. $2,731
Buyout funds $1,851
Private equity, domestic $659
Privately placed debt $3,493
Mezzanine debt $26
Convertible securities $208
Cash $116

FIXED-INCOME STRATEGIES

Core $3,013
Core-plus $9,282
Unconstrained $296
High-yield $15,125
Stable value $8,277

ESG investing $40,942

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $6,962
Hedge fund-of-fund assets $1,593
Mutual fund assets $212,287
U.S. 1940 Investment Co. Act $103,694
Sponsored ETFs/ETNs $5,488
Actively managed $1,828
Investment outsourcing mandates $925
LDI strategies $21,284
Managed for retirement plans $1,258
Proprietary stable value $17,203
Factor-based strategies $8,425
ESG investing $300,859
ESG mandates $45,533

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $11,432
Internally managed $11,432

WORKFORCE

Total number of employees 1,898

Parent company: New York Life Insurance Co.
Chief executive officer: Yie-Hsin Hung

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Apogem Capital LLC:** total assets: $37 billion; U.S. institutional, tax-exempt assets: $3.7 billion; client contact: Devan Marshall, phone: 804-289-6000
- **MacKay Shields LLC:** total assets: $163.7 billion; U.S. institutional, tax-exempt assets: $41.4 billion; client contact: John Akkerman, phone: 212-230-3805

44 NISA Investment Advisors LLC

101 S. Hanley Road, Suite 1700, St. Louis, MO 63105; phone: 314-721-1900; www.nisa.com

(millions)

Total assets managed worldwide $333,607
Total worldwide institutional assets $333,607
Total U.S. client assets $332,727
Total U.S. institutional client assets $332,727
Total U.S. tax-exempt assets $309,239
Total U.S. institutional tax-exempt $309,239
Internally managed $309,239

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 1%
Fixed income 99%

INVESTMENT STRATEGIES

U.S. equity, active $100
U.S. equity, passive $2,432
Non-U.S. equity, passive $281
U.S. bond, active $306,425

ACTIVE DOMESTIC EQUITY STRATEGIES

CORE

Large-cap $75
Smidcap $25

PASSIVE DOMESTIC EQUITY STRATEGIES

CORE

Large-cap $1,564
Small-cap $41
Broad-market $674

REITs $674

NON-U.S. STRATEGIES

Emerging markets equity $61

FIXED-INCOME STRATEGIES

Core $306,425
Inflation-protected securities $6,027
Stable value $1,624

LDI strategies $278,401
ESG investing $8,599

WORLDWIDE ASSETS UNDER MANAGEMENT

LDI strategies $282,125
Proprietary stable value $1,624
Factor-based strategies $239
ESG investing $9,192

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $193,598

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $1,907
Internally managed $1,907

WORKFORCE

Total number of employees 344
Number of cybersecurity professionals 6
Number of U.S.-based employees 344

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 28%
Senior management 12%
Investment 21%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 15%
Senior management 9%

Investment 17%
Percent employee owned 100%
Parent company: NISA LLC
Chief executive officer: David G. Eichhorn
U.S. client contact: Gregory J. Yess
DC client contact: Robert Krebs

13 Northern Trust Asset Management

50 S. LaSalle St., Chicago, IL 60603; phone: 312-630-6000; www.northerntrust.com/asset-management/united-states

(millions)

Total assets managed worldwide $1,347,283
Total worldwide institutional assets $1,048,222
Total U.S. client assets $1,138,527
Total U.S. institutional client assets $839,500
Total U.S. tax-exempt assets $588,848
Total U.S. institutional tax-exempt $558,540
Assigned to external managers $36,304
Internally managed $522,236

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 75%
Fixed income 13%
Cash 12%

INVESTMENT STRATEGIES

U.S. equity, active $4,026
U.S. equity, passive $303,082
Non-U.S. equity, passive $81,889
U.S. bond, active $4,241
U.S. bond, passive $64,640
Global/non-U.S. bond, passive $94
Hedge funds $467
Private equity, domestic $338
Cash $63,458

ACTIVE DOMESTIC EQUITY STRATEGIES

VALUE

Large-cap $268
Small-cap $77

CORE

Large-cap $2,758
Small-cap $923

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $37,685
Midcap $106
Small-cap $8,936

VALUE

Large-cap $25,366
Midcap $403
Small-cap $8,357

CORE

Large-cap $163,130
Midcap $8,511
Smidcap $1,177
Small-cap $2,563
Broad-market $46,848

Low-volatility strategies $1,688
REITs $13,351

NON-U.S. STRATEGIES

Emerging markets equity $15,367
Emerging markets equity mandates $15,363
Frontier markets equity $4

FIXED-INCOME STRATEGIES

Core $2,239
High-yield $240
Inflation-protected securities $12,644
LDI strategies $12,413
ESG investing $15,317
ESG mandates $1,873
Equity, passive $1,873

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund-of-fund assets $1,335
Mutual fund assets $332,029
U.S. 1940 Investment Co. Act $274,795
Sponsored ETFs/ETNs $20,110
Actively managed $418
Investment outsourcing mandates $90,409
LDI strategies $13,152
Factor-based strategies $75,078
ESG investing $168,780
ESG mandates $80,222

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

(NOTIONAL VALUE)

Total $705

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $240,011
Internally managed $240,011

WORKFORCE

Total number of employees 950
Number of U.S.-based employees 611

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 38%
Senior management 34%
Investment 31%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 27%
Senior management 21%
Investment 26%

Percent employee owned 3%
Primary custodian: Northern Trust
Parent company: Northern Trust Co.
Chief investment officer: Angelo Manioudakis
U.S. client contacts: John Abunassar, Jason Tyler

17 Nuveen

730 Third Ave., New York, NY 10017; phone: 800-842-2733; www.nuveen.com

(millions)

Total assets managed worldwide $1,261,741
Total worldwide institutional assets $857,760
Total U.S. client assets $1,192,757
Total U.S. institutional client assets $789,121
Total U.S. tax-exempt assets $637,824
Total U.S. institutional tax-exempt $637,824
Internally managed $637,824

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 39%
Fixed income 34%
Equity real estate 9%
Private equity 2%
Other 16%
Other type: Alternatives, asset allocation, balanced, structured

INVESTMENT STRATEGIES

U.S. equity, active $105,447
U.S. equity, passive $54,899
Non-U.S. equity, active $40,588
Non-U.S. equity, passive $9,738
Global equity, active $34,548
Global equity, passive $4
U.S. bond, active $198,572
Global/non-U.S. bond, active $12,309
Equity real estate, domestic $49,573
Equity real estate, non-U.S. $4,414
Real estate debt $41,265
Timber $1,444
Infrastructure $2,049
Private equity, domestic $14,624
Privately placed debt $56,275
Energy $381

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $24,606
Midcap $132
Small-cap $1,152

VALUE

Large-cap $9,511
Small-cap $1,153

CORE

Large-cap $66,621
Smidcap $1,375
Small-cap $896

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $25,902

VALUE

Large-cap $40

CORE

Large-cap $27,508
Smidcap $154
Small-cap $1,295
REITs $1,638

Continued on Page 40

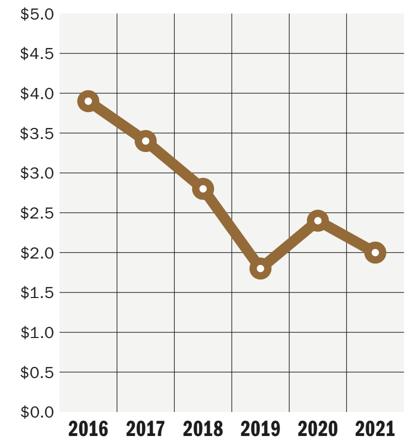
Managers of energy assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Victory Capital	$795
2	Ares Mgmt.	$711
3	Nuveen	$381
4	StepStone Group	$67
5	Morgan Stanley Inv. Mgmt.	$32

Asset growth (billions)



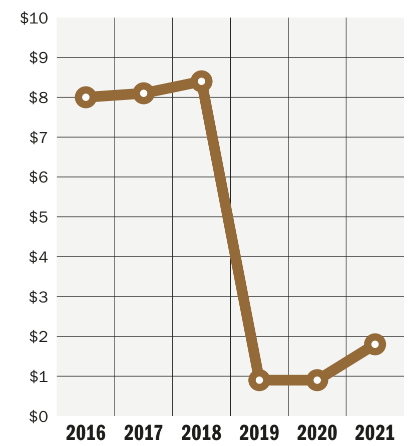
Managers of MLPs

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$1,237
2	Franklin Templeton	$320
3	Invesco	$202
4	Cohen & Steers	$51

Asset growth (billions)



Women & minority-owned managers

As of Dec. 31.

- Adelante Capital
- Advent Capital
- Aetos Alternatives
- Affinity Investment Advisors
- Alger
- Antara Capital
- Argus Investors' Counsel
- Ariel Investments
- Ativo Capital Mgmt.
- Attucks Asset Mgmt.
- Bivium Capital
- Brown Capital
- Cadinha
- Campbell Newman Asset
- Causeway Capital
- Channing Capital
- Denali Advisors
- EARNEST Partners
- Edgar Lomax
- Garcia Hamilton
- GIA Partners
- Gifford Fong Associates
- GlobeFlex Capital
- Glovista Investments
- Hardman Johnston Global
- Leading Edge Investment
- LM Capital Group
- Longfellow Investment
- Mar Vista Investment
- New Century Advisors
- Nicholas Co.
- Oak Associates
- Orleans Capital
- Paradigm Capital
- Phocas Financial
- Pugh Capital
- Ramirez Asset Mgmt.
- Redwood Investments
- RhumbLine Advisers
- Robinson Value Mgmt.
- Semper Capital
- Simplex Asset Mgmt.
- Sit Investment
- Smith Graham
- Sprucegrove Investment
- Stacey Braun Associates
- StoneRidge PMG Advisors
- TerraCotta Group
- Weatherbie Capital
- Westwood Global
- Wright Investors' Service
- Zevenbergen Capital

Continued from Page 39

NON-U.S. STRATEGIES
Emerging markets equity ... $11,784
Emerging markets debt ... $12,309
Emerging markets debt mandates ... $12,309

FIXED-INCOME STRATEGIES
Core ... $175,154
High-yield ... $11,784
High-yield mandates ... $3,962
Inflation-protected securities ... $7,822
Stable value ... $2,652
Bank loans ... $3,279

LDI strategies ... $4,117
ESG investing ... $637,824
ESG mandates ... $48,634
Equity, active ... $1,252
Equity, passive ... $14,221
Bond, active ... $10,444

WORLDWIDE ASSETS UNDER MANAGEMENT
Hedge fund assets ... $285
Mutual fund assets ... $404,157
U.S. 1940 Investment Co. Act ... $404,157
Sponsored ETFs/ETNs ... $11,415
Actively managed ... $39
LDI strategies ... $4,117
Managed for retirement plans ... $4,117
Proprietary stable value ... $2,652
ESG investing ... $1,261,740
ESG mandates ... $48,634

OVERLAY STRATEGIES
U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)
Total ... $14,256

DEFINED CONTRIBUTION ASSETS
U.S. INSTITUTIONAL TAX-EXEMPT
Total ... $604,160
Internally managed ... $604,160

WORKFORCE
Total number of employees ... 17,876
Number of cybersecurity professionals ... 211

Primary custodian: BNY Mellon
Parent company: TIAA
Chief executive officer: Jose Minaya
Chief investment officer: Saira Malik
U.S. client contact: Elizabeth Sansone

12 Pacific Investment Management Co. LLC

650 Newport Center Drive, Newport Beach, CA 92660; phone: 949-720-6000; www.pimco.com

(millions)
Total assets managed worldwide ... $1,714,696
Total worldwide institutional assets ... $1,060,866
Total U.S. client assets ... $1,019,518
Total U.S. institutional client assets ... $576,933
Total U.S. tax-exempt assets ... $351,412
Total U.S. institutional tax-exempt ... $343,508
Internally managed ... $343,508

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
Equity ... 7%
Fixed income ... 79%
Private equity ... 1%
Hedge funds ... 1%
Cash ... 5%
Other ... 7%
Other type: Commodities, real estate, asset allocation, ARS

INVESTMENT STRATEGIES
U.S. equity, active ... $9,227
U.S. equity, enhanced index ... $6,841
Non-U.S. equity, active ... $3,996
Non-U.S. equity, enhanced index ... $2,643
Global equity, active ... $1,404
U.S. bond, active ... $272,874
Global/non-U.S. bond, active ... $19,408
Hedge funds ... $7,471
Commodities ... $3,978
Cash ... $15,666

ACTIVE DOMESTIC EQUITY STRATEGIES
VALUE
Large-cap ... $5,762
Small-cap ... $4

NON-U.S. STRATEGIES
Emerging markets equity ... $1,205
Emerging markets equity mandates ... $1,205
Emerging markets debt ... $3,453
Emerging markets debt mandates ... $3,453

FIXED-INCOME STRATEGIES
Core ... $9,284
Core-plus ... $62,238
Unconstrained ... $4,212
High-yield ... $5,761
High-yield mandates ... $5,761
Inflation-protected securities ... $11,435
Stable value ... $24,850
Bank loans ... $406

LDI strategies ... $161,647
ESG investing ... $8,539
ESG mandates ... $660
Bond, active ... $660

WORLDWIDE ASSETS UNDER MANAGEMENT
Hedge fund assets ... $22,611
Mutual fund assets ... $1,046,008
U.S. 1940 Investment Co. Act ... $566,244
Sponsored ETFs/ETNs ... $36,189
Actively managed ... $28,852
LDI strategies ... $186,032
Managed for retirement plans ... $179,269
Proprietary stable value ... $24,850
Factor-based strategies ... $17,569
ESG investing ... $231,473
ESG mandates ... $73,691

DEFINED CONTRIBUTION ASSETS
U.S. INSTITUTIONAL TAX-EXEMPT
Total ... $126,901
Internally managed ... $126,901

WORKFORCE
Total number of employees ... 3,122
Number of U.S.-based employees ... 2,221

PERCENT U.S.-BASED FEMALE EMPLOYEES
Total ... 36%
Senior management ... 28%
Investment ... 21%

PERCENT U.S.-BASED MINORITY EMPLOYEES
Total ... 48%
Senior management ... 10%
Investment ... 50%

Parent company: Allianz Asset Management
Chief executive officer: Emmanuel Roman
Chief investment officer: Daniel Ivascyn
DC client contact: James Bentley

16 T. Rowe Price Associates Inc.

100 E. Pratt St., Baltimore, MD 21202-1009; phone: 410-345-2000; www.troweprice.com

(millions)
Total assets managed worldwide ... $1,640,900
Total worldwide institutional assets ... $899,606
Total U.S. client assets ... $1,496,279
Total U.S. institutional client assets ... $808,062
Total U.S. tax-exempt assets ... $905,871
Total U.S. institutional tax-exempt ... $763,853
Internally managed ... $763,853

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
Equity ... 93%
Fixed income ... 7%

INVESTMENT STRATEGIES
U.S. equity, active ... $646,093
U.S. equity, passive ... $2,493
U.S. equity, enhanced index ... $23,831
Non-U.S. equity, active ... $16,696
Non-U.S. equity, passive ... $125
Global equity, active ... $16,913
U.S. bond, active ... $53,370
U.S. bond, passive ... $1,581
U.S. bond, enhanced index ... $58
Global/non-U.S. bond, active ... $1,125
Cash ... $1,567

ACTIVE DOMESTIC EQUITY STRATEGIES
GROWTH
Large-cap ... $531,238
Midcap ... $31,308
Small-cap ... $18,819

VALUE
Large-cap ... $25,743
Midcap ... $6,133
Small-cap ... $3,997

CORE
Large-cap ... $13,501
Midcap ... $4,157
Small-cap ... $11,196

PASSIVE DOMESTIC EQUITY STRATEGIES
CORE
Large-cap ... $2,374
Midcap ... $119

REITs ... $234

NON-U.S. STRATEGIES
Emerging markets equity ... $5,396
Emerging markets equity mandates ... $5,396
Emerging markets debt ... $164
Emerging markets debt mandates ... $164

FIXED-INCOME STRATEGIES
Core ... $2,241
Core-plus ... $482
Unconstrained ... $126
High-yield ... $6,066
Inflation-protected securities ... $158
Stable value ... $31,465
Mortgages (whole loans) ... $37
Bank loans ... $2,237

LDI strategies ... $7,902

WORLDWIDE ASSETS UNDER MANAGEMENT
Mutual fund assets ... $926,996
U.S. 1940 Investment Co. Act ... $872,335
Sponsored ETFs/ETNs ... $613
LDI strategies ... $7,902
Proprietary stable value ... $33,266
ESG investing ... $17,387
ESG mandates ... $17,387

DEFINED CONTRIBUTION ASSETS
U.S. INSTITUTIONAL TAX-EXEMPT
Total ... $694,021
Internally managed ... $694,021

WORKFORCE
Total number of employees ... 7,529
Percent employee owned ... 9%

Parent company: T. Rowe Price Group Inc.
Chief executive officer: Rob Sharps

23 Principal Global Investors

801 Grand Ave., Des Moines, IA 50392-0490; phone: 800-533-1390; www.principalglobal.com

(millions)
Total assets managed worldwide ... $573,474
Total worldwide institutional assets ... $536,190
Total U.S. client assets ... $507,414
Total U.S. institutional client assets ... $473,262
Total U.S. RIA assets ... $175,995
Total U.S. tax-exempt assets ... $368,466
Total U.S. institutional tax-exempt ... $368,466
Assigned to external managers ... $36,656
Internally managed ... $331,810

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
Equity ... 50%
Fixed income ... 37%
Equity real estate ... 12%
Cash ... 1%

INVESTMENT STRATEGIES
U.S. equity, active ... $62,292
U.S. equity, passive ... $64,682
Non-U.S. equity, active ... $29,408
Non-U.S. equity, passive ... $1,662
Global equity, active ... $6,980
Global equity, passive ... $664
U.S. bond, active ... $89,986
U.S. bond, passive ... $15,094
Global/non-U.S. bond, active ... $12,728
Equity real estate, domestic ... $21,118
Hedge funds ... $181
Direct lending ... $5,786
Cash ... $1,932

ACTIVE DOMESTIC EQUITY STRATEGIES
GROWTH
Large-cap ... $9,718
Midcap ... $1,026
Smidcap ... $65
Small-cap ... $77

VALUE
Large-cap ... $9,743
Smidcap ... $1,087
Small-cap ... $74

CORE
Large-cap ... $1,401
Midcap ... $26,283
Small-cap ... $2,486

PASSIVE DOMESTIC EQUITY STRATEGIES
GROWTH
Large-cap ... $1,537
Midcap ... $163
Small-cap ... $264

VALUE
Large-cap ... $812
Midcap ... $299
Small-cap ... $136

CORE
Large-cap ... $44,822
Midcap ... $8,293
Small-cap ... $8,356

REITs ... $17,065

NON-U.S. STRATEGIES
Emerging markets equity ... $7,690
Emerging markets equity mandates ... $7,690
Emerging markets debt ... $4,555
Emerging markets debt mandates ... $4,555

FIXED-INCOME STRATEGIES
Core-plus ... $15,896
High-yield ... $8,410
High-yield mandates ... $6,840
Stable value ... $21,126
Mortgages (whole loans) ... $8,695
Bank loans ... $538

LDI strategies ... $6,971
ESG investing ... $2,513
ESG mandates ... $2,513
Equity, active ... $1,176
Bond, active ... $1,337

WORLDWIDE ASSETS UNDER MANAGEMENT
Hedge fund assets ... $320
Mutual fund assets ... $214,921
U.S. 1940 Investment Co. Act ... $173,136
Sponsored ETFs/ETNs ... $4,990
Actively managed ... $1,493
LDI strategies ... $7,110
Managed for retirement plans ... $6,971
Proprietary stable value ... $21,126
Factor-based strategies ... $4,050
ESG investing ... $11,296
ESG mandates ... $11,296

DEFINED CONTRIBUTION ASSETS
U.S. INSTITUTIONAL TAX-EXEMPT
Total ... $130,670
Internally managed ... $130,670

WORKFORCE
Total number of employees ... 1,835
Number of U.S.-based employees ... 1,465

PERCENT U.S.-BASED FEMALE EMPLOYEES
Total ... 41%
Senior management ... 33%
Investment ... 29%

PERCENT U.S.-BASED MINORITY EMPLOYEES
Total ... 11%
Senior management ... 11%
Investment ... 12%

Percent employee owned ... 5%

Primary custodian: BNY Mellon
Parent company: Principal Financial Group
Chief executive officer: Pat Halter

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Claritas Administracao de Recursos Ltda.**
- **Edge Asset Management:** total assets: $18.3 billion; U.S. institutional, tax-exempt assets: $12.7 billion; client contact: Jaime Kiehn, phone: 206-913-5842
- **Origin Asset Management LLP:** total assets: $6.4 billion; U.S. institutional, tax-exempt assets: $4.2 billion; CIO: Nigel Dutson; client contact: Nigel Dutson, phone: 44-20-7812-8500
- **Post Advisory Group:** total assets: $15.5 billion; U.S. institutional, tax-exempt assets: $3.1 billion; CIO: Jeffrey Stroll; client contact: Hugh Costello, phone: 310-996-9727
- **Principal Real Estate Investors LLC:** total

assets: $102.8 billion; U.S. institutional, tax-exempt assets: $60.6 billion; client contact: Michelle Fang, phone: 203-858-9649, email: fang.michelle@principal.com

- **Spectrum Asset Management:** total assets: $22 billion; U.S. institutional, tax-exempt assets: $7.1 billion; CIO: L. Phillip Jacoby; client contact: Mark Lieb, phone: 203-321-1120

11 Prudential Financial

751 Broad St., Newark, NJ 07102; phone: 973-802-6000; www.pgim.com

(millions)

- Total assets managed worldwide $1,742,326
- Total worldwide institutional assets $1,251,849
- Total U.S. client assets $1,316,190
- Total U.S. institutional client assets $839,786
- Total U.S. RIA assets $112,910
- Total U.S. tax-exempt assets $820,759
- Total U.S. institutional tax-exempt $572,230
  - Assigned to external managers $108,251
  - Internally managed $463,979

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
- Equity 19%
- Fixed income 77%
- Equity real estate 2%
- Cash 2%

INVESTMENT STRATEGIES
- U.S. equity, active $70,701
- U.S. equity, passive $10,747
- Non-U.S. equity, active $1,987
- Non-U.S. equity, passive $1,396
- Global equity, active $4,741
- U.S. bond, active $288,240
- Global/non-U.S. bond, active $17,765
- Equity real estate, domestic $5,822
- Equity real estate, non-U.S. $988
- Real estate debt $22,486
- Hedge funds $1,869
- Private equity, domestic $578
- Private equity, non-U.S. $729
- Direct lending $227
- Privately placed debt $29,597
- Distressed debt $33
- Mezzanine debt $27
- Commodities $217
- Cash $5,827

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH
- Large-cap $28,216
- Midcap $5

VALUE
- Large-cap $904
- Midcap $38

CORE
- Large-cap $3,102
- Midcap $657
- Small-cap $3,418
- Broad-market $34,361

PASSIVE DOMESTIC EQUITY STRATEGIES

CORE
- Large-cap $7,824
- Midcap $34
- Small-cap $166
- Broad-market $2,723

- REITs $33,720

NON-U.S. STRATEGIES
- Emerging markets equity $1,417
- Emerging markets equity mandates $1,417
- Emerging markets debt $9,056
- Emerging markets debt mandates $9,056

FIXED-INCOME STRATEGIES
- Core $214,708
- Core-plus $35,843
- Unconstrained $1,880
- High-yield $6,498
- High-yield mandates $6,498
- Inflation-protected securities $681
- Stable value $81,376
- Mortgages (whole loans) $19,096
- Bank loans $140

- LDI strategies $25,684
- ESG investing $190,801
  - ESG mandates $36,849
    - Equity, active $103

WORLDWIDE ASSETS UNDER MANAGEMENT
- Hedge fund assets $10,094
- Hedge fund-of-fund assets $262
- Mutual fund assets $507,186
  - U.S. 1940 Investment Co. Act $491,387
- Sponsored ETFs/ETNs $2,033
  - Actively managed $2,033
- Investment outsourcing mandates $42,676
- LDI strategies $26,091
  - Managed for retirement plans $25,130
- Proprietary stable value $81,376
- Factor-based strategies $91,526
- ESG investing $536,876
  - ESG mandates $47,077

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)
- Total $246

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT
- Total $299,383
- Internally managed $219,695

WORKFORCE
- Total number of employees 40,000
- Number of U.S.-based employees 35,000

PERCENT U.S.-BASED FEMALE EMPLOYEES
- Total 39%
- Senior management 28%

PERCENT U.S.-BASED MINORITY EMPLOYEES
- Total 32%
- Senior management 21%

Chief executive officer: Charles F. Lowrey
Client contact: Cameron Lochhead
DC client contact: Harry Dalessio

The assets of the following subsidiaries or affiliates are included in the figures above:

- **Jennison Associates LLC:** total assets: $245.5 billion; U.S. institutional, tax-exempt assets: $101.3 billion; CIO: Spiros Segalas; client contact: Lori McEvoy, phone: 212-833-0794
- **PGIM Fixed Income:** total assets: $934.9 billion; U.S. institutional, tax-exempt assets: $247.9 billion; CIO: Craig Dewling/Gregory Peters; client contact: Brad Blalock, phone: 973-367-5431
- **PGIM Private Capital:** total assets: $101.2 billion; U.S. institutional, tax-exempt assets: $32 billion; CIO: Allen Weaver; client contact: Albert Trank, phone: 973-802-8608
- **PGIM Quantitative Solutions:** total assets: $91.5 billion; U.S. institutional, tax-exempt assets: $19.2 billion; CIO: George N. Patterson; client contact: Frances Orabona, phone: 973-802-5217
- **PGIM Real Estate:** total assets: $138 billion; U.S. institutional, tax-exempt assets: $63.6 billion; CIO: Raimondo Amabile; client contact: Mark Chamieh, phone: 973-734-1300, email: realestate.investorservices@pgim.com

49 Russell Investments

1301 Second Ave., 18th Floor, Seattle, WA 98101; phone: 206-505-7877; www.russellinvestments.com

(millions)

- Total assets managed worldwide $340,773
- Total worldwide institutional assets $280,197
- Total U.S. client assets $179,920
- Total U.S. institutional client assets $139,142
- Total U.S. tax-exempt assets $139,142
- Total U.S. institutional tax-exempt $138,605
  - Assigned to external managers $54,183
  - Internally managed $84,422
- LDI strategies $20,700
- ESG investing $84,422
  - ESG mandates $2,980

WORLDWIDE ASSETS UNDER MANAGEMENT
- Hedge fund-of-fund assets $2,129
- Mutual fund assets $59,493
  - U.S. 1940 Investment Co. Act $38,457
- Sponsored ETFs/ETNs $653
- Investment outsourcing mandates $189,718
- LDI strategies $23,500
  - Managed for retirement plans $23,500
- Factor-based strategies $25,594
- ESG investing $229,408
  - ESG mandates $21,255

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)
- Total $58,739

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT
- Total $20,940
- Internally managed $20,940

WORKFORCE
- Total number of employees 1,321
- Number of cybersecurity professionals 6
- Number of U.S.-based employees 689

PERCENT U.S.-BASED FEMALE EMPLOYEES
- Total 35%
- Senior management 25%
- Investment 23%

PERCENT U.S.-BASED MINORITY EMPLOYEES
- Total 27%
- Senior management 13%
- Investment 26%

Primary custodian: State Street
Parent company: TA Associates Management LP
Chief executive officer: Michelle Seitz
Chief investment officer: Kate El-Hillow
U.S. client contact: Rob Cittadini
DC client contact: Kerry Bandow

24 Schroders

7 Bryant Park, 19th Floor, New York, NY 10018; phone: 212-641-3800; www.schroders.com

(millions)

- Total assets managed worldwide $833,200
- Total worldwide institutional assets $521,886
- Total U.S. client assets $113,464
- Total U.S. institutional client assets $84,999
- Total U.S. RIA assets $61,495
- Total U.S. tax-exempt assets $29,341
- Total U.S. institutional tax-exempt $27,175
  - Internally managed $27,175

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
- Equity 50%
- Fixed income 38%
- Other 12%
- Other type: Alternatives, multiasset

INVESTMENT STRATEGIES
- U.S. equity, active $454
- Non-U.S. equity, active $10,998
- Global equity, active $2,083
- U.S. bond, active $10,455
- Privately placed debt $2,818

ACTIVE DOMESTIC EQUITY STRATEGIES

CORE
- Large-cap $116
- Smidcap $180
- Small-cap $108

NON-U.S. STRATEGIES
- Emerging markets equity $5,208
- Emerging markets equity mandates $5,208

FIXED-INCOME STRATEGIES
- Core $3,676
- Core-plus $1,085

- LDI strategies $5,223
- ESG investing $27,175

WORLDWIDE ASSETS UNDER MANAGEMENT
- Hedge fund assets $3,978
- Mutual fund assets $201,345
  - U.S. 1940 Investment Co. Act $61,495
- Sponsored ETFs/ETNs $105
  - Actively managed $105
- LDI strategies $92,100
  - Managed for retirement plans $91,300
- Factor-based strategies $31,500
- ESG investing $833,200
  - ESG mandates $10,800

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT
- Total $1,489
- Internally managed $1,489

WORKFORCE
- Total number of employees 5,446
- Number of cybersecurity professionals 50
- Number of U.S.-based employees 326

PERCENT U.S.-BASED FEMALE EMPLOYEES
- Total 39%
- Senior management 1%
- Investment 12%

PERCENT U.S.-BASED MINORITY EMPLOYEES
- Total 34%
- Senior management 1%
- Investment 11%

- Percent employee owned 4%

Primary custodian: J.P. Morgan
Parent company: Schroders PLC
Chief executive officer: Peter Harrison
Chief investment officer: Johanna Kyrklund
U.S. client contact: Jennifer Horne
Other client contact: Colleen Hurley (North America)
DC client contact: Joel Schiffman

3 State Street Global Advisors

1 Iron St., Boston, MA 02210; phone: 617-786-3000; www.ssga.com

(millions)

- Total assets managed worldwide $4,138,172
- Total worldwide institutional assets $2,905,408
- Total U.S. client assets $2,866,797
- Total U.S. institutional client assets $1,720,561
- Total U.S. RIA assets $6,457
- Total U.S. tax-exempt assets $1,401,754
- Total U.S. institutional tax-exempt $1,401,754
  - Assigned to external managers $20,062
  - Internally managed $1,381,692

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX
- Equity 66%
- Fixed income 19%
- Cash 9%
- Other 6%
- Other type: Commodities, MLPs, real assets, currency, multiasset

INVESTMENT STRATEGIES
- U.S. equity, active $4,475
- U.S. equity, passive $544,141
- Non-U.S. equity, active $6,805
- Non-U.S. equity, passive $130,828
- Global equity, active $8,338
- Global equity, passive $259,352
- U.S. bond, active $14,852
- U.S. bond, passive $254,426
- Global/non-U.S. bond, active $247
- Global/non-U.S. bond, passive $8,053
- Equity real estate, domestic $4,079
- Equity real estate, non-U.S. $11,278
- Private equity, domestic $7,228
- MLPs $1,237
- Commodities $7,595
- Cash $118,758

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH
- Large-cap $971

CORE
- Large-cap $2,819
- Small-cap $179
- Broad-market $506

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH
- Large-cap $8,196
- Smidcap $83
- Small-cap $310

VALUE
- Large-cap $6,079
- Small-cap $244

CORE
- Large-cap $319,590
- Midcap $14,327
- Smidcap $1,124
- Small-cap $61,896
- Broad-market $100,609

- Low-volatility strategies $4,465
- REITs $8,305

NON-U.S. STRATEGIES
- Emerging markets equity $20,522
- Emerging markets equity mandates $20,370
- Emerging markets debt $1,517
- Emerging markets debt mandates $1,517

FIXED-INCOME STRATEGIES
- Core $258,561

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Core-plus $26,278
High-yield $4,856
High-yield mandates $4,856
Inflation-protected securities $31,895
LDI strategies $340
ESG investing $145,583
ESG mandates $74,721
Equity, active $1,191
Equity, passive $73,530

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund-of-fund assets $2,519
Mutual fund assets $393,949
U.S. 1940 Investment Co. Act $279,382
Sponsored ETFs/ETNs $1,178,073
Actively managed $13,519
Investment outsourcing mandates $191,792
LDI strategies $16,975
Managed for retirement plans $14,920
Factor-based strategies $226,457
ESG investing $516,058
ESG mandates $253,969

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $34,413

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $613,747
Internally managed $613,747

WORKFORCE

Total number of employees 2,339
Number of U.S.-based employees 1,020
Percent employee owned 1%

Primary custodian: State Street
Parent company: State Street Corp.
Chief executive officer: Cyrus Taraporevala
Chief investment officer: Lori Heinel
U.S. client contact: Barry Smith
DC client contacts: David Ireland, Brendan Curran, Greg Porteous

2 Vanguard Group Inc.

P.O. Box 2600, Valley Forge, PA 19482; phone: 800-310-8876; www.vanguard.com

(millions)

Total assets managed worldwide $8,466,372
Total worldwide institutional assets $5,407,000
Total U.S. client assets $8,062,121
Total U.S. institutional client assets $5,407,000
Total U.S. tax-exempt assets $3,222,499
Total U.S. institutional tax-exempt $2,368,602
Assigned to external managers $222,181
Internally managed $2,146,421

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 61%
Fixed income 14%
Cash 2%
Investment contracts 23%

INVESTMENT STRATEGIES

U.S. equity, active $13,410
U.S. equity, passive $1,568,635
Non-U.S. equity, active $311
Non-U.S. equity, passive $89,178
Global equity, active $53
U.S. bond, active $62,313
U.S. bond, passive $364,199
Global/non-U.S. bond, passive $3,588
Cash $42,257

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $3,119
Midcap $26
Small-cap $2,879

VALUE

Large-cap $6,772
Midcap $95

CORE

Large-cap $910
Midcap $1,456
Small-cap $357

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $36,558
Midcap $3,420
Small-cap $6,079

VALUE

Large-cap $15,208
Midcap $4,649
Small-cap $20,141

CORE

Large-cap $910,875
Midcap $84,438
Small-cap $40,302
Broad-market $117,668
REITs $13,568

NON-U.S. STRATEGIES

Emerging markets equity $8,284

FIXED-INCOME STRATEGIES

Core $411,458
High-yield $3,289
Inflation-protected securities $15,352
Stable value $24,854
ESG investing $69
ESG mandates $69

WORLDWIDE ASSETS UNDER MANAGEMENT

Mutual fund assets $6,115,315
U.S. 1940 Investment Co. Act $5,711,064
Sponsored ETFs/ETNs $2,210,100
Actively managed $3,720
Investment outsourcing mandates $62,624
Proprietary stable value $42,701
ESG investing $10,714
ESG mandates $10,714

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $2,045,911
Internally managed $1,863,299

Chief executive officer: Mortimer J. (Tim) Buckley
Chief investment officer: Gregory Davis
U.S. client contact: Tarun Sood

50 Voya Investment Management

230 Park Ave., New York, NY 10169; phone: 212-309-8200; www.voyainvestments.com

(millions)

Total assets managed worldwide $298,445
Total worldwide institutional assets $275,040
Total U.S. client assets $278,583
Total U.S. institutional client assets $255,885
Total U.S. tax-exempt assets $176,995
Total U.S. institutional tax-exempt $173,036
Assigned to external managers $23,469
Internally managed $149,567

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 31%
Fixed income 66%
Private equity 1%
Hedge funds 1%
Cash 1%

INVESTMENT STRATEGIES

U.S. equity, active $17,629
U.S. equity, passive $21,057
U.S. equity, enhanced index $1,725
Non-U.S. equity, active $1,630
Non-U.S. equity, passive $3,441
Global equity, active $629
U.S. bond, active $82,781
U.S. bond, passive $3,791
Global/non-U.S. bond, active $1,225
Real estate debt $3,476
Hedge funds $1,741
Private equity, domestic $1,749
Privately placed debt $7,293
Cash $1,400

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $6,452
Midcap $3,065
Small-cap $541

VALUE

Large-cap $1,043

CORE

Large-cap $2,971
Midcap $4
Small-cap $642

PASSIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $1,431
Midcap $1,481

VALUE

Large-cap $1,565
Midcap $64

CORE

Large-cap $11,132
Midcap $1,610
Small-cap $1,046
Low-volatility strategies $1,055

NON-U.S. STRATEGIES

Emerging markets equity $813
Emerging markets equity mandates $813
Emerging markets debt $1,096
Emerging markets debt mandates $1,096

FIXED-INCOME STRATEGIES

Core $13,897
Core-plus $11,016
Unconstrained $682
High-yield $1,161
High-yield mandates $698
Inflation-protected securities $233
Stable value $14,954
Bank loans $2,552
LDI strategies $6,819
ESG investing $86,768
ESG mandates $44
Equity, active $2
Bond, active $42

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $3,081
Mutual fund assets $94,222
U.S. 1940 Investment Co. Act $94,222
LDI strategies $22,752
Managed for retirement plans $6,819
Proprietary stable value $14,134
Factor-based strategies $6,379
ESG investing $199,640
ESG mandates $130

OVERLAY STRATEGIES

U.S. INSTITUTIONAL TAX-EXEMPT ASSETS (NOTIONAL VALUE)

Total $29,381

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $98,443
Internally managed $81,539

WORKFORCE

Total number of employees 815
Number of cybersecurity professionals 92
Number of U.S.-based employees 796

PERCENT U.S.-BASED FEMALE EMPLOYEES

Total 36%
Senior management 23%
Investment 19%

PERCENT U.S.-BASED MINORITY EMPLOYEES

Total 29%
Senior management 20%
Investment 26%

Primary custodian: BNY Mellon
Parent company: Voya Financial
Chief executive officer: Christine Hurtsellers
Chief investment officers: Matt Toms, Paul Zemsky, Michael Pytosh
U.S. client contact: Jake Tuzza

8 Wellington Management Group LLP

280 Congress St., Boston, MA 02210; phone: 617-951-5000; www.wellington.com

(millions)

Total assets managed worldwide $1,425,481
Total worldwide institutional assets $1,423,435
Total U.S. client assets $1,146,386
Total U.S. institutional client assets $1,145,112
Total U.S. tax-exempt assets $290,212
Total U.S. institutional tax-exempt $289,923
Internally managed $289,923

INTERNALLY MANAGED U.S. INSTITUTIONAL TAX-EXEMPT ASSETS

ASSET MIX

Equity 40%
Fixed income 50%
Hedge funds 10%

INVESTMENT STRATEGIES

U.S. equity, active $51,881
Non-U.S. equity, active $31,100
Global equity, active $32,033
U.S. bond, active $116,083
Global/non-U.S. bond, active $29,606
Hedge funds $29,220

ACTIVE DOMESTIC EQUITY STRATEGIES

GROWTH

Large-cap $9,922
Midcap $1,739
Small-cap $1,223
Broad-market $2,501

VALUE

Large-cap $2,861
Midcap $988
Smidcap $689
Small-cap $1,979
Broad-market $1,068

CORE

Large-cap $4,508
Midcap $8,951
Small-cap $10,040
Broad-market $2,541
REITs $116

NON-U.S. STRATEGIES

Emerging markets equity $10,091
Emerging markets debt $10,557

FIXED-INCOME STRATEGIES

Core $22,145
Core-plus $10,085
High-yield $2,777
Inflation-protected securities $1,747
LDI strategies $59,711

WORLDWIDE ASSETS UNDER MANAGEMENT

Hedge fund assets $29,220
Mutual fund assets $792,304
U.S. 1940 Investment Co. Act $792,304
LDI strategies $77,685

DEFINED CONTRIBUTION ASSETS

U.S. INSTITUTIONAL TAX-EXEMPT

Total $28,030
Internally managed $28,030

WORKFORCE

Total number of employees 2,925
Number of U.S.-based employees 2,125
Percent employee owned 100%

Chief executive officer: Jean Hynes
U.S. client contact: Stefan Haselwandter
DC client contact: Amy Morse

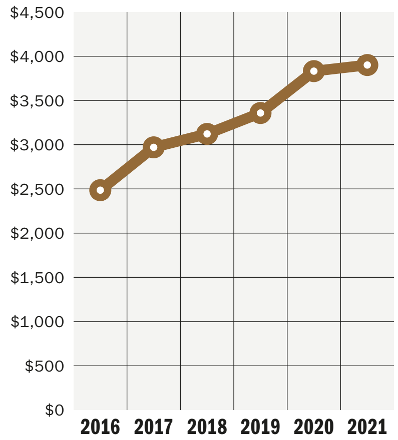
Managers of LDI strategies

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	**Insight Investment**	$828,322
2	**Legal & General Investment**	$775,035
3	**BlackRock**	$380,528
4	**NISA Investment**	$282,125
5	**Mercer**	$255,413
6	**Aegon Asset Mgmt.**	$187,035
7	**PIMCO**	$186,032
8	**J.P. Morgan Asset Mgmt.**	$107,366
9	**Schroders**	$92,100
10	**Wellington Mgmt.**	$77,685

Asset growth (billions)



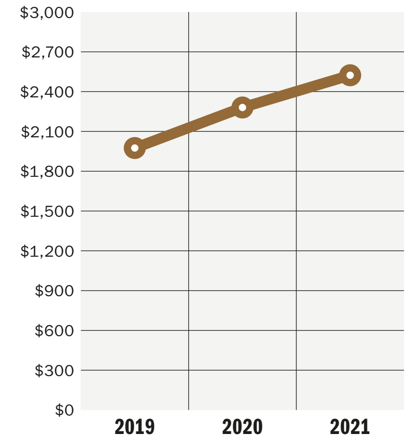
Managers of LDI retirement plan assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	**Insight Investment**	$805,777
2	**Legal & General Investment**	$775,035
3	**Mercer**	$255,413
4	**PIMCO**	$179,269
5	**Schroders**	$91,300
6	**Franklin Templeton**	$48,643
7	**Aegon Asset Mgmt.**	$37,539
8	**Dodge & Cox**	$35,539
9	**DWS**	$28,999
10	**Prudential Financial**	$25,130

Asset growth (billions)



LDI

CONTINUED FROM PAGE 3

Sweta Vaidya, New York-based head of solution design for North America at Insight Investment, said in a phone interview that growth in the firm's AUM has slowed for the past couple of years in part because a number of asset owners, primarily corporations with frozen defined benefit plans, saw funding ratios improve enough that they hit their glidepath triggers and then engaged in pension risk transfer transactions.

"We'll help the clients manage the process and reposition the portfolio for that eventual transfer," Ms. Vaidya said, "but once that happens, that's out the door."

She also noted that over the past several years, it's likely many corporate DB plan sponsors that have not yet initiated LDI strategies have continued to delay doing so in response to market volatility caused by the COVID-19 pandemic.

"To a lesser degree, I see the beginning of the pandemic with the volatility and just generally with the anticipation of rates rising, a lot of plan sponsors were hesitant to move into LDI programs," Ms. Vaidya said.

Funding ratios up

Although fewer clients have launched LDI programs, those with existing programs have seen their LDI assets increase thanks to improved funded status.

Matt McDaniel, Philadelphia-based partner at Mercer, said improving funding ratios has meant that more corporate pension plans have been able to move further along in their glidepaths.

Mercer reported $255.4 billion in worldwide LDI AUM as of Dec. 31, up 36.8% from a year earlier, through its outsourced chief investment officer business.

In its own report, Mercer estimated the aggregate funding ratio of pension plans sponsored by S&P 1500 companies increased to 97% as of Dec. 31, from 84% a year earlier. It is the highest aggregate ratio achieved since year-end 2007 when it reached 104%.

Even during the first quarter of 2022, which saw a volatile equity market, Mr. McDaniel pointed out that Mercer's estimate still increased because of rising discount rates, to 100% as of March 31.

The typical discount rate measured by the Mercer Yield Curve, a benchmark used to calculate discount rates, increased to 4.35% as of March 31, up significantly from 2.76% as of Dec. 31, lowering unfunded liabilities and raising funding ratios even as equity markets struggled.

"Even just in the first few months in 2022, we had a lot of clients hit triggers, derisk further and add to liability-hedging assets," Mr. McDaniel said.

He also mentioned more plan sponsors are moving to an OCIO model.

"There are more and more clients adopting the LDI philosophy and moving to an OCIO model where they weren't doing that before," Mr. McDaniel said. He cited the pandemic as a primary driver of that adoption, which has continued into 2022.

"They're re-evaluating the governance of those plan and asking whether they have the internal resources to be able to monitor these glidepaths," Mr. McDaniel said, "or should they delegate these responsibilities to an OCIO provider?"

The growth of liability-driven investing over the past 10 years means more corporate DB plan sponsors are utilizing LDI strategies than ever before. Worldwide LDI assets are up 56.9% over the past five years, according to *P&I* data.

Corporate plans

David G. Eichhorn, CEO and head of investment strategies at NISA Investment Advisors LLC, St. Louis, said in a phone interview that almost every corporate pension plan is doing some degree of LDI, at least in the form of increasing their allocations to long-duration fixed income.

For those utilizing customized LDI strategies that are using other credit and fixed-income instruments to hedge their liabilities, Mr. Eichhorn said, "the vast majority, at least in our sense, have picked their key partners."

There is, however, room for growth, at least in terms of adding assets, he said.

"We actually think there's meaningful runway left," Mr. Eichhorn said. "If you look at the average plan, the average plan is really a little over 50% fixed income. Maybe the average plan is getting closer to 60% with the typical end state … more like 80% to 85% LDI assets."

He noted that in a $3 trillion LDI market, each time plans are ready to increase their allocations by up to 10%, "every 10% move, that's (at least) $300 billion in reallocation" into LDI strategies. "On that dimension there's a lot of (potential) growth." Flows into LDI instruments would inevitably increase, Mr. Eichhorn said.

That growth might involve more precise hedging instruments as those funding ratios improve, Insight's Ms. Vaidya said.

"For corporate DB plans as they consider their hedging programs, I'd expect to see more precise hedging along the yield curve," Ms. Vaidya said. That might include more use of derivatives because she said U.S. plan sponsors have become more comfortable with the idea.

TIME IS RIGHT: Sweta Vaidya cited rising interest rates as a reason more sponsors might seek LDI now.

John Delaney, Philadelphia-based senior director and portfolio manager at Willis Towers Watson PLC, agreed more plan sponsors have been seeking more of what he calls "alternative derisking."

"What we saw more in our client base is more of a broader discussion on kind of what's the most efficient way for our portfolio to derisk? Is it buying more bonds or is it looking for more diversification in hedge funds, real assets, private investments?" Mr. Delaney said.

While he said clients that are "dead set" on terminating their plans are moving into more traditional LDI investments to lock in funding gains, "I'd say the appetite for traditional LDI, as it were, let's call it long government credit strategies, has declined over recent years."

Thus far, in 2022, Mr. Delaney said that theme has continued. Clients are asking, "How can we derisk without buying more bonds? … Are there more efficient levers to pull here given the general view on rates?"

Ms. Vaidya noted that plan sponsors that might have been hesitant about beginning an LDI program as they waited for rates to rise are likely going to enter the market now that the time seems to have finally arrived.

"2022 and 2023 are going to be phenomenal years for flow," she said, "whether it's into derisking or into LDI."

More RFPs

Matthew Nili, New York-based managing director, head of the U.S. and Canada liability-driven investment business at BlackRock Inc., echoed those sentiments.

"We've seen a big uptick in RFPs and plans seeking advice on derisking so far this year," Mr. Nili said in an emailed response to questions. "I think there are a couple of challenges for some plans, ones that want to retain growth assets and others that are worried that rates can continue to rise. For the plans that want to retain growth assets, capital efficiency in fixed income instruments and completion management are the natural road ahead. For those that are focused on whether rates will continue to rise, I think we'd acknowledge that rates can increase, but that we're potentially in the later innings. There are growing risks in the market, where rates could still play an important role in hedging against losing the incredible funded status gains made recently." ■

Stable

CONTINUED FROM PAGE 16

$14.8 billion for U.S. institutional tax-exempt clients was 20.6% higher than the year before. AUM grew to $15.1 billion by April 30. Like its peers, Putnam enjoyed big inflows into stable value in 2020, only to experience "a reversal in trading" in 2021, Mr. McKay said. The overall gain was aided by an increase in new business, he said.

The Putnam Stable Value Fund has had inflows in 24 of the 27 months that ended in May 2022. Outflows were recorded in February-April 2021 as participants added more equity risk to their portfolios. "We continue to see positive flow trends and a solid growth trajectory," Mr. McKay said. The fund's crediting rate was 2.38% as of Dec. 31 and 2.34% as of April 30.

Another stable value provider that didn't follow the asset trend decline in 2021 was Great-West Investments, the asset management arm of Empower Retirement.

The company's organic stable value business mimicked its peers, experiencing large stable value inflows in the early months of 2020 and giving up some gains in 2021, said Jonathan Kreider, the Greenwood Village, Colo.-based senior vice president and head of Great-West Investments. Overall organic growth was up, but most of Empower's stable value gain in 2021 was due to the acquisition of Massachusetts Mutual Life Insurance Co.'s retirement business, Mr. Kreider said.

Last year's stable value AUM of $18.07 billion was 116.4% higher than the $8.35 billion in 2020, according to *P&I* data.

Empower's stable value footprint will be a lot bigger when 2022 data are compiled. In April, Empower completed its acquisition of the retirement business of Prudential Financial Inc. ■

ESG

CONTINUED FROM PAGE 3

of a given plan," Mr. Shingler said. "There are large public plans that have very large, very sophisticated investment programs. They can use their own investment staff or design a custom mandate. For small to medium plans, or ERISA plans, it's going to be a different process. We also work with some investors that are religious organizations that are thinking about ESG from that perspective and are trying to align their portfolios accordingly."

Money managers reported a total of $28.03 trillion in global assets managed under ESG principles as of Dec. 31, according to *Pensions & Investments*' money managers survey, up 21.9% from the year before and up 415% from five years earlier. Worldwide ESG mandates totaled $3.59 trillion, up 22.7%.

According to data from Morningstar Inc., investors are pouring billions of dollars into ESG strategies even during periods of market stress when asset flows as a whole have declined. But how they expect that money to be put to work is changing. To differentiate in ESG now means being able to demonstrate not just positive financial performance but in-depth expertise on what the transition to a sustainable economy means and how that impacts portfolios on an ongoing basis.

'Climate change has always been the pre-eminent issue with ESG investing. Within climate change, recently there is an increased focus on how to decarbonize portfolios through specific net-zero allocations.'

BNP PARIBAS ASSET MANAGEMENT'S **BERENICE LASFARGUES**

Building alignment

The majority of ESG allocations are going into actively managed equities strategies, and climate funds are currently a big focus for investors as they work to align their investment portfolios to net-zero emissions goals, managers said. Aligning to net-zero at the portfolio level means investing only in companies that also have a net-zero goal or a plan to adopt a net-zero goal.

"Climate change has always been the pre-eminent issue with ESG investing," said Berenice Lasfargues, New York-based sustainability integration lead at BNP Paribas Asset Management. "Within climate change, recently there is an increased focus on how to decarbonize portfolios through specific net-zero allocations. That is being supported by improvements in company ESG disclosures specifically related to carbon, which are mandated in certain jurisdictions."

BNP Paribas Asset Management plans to launch a net-zero road map later this summer to help investors that are new to decarbonization navigate the process. The road map is based on the ESG metrics research Ms. Lasfargues and others are doing at BNP AM's Sustainability Center, which launched in 2018. The Sustainability Center anchors BNP's firmwide sustainability approach, which was overhauled in 2019 to accelerate its commitments to sustainable investment and create a model that could be used to meet investor mandates.

The approach includes four components: ESG integration, stewardship, exclusions and a forward-looking perspective. Each of the components has its own metrics so progress can be measured and reported to investors. All components are implemented firmwide and across all assets under management.

"When we began our sustainability overhaul, we asked our portfolio managers to go through an initial ESG validation process, basically asking them 'How do you plan to integrate ESG?'" Ms. Lasfargues said. "We understood that ESG integration approaches can vary by strategy and asset classes; however we were also able to drive some top-down consistency with our firmwide public ESG integration guidelines."

BNP Paribas Asset Management reported $518 billion in global assets managed under ESG principles as of Dec. 31, up 28.2% from the year before, according to *P&I* data. That included $95 billion in ESG mandates, up 28.9% from the end of 2020. BNP's overall AUM was $611.7 billion as of Dec. 31, up 3.8%.

Improvements in data and reporting are also supporting actively managed quantitative strategies that are aligned to investor ESG goals.

In its response to *P&I*'s open-ended question on what differentiates its ESG strategy, HSBC Asset Management said it has created a specialist quant team that uses ESG data and research supplemented by fundamental analysis from its equity and credit teams to create a unique ESG approach. The manager's ESG scoring methodology is backtested with all factors included in financial materiality tests. Portfolio, asset class and sector teams focus on portfolio weighting using those scores.

"Client objectives underpin how we integrate ESG investing into different portfolios and our ESG solutions are backed with data, examples, and clear transparent reporting," the firm said in the survey.

HSBC had $629.3 billion in assets managed under ESG principles as of Dec. 31, up 9.6% for the year. ESG mandates totaled $29.7 billion, up from $12.2 billion the year before.

The desire for data-driven and goal-aligned strategies is also being pushed by investors in private equity funds. According to a recent report from management consultant Bain & Co., an "overwhelming majority" of private equity investors say they will walk away from a deal if it poses ESG concerns. Investors also want to see more ESG-related metrics and are including those requests in their mandates. Some 80% say they plan to increase the scope of such requests over the next three years. Nearly 70% also say they plan to increase ESG investment allocations and in-house ESG-related capabilities over that same period. More than 100 limited partner investors were surveyed.

Making an impact

With companies offering broader and deeper ESG reporting, and asset managers responding accordingly with more sophisticated strategies, new frontiers are opening up. Hannah Simons, London-based head of sustainability strategy for global asset manager Schroders PLC, said forward-looking investors are starting to focus on impact strategies, a move that could influence the direction of travel for other investors as they get farther along on their ESG journey.

Schroders recently updated its own ESG reporting to improve transparency and provide more information on potential impact. Ms. Simons noted that some of this has been driven by increased regulatory requirements throughout the European Union, U.K., and

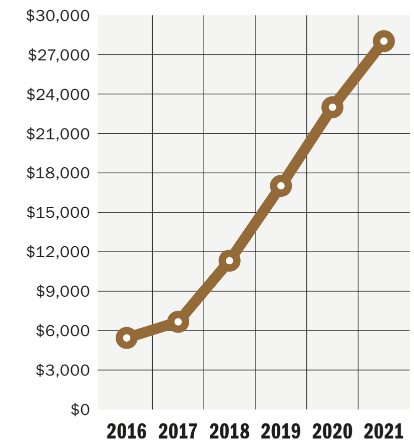
Managers of assets under ESG principles

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Fidelity Investments	$4,233,825
2	Capital Group	$2,715,178
3	J.P. Morgan Asset Mgmt.	$2,572,273
4	Nuveen	$1,261,740
5	Amundi	$957,144
6	AXA Investment	$858,798
7	Schroders	$833,200
8	HSBC Asset Mgmt.	$629,273
9	Brookfield Asset Mgmt.	$555,659
10	Prudential Financial	$536,876

Asset growth (billions)



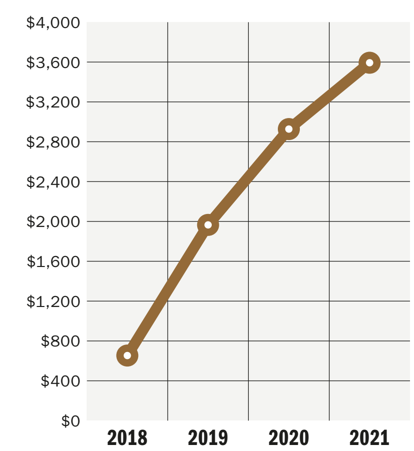
Managers of ESG mandates

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	AXA Investment	$646,510
2	BlackRock	$509,399
3	Legal & General Investment	$392,370
4	Amundi	$350,148
5	State Street Global	$253,969
6	Robeco	$114,668
7	Manulife Investment	$114,248
8	BNP Paribas Asset Mgmt.	$95,029
9	Northern Trust Asset Mgmt.	$80,222
10	PIMCO	$73,691

Asset growth (billions)



ETFs

CONTINUED FROM PAGE 15

head of asset management solutions at J.P. Morgan Asset Management, who oversees the firm's ETF business, when asked what drove JPMAM's 57.4% growth last year. "So, we have been focused on trying to identify the investment capabilities that our clients are looking for and the problems that they are trying to solve — like managing through volatility, finding yield — and launching strategies that meet those needs in the active ETF vehicle," he said.

FOCUS: Daniil Shapiro said midtier passive managers need 'really niche' strategies to grow.

JPMAM ranked as the top manager of active ETFs, according to *P&I* data, with $39.5 billion in active ETF assets under management as of Dec. 31, up 55% from $25.5 billion a year earlier.

Among the bigger contributors to JPMAM's growth last year was the JPMorgan Ultra-Short Income ETF, Mr. Laskowitz said. That fund, which recently marked its fifth anniversary, now totals about $19 billion in assets. It had $15.6 billion in assets as of Dec. 31, 2020. Another strategy that drove growth was the JPMorgan Equity Premium Income ETF, he said. That fund, launched in May 2020, has grown to $9.85 billion.

"Actively managed ETFs in 2021 were roughly 10% of industry flows and roughly 4% of assets," Mr. Laskowitz said. "So, the interest in active ETFs (is) growing."

While JPMAM also offers clients a series of passive ETF strategies that play an important role as asset allocation building blocks, most of its new product development efforts have been around active ETFs, he said. When it comes to institutional investors, Mr. Laskowitz said while they typically have been more focused on passive ETFs, he believes that as active ETFs build track records, "I do think institutional clients will find interest in active ETFs."

Looking ahead, a trend that Mr. Laskowitz expects to see continue is that of converting mutual funds into ETFs.

"I think that's a trend to watch because I do think that will likely become a bigger part of the ETF story," he said.

JPMAM last August announced plans for four such conversions and has since

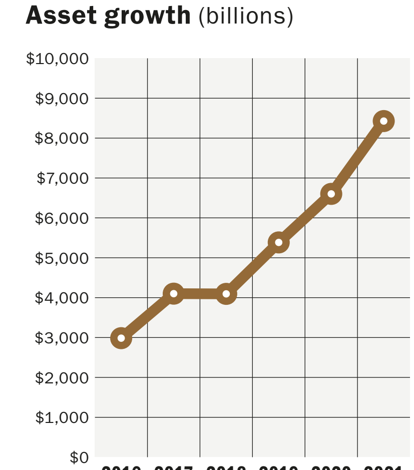
Managers sponsoring ETFs/ETNs

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	BlackRock	$3,267,353
2	Vanguard Group	$2,210,100
3	State Street Global	$1,178,073
4	Invesco	$476,542
5	Charles Schwab Investment	$271,761
6	Amundi	$241,693
7	Nomura Asset Mgmt.	$236,431
8	DWS	$189,425
9	Nikko Asset Mgmt.	$110,919
10	J.P. Morgan Asset Mgmt.	$78,017

Asset growth (billions)



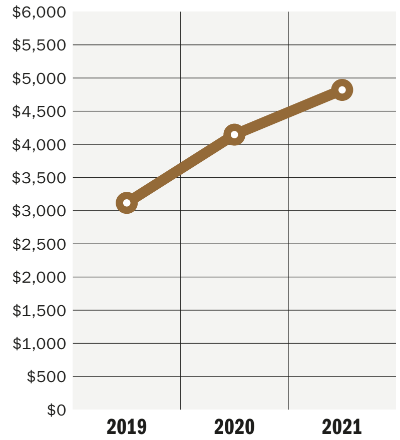
Managers of assets under ESG principles

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Fidelity Investments	$865,780
2	Nuveen	$637,824
3	Capital Group	$623,321
4	J.P. Morgan Asset Mgmt.	$465,263
5	Dodge & Cox	$220,832
6	Prudential Financial	$190,801
7	State Street Global	$145,583
8	Voya Investment Mgmt.	$86,768
9	Russell Investments	$84,422
10	Baillie Gifford Overseas	$77,712

Asset growth (billions)



Managers of ESG mandates

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	State Street Global	$74,721
2	Nuveen	$48,634
3	Morgan Stanley Inv. Mgmt.	$48,616
4	Prudential Financial	$36,849
5	Fayez Sarofim	$12,661
6	Legal & General Investment	$10,088
7	American Realty Advisors	$9,977
8	William Blair	$9,704
9	AFL-CIO Housing Trust	$7,107
10	MFS Investment	$3,567

Asset growth (billions)

U.S., but a significant portion is also coming as a result of investor demand.

On the investment side, Schroders' portfolio managers are also taking a closer look at positive inclusion factors within ESG strategies. Rather than simply excluding high emitters, for example, analysts are looking more closely at improvement plans, the success of engagement efforts with managers including proxy actions, and the societal impacts of a given company.

The Schroder ISF Global Climate Leaders range of funds puts some of this into practice by attempting to identify companies that are taking active leadership roles on climate and decarbonization. Climate leaders are companies that have ambitious targets to decarbonize consistent with achieving a 1.5-degree scenario or better under the Paris Agreement for climate change.

"What we're seeing is that the bar is continuing to rise. What ESG integration means in practice continues to expand. And with that, there is a greater focus on impact," Ms. Simons said. "The momentum is moving toward not just sustainability but how do we solve real problems. Investors are looking at the environmental and social problems we face today and saying how do you deploy capital to fix that? What is the role of the financial services industry? How can we measure that?"

Schroders reported $833.2 billion in AUM as of Dec. 31, all managed under ESG principles. That includes $10.8 billion in ESG mandates, more than double the $4.6 billion from a year earlier.

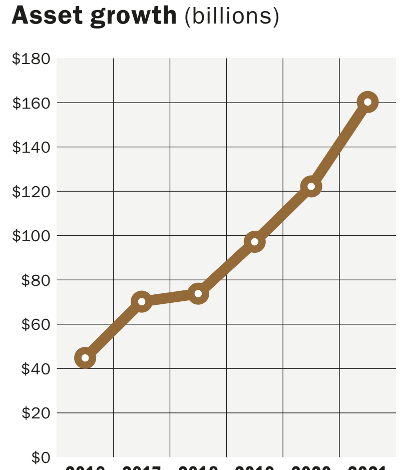
Managers of active ETF/ETN assets

Total worldwide assets as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	J.P. Morgan Asset Mgmt.	$39,538
2	PIMCO	$28,852
3	State Street Global	$13,519
4	Franklin Templeton	$13,228
5	American Century	$9,882
6	Invesco	$9,755
7	Credit Suisse Asset Mgmt.	$8,062
8	Victory Capital	$7,479
9	TCW Group	$6,430
10	Fidelity Investments	$4,130

Asset growth (billions)



completed three. The fourth conversion, which will see the JPMorgan International Research Enhanced Equity Fund become the JPMorgan International Research Enhanced Equity ETF, is scheduled to occur on June 10.

Mr. Laskowitz declined to comment regarding any potential further conversions.

MANAGER M&A ROUNDUP

Franklin Templeton to double credit AUM with acquisition of Alcentra

Franklin Templeton has entered into an agreement to purchase Alcentra, Bank of New York Mellon Corp.'s European credit investment arm, in a deal valued at up to $700 million.

The transaction is expected to close in the first quarter of 2023, according to a joint news release from Franklin Templeton and BNY Mellon May 31.

Franklin Templeton will pay $350 million in cash at closing, and up to a further $350 million that is contingent upon meeting certain performance thresholds over the next four years, the news release said. Also, Franklin Templeton will purchase all seed capital investments related to Alcentra, the amount of which will be determined at the time of closing. As of March 31, seed capital investments were valued at about $305 million, the news release said.

The acquisition will double the worldwide assets under management of Franklin Templeton's alternative credit specialist unit, Benefit Street Partners, to $77 billion.

"Alcentra is highly complementary to our existing U.S. capabilities, with no overlap in Europe. This partnership will unlock new opportunities to offer broader global credit solutions to our clients who are increasingly allocating capital to this growing asset class," said Tom Gahan, CEO of Benefit Street Partners and head of Franklin Templeton Alternatives, in the news release.

A Franklin Templeton spokeswoman said in an email that because Benefit Street Partners has no presence in Europe, they plan to continue to use the Alcentra name after it is combined with Benefit Street Partners.

As of March 31, Benefit Street Partners and Alcentra had $39 billion and $38 billion, respectively, in AUM.

Alcentra specializes in alternative credit investments across leveraged finance, private credit and special situations. The London-based firm, led by CEO Jon DeSimone, has more than 180 professionals working for the business globally.

"As part of the transaction, we are implementing a four-year retention program to retain key personnel," the Franklin Templeton spokeswoman said. "The retention program has been structured to provide continuity and a strong alignment of interests, and to incentivize key members of the Alcentra team … Decisions regarding headcount or changes in roles or responsibilities will be made in due course."

As of April 30, Franklin Templeton has a total of about $1.5 trillion in AUM, and BNY Mellon had $2.3 trillion in AUM as of March 31.

Mercer to take over Westpac's superannuation business

Mercer and Sydney-based Westpac Banking Corp. said they've agreed to merge Westpac's BT personal and corporate superannuation business into Mercer's Australian super business, creating a A$65 billion ($45.8 billion) industry competitor serving 850,000 Australians.

Melbourne-based Mercer Super Trust will bring more than A$30 billion in retirement assets and 300,000 participants to the combination, while BT — through a successor fund transfer — will contribute roughly A$35 billion and 550,000 participants.

In addition, Mercer will acquire Westpac's Advance Asset Management, a Sydney-based multimanager business with A$47.7 billion in funds under management as of March 31, including the BT personal and corporate super assets to be transferred to Mercer Super Trust.

The deal is expected to be finalized by the first half of 2023. Financial terms were not disclosed.

A Westpac news release called the move in line with "the simplification of Westpac," supporting the group's focus on banking in Australia and New Zealand.

Tim Barber, Melbourne-based head of Mercer Super and Pacific region group executive, said in an interview the expanded scale of the combination will put Mercer Super Trust within striking distance of a top 10 industry ranking while providing a more efficient backdrop for leveraging Mercer's global resources and capabilities on behalf of participants.

Westwood to acquire Salient Partners for $35 million

Westwood Holdings Group, an investment management boutique and wealth manager, will acquire Salient Partners in a deal expected to close by the end of the year.

Westwood will make an upfront payment of $35 million when the deal closes, with deferred payments of up to $25 million over several years thereafter dependent on certain revenue retention and growth targets, confirmed Tyler Bradford, a Westwood spokesman, in an email.

Salient manages a total of $4.5 billion: energy infrastructure ($2.5 billion); real estate ($306 million); energy and real estate private investment vehicles ($286 million); and $1.4 billion in liquid tactical equity mutual funds and separate accounts that are subadvised by Broadmark Asset Management.

Broadmark will remain the subadviser of these funds after Salient is acquired by Westwood, the company said in a news release.

The addition of Salient's assets will increase Westwood's AUM by 32% to $18.4 billion, the news release said.

The current investment teams will remain in place and will continue to manage their strategies, he added.

Houston-based Salient Partners will move to an office adjacent to Westwood's Houston office, Mr. Bradford said. Westwood's headquarters is in Dallas.

Carillon Tower adds Chartwell to multiboutique lineup

Carillon Tower Advisers acquired Chartwell Investment Partners, making it the sixth boutique investment firm under the Carillon umbrella.

Chartwell joins ClariVest Asset Management, Cougar Global Investments, Eagle Asset Management, Reams Asset Management and Scout Investments under multiboutique manager Carillon Tower, according to a news release June 1.

Chartwell has about $11.2 billion in assets under management in domestic equity and fixed-income strategies and will "retain its brand under the Carillon Tower umbrella," the release noted. Before Chartwell's acquisition, Carillon Tower and its boutique investment managers had $64 billion in AUM as of March 31.

The acquisition of Chartwell was part of Carillon Tower parent Raymond James Financial' acquisition of Chartwell's previous owner, TriState Capital Holdings, a spokesman for Raymond James, confirmed by email.

Alternatives

CONTINUED FROM PAGE 3

career was a U.K. economist at the Bank of England.

PGIM is the $1.3 trillion global investment management business of Prudential Financial Inc. Its real estate business, PGIM Real Estate, is in first place on *P&I*'s list of managers of real estate investment trusts, with $33.7 billion in U.S. institutional, tax-exempt REIT assets as of Dec. 31 — up 19% from $28.3 billion a year earlier, the results of *P&I*'s money manager survey shows. PGIM Real Estate reported $6.8 billion in equity real estate AUM as of Dec. 31, a 23.6% increase from $5.5 billion year-over-year, *P&I*'s 2022 manager report shows.

Managers across the alternative investment spectrum anticipate fundraising, transactions, valuations and exits will be slower this year than in 2021.

Said Michael Arougheti, New York-based co-founder, CEO and president of Ares Management Corp., "We see a slowdown in activity as private markets adjust to the new pricing environment."

According to Preqin, 2,012 private equity deals worth a combined $185.4 billion and 201 private credit transactions totaling $54.8 billion closed worldwide in the first quarter. That's down from 2,265 private equity transactions with a combined value of $200.5 billion and 400 private credit deals worth $63.3 billion in the quarter ended March 3, 2021.

"I would expect to see private market valuations start to come in, but not to the same severity of the public markets," Mr. Arougheti said.

Returns vary based on the size of the fund. The 10-year internal rate of return was 19% for private equity funds with more than $1 billion or more in total capital commitments, 17% for funds with $500 million to $1 billion, 16% for funds $250 million to $500 million, 12.4% for funds under $250 million as of Dec. 31, according to PitchBook Data.

Andrew Collings

ECONOMIC OPPORTUNITY: Jacques Gordon said a shift of people relocating to lower-cost areas like the Sun Belt is a trend to watch in real estate.

Ares second in buyouts

Ares is in the second spot on *P&I*'s list of buyout managers in U.S. institutional, tax-exempt AUM with $7.7 billion as of Dec. 31, up 13% from $6.8 billion at the end of 2020. Ares is also in the second position for managers of U.S. tax-exempt assets in distressed debt, with $2.2 billion as of Dec. 31, up from $1.2 billion as of Dec. 31, 2020; and for managers of energy assets, although assets were down to $711 million as of Dec. 31, from $847 million in 2020.

Mr. Arougheti said he also expects fewer exits.

"Industrywide realizations across the entire private market are likely going to slow," he said.

Even private debt, which had been building momentum with AUM up 51.3% over the five years ended Dec. 31, has been impacted by current market conditions.

"There's been a slowdown in transaction activity," said Kipp deVeer, a New York-based director and partner at Ares and head of the Ares credit group. "We have flexible capital and take a patient approach to new investment opportunities."

However, Mr. deVeer said that market volatility has also provided investment opportunities for Ares' credit business, making other debt providers such as banks more cautious.

Adding to their jitteriness, on May 4 Federal Reserve officials raised interest rates by a half-percentage point with the Federal Open Market Committee raising the target range for the federal funds rate to a range of 0.75% to 1%.

"We have been able to step into transactions with private capital that were originally syndicated bank deals that didn't materialize," said Mr. deVeer, who is also a director and CEO of Ares' publicly traded business development company, Ares Capital Corp.

"Banks are more hesitant to syndicate loans right now," he said. "We are largely a buy-and hold investor so we have no requirement to syndicate."

A slowdown in transaction activity can provide investment opportunities for other parts of Ares' business, Mr. deVeer said.

When there are fewer transactions and exits, "that's when structured secondaries and opportunistic credit can come in as a source of liquidity," Mr. Arougheti said.

However, alternative investments are resilient even in difficult markets, he said.

"One of the beauties of the private markets is that nobody is a forced seller," Mr. Arougheti said. "If you own a good company, you just own it longer."

Delayed impact

In real estate, PGIM Real Estate's Mr. Hayes does not expect to see a pause in transaction volume reflecting today's economic environment until later in the year, when the lag in reporting numbers begins to show up. Then, if inflation comes down, transaction volume is likely to go up again, he said.

But measuring inflation is "complicated" even for the world's central banks, Mr. Hayes said, with the pandemic impacting "how reliable the inflation numbers really are."

That makes decisions as to whether to increase interest rates very tricky — and the knock-on effect for real estate and other alternative investment managers is that higher interest rates mean increased cost of capital, he said.

However, there are investment opportunities ahead for real estate managers, especially needs-based properties such as housing, warehouses and data centers, Mr. Hayes said. For apartments and logistics, metropolitan areas in the Sun Belt have outperformed in recent years but PGIM Real Estate executives say that coastal cities are now attractive due to rising employment and limited supply. What's more, aging populations create a need for more senior housing.

Ronald Dickerman, New York-based founder and president of $8 billion real estate manager Madison International Realty, said his firm has tilted its portfolio away from retail and office and toward more growth assets such as tech-enabled, single-family rentals, life sciences and cold storage.

However, his view of the real estate market is less rosy. Mr. Dickerman said that managers including Madison International Realty already are pausing transactions amid a secular repricing of real estate assets. He said he's seen a number of failed transactions and lenders changing debt quotes. And he thinks things will get worse and so is proceeding with caution, he said.

"It's pretty remarkable. We've come out of the woods in COVID and then the woods catch on fire" with the war in Ukraine, among other issues, Mr. Dickerman said.

"We'd been living in this Goldilocks world. Super low interest rates had been the ultimate subsidy for real estate," he said. Madison International did not participate in this year's survey of money managers.

Higher interest rates make financing investments more expensive and finding fixed-rate debt critical.

In a recent study on the migration of people around the world and its impact on real estate, LaSalle Investment Management indicated that the pre-pandemic trend of people gravitating to cities will continue after the COVID-19 crisis is over. This return to cities would be positive for the multifamily and retail sectors, the report said.

In the U.S., the question is how much of the movement of people during the pandemic out of big cities like New York and San Francisco was the result of COVID-19, how much was for economic opportunities and how much was part of a structural shift of people moving to lower-cost states such as Arizona from higher-cost states such as California, Illinois and New York, said Jacques Gordon, Chicago-based global head of research and strategy at LaSalle Investment Management.

"There's an unmistakable move to the Sun Belt," Mr. Gordon said.

Indeed, a move to lower-density Sun Belt states in 2021 fueled apartment demand, LaSalle's study showed. However, this trend is slowing. As pandemic restrictions recede, more people are moving back to cities such as Los Angeles and New York, even though the high costs of living in these cities could slow growth, the study said.

A decade ago, LaSalle looked at the cost structure of cities and states, determining that high costs could dampen growth if there were an economic slowdown, Mr. Gordon said.

"We've actually steered most investments to low-cost cities," he said.

LaSalle's worldwide assets under management across asset classes grew 9.73% in the year ended Dec. 31, to $77.8 billion. LaSalle's AUM managed for U.S. institutional, tax-exempt investors rose by 26% to $18.7 billion, according to *P&I* survey data.

REITs feeling the pinch

REITs may be the first asset class within real assets to suffer a reversal of fortunes after being on a tear.

Over the past five years ended Dec. 31, REIT assets under management grew by 84.7%, according to the *P&I* manager survey. Since the beginning of 2022, however, REIT share prices have pulled back as a result of the market volatility — although not as much as the broader equity market, said Stephen Hayes, Sydney-based head of global property securities at money manager First Sentier Investors. This is the first year that First Sentier, which had $94.8 billion in worldwide institutional AUM, has participated in *P&I*'s survey.

However, the decline in valuations makes investments in REITs more appealing than it was at the beginning of 2022, Stephen Hayes said. The FTSE Nareit All Equity REIT index was 4.11% for the 12 months and -13.00% year-to-date, both as of May 31. By comparison, as of Sept. 30, the FTSE Nareit All Equity REIT index was 31.5% in the 12 months.

While Mr. Hayes thinks the real estate securities sector is well-placed for future growth, given falling valuations due to market volatility, First Sentier executives have not made any meaningful portfolio changes. Stephen Hayes said he is concerned that interest rate rises will not be enough alone to contain and reduce inflation, because fuel prices and supply chain disruptions are factors in its rise

Also, interest rates rising too high may mean households and consumers pull back from spending, which could in turn lead to an economic recession.

"If interest rates go up too far, households and consumers might pull back," which could lead to a economic slowdown, he said. First Sentier executive are monitoring the situation "very closely," considering these factors in their stock selections, but "we are not making material changes," Stephen Hayes said.

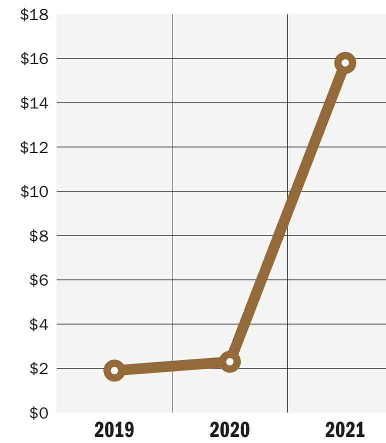
Managers of direct lending assets

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Principal Global Investors	$5,786
2	Hayfin Capital	$3,286
3	SLC Management	$3,205
4	Madison Realty	$1,458
5	Barings	$1,112
6	StepStone Group	$691
7	Prudential Financial	$227

Asset growth (billions)



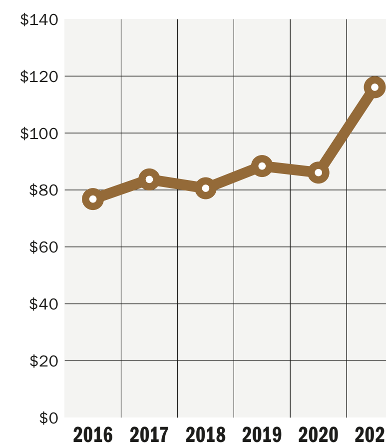
Managers of privately placed debt

U.S. institutional, tax-exempt assets managed internally as of Dec. 31.

The largest managers (millions)

Rank	Manager	Assets
1	Nuveen	$56,275
2	Prudential Financial	$29,597
3	Voya Investment Mgmt.	$7,293
4	TCW Group	$3,514
5	New York Life Investments	$3,493
6	Morgan Stanley Inv. Mgmt.	$3,195
7	Schroders	$2,818
8	PCCP	$2,233
9	Adams Street Partners	$2,068
10	Neuberger Berman	$1,773

Asset growth (billions)



Managers

CONTINUED FROM PAGE 1

changers for investors this year, with recession or even stagflation on the table, Mr. Rajan said.

14% to 20% gains

For 2021, before the tailwinds supporting managers abruptly shifted to headwinds, the rankings of the biggest managers by total worldwide assets held steady, with the top five reporting gains in assets under management of between 14% and 20%.

BlackRock Inc. retained pride of place as the world's biggest manager, with $10.01 trillion in assets under management, up 15.4% from the year before, followed by Vanguard Group Inc., up 18.4% at $8.47 trillion and Fidelity Investments, with a 17.3% gain to $4.24 trillion.

State Street Global Advisors remained in fourth place with $4.14 trillion, up 19.3% from the year before, with fifth-place Capital Group Cos. Inc. up 13.9% to $2.72 trillion.

Worldwide institutional AUM rankings saw BlackRock still on top, but the gap with Vanguard narrowing. BlackRock had $5.69 trillion in worldwide institutional AUM, up 10.6% for the year, compared with a 13.6% gain for Vanguard to $5.41 trillion. They were followed by SSGA in third with $2.91 trillion, up 15.4%.

Fidelity, which ranked fifth in 2020, climbed to fourth place with a 16.3% gain to $2.03 trillion, trading places with BNY Mellon Investment Management, which dropped to fifth place with a 9.5% gain to $1.95 trillion.

For the year, passive U.S. equity AUM, managed internally on behalf of U.S. institutional tax-exempt investors, rose 13.1% to $3.87 trillion, almost double the 6.9% increase in actively managed U.S. equity AUM strategies to $3.11 trillion.

With rock-bottom yields persisting through the start of 2022, fixed-income AUM totals posted relatively incremental increases, with a 2.5% gain for actively managed bond AUM to $3.76 trillion and a 1% increase for passively managed AUM to $1.05 trillion for U.S. institutional tax-exempt clients.

For the year, meanwhile, the decadelong dominance of growth stocks over value stocks gave way to a more mixed performance, presaging the bigger shift in sentiment being seen in this year's newly volatile environment.

Raymond Kam

SILVER LINING: Kimberley Stafford said getting to higher rates can be painful, but it also provides entry points for new allocations.

The top 25 managers of U.S. large-cap growth stocks for U.S. institutional tax-exempt investors saw their AUM climb 7.3% in 2021 to $1.05 trillion, narrowly besting the 7.1% gain to $338 billion for the 25 top managers of large-cap value stocks.

The greater sensitivity of growth stock valuations to rising rates has helped shift the market's focus to value from growth this year, noted R. Burns McKinney, managing director and senior portfolio manager at NFJ Investment Group LLC, a Dallas-based value equity boutique with AUM of $8.4 billion as of March 31.

That shift has made the value sector relatively resilient in what has proven to be a miserable start for equities this year, with the S&P 500 Value index's decline of 3.5% through May 31 just a fraction of the 21.1% plunge for the S&P 500 Growth index over the same period.

Tougher this year

On most fronts, market veterans predict the going will be considerably tougher for money managers this year. In contrast to the optimism and policy support in recent years that made it easy to blast away any market concerns in short order, underlying sentiment now is pessimistic, with expectations that broad markets will remain in the red this year and into 2023, said Andrew Hendry, Singapore-based head of distribution for Asia (ex-Japan) with Janus Henderson Investors, with $432.3 billion in AUM as of Dec. 31. The firm reported a drop in AUM to $361 billion as of March 31 in its latest earnings.

In that environment, money managers will necessarily have to focus more on cost controls, paring back expansion plans that were predicated on the tailwinds of recent years continuing, he said.

But that doesn't mean money managers will be bereft of opportunities, analysts say.

The TINA situation of recent years has changed — there are indeed alternatives now, noted Mr. Chemouny — among them, "U.S. investment-grade fixed income and above."

Following increases in yields this year on the order of 150 to 300 basis points, depending on the sector, "we're a bit back to basics" when it comes to the role investors expect bonds to play in their portfolios, said Kimberley Stafford, managing director and global head of product strategy with Newport Beach, Calif.-based Pacific Investment Management Co. LLC.

While rising rates have meant a drop in the prices of bonds investors currently hold in their portfolios, "we always say the journey to higher rates is very painful but the destination" — providing better entry points for new allocations — "is a good one," Ms. Stafford said.

Amid expectations now of increased volatility and risks of recession, "we are seeing a lot of institutional clients actually pivoting back to core bonds in terms of their asset allocation," she said.

PIMCO reported $1.71 trillion in AUM as of Dec. 31, up 4.8% from the year before.

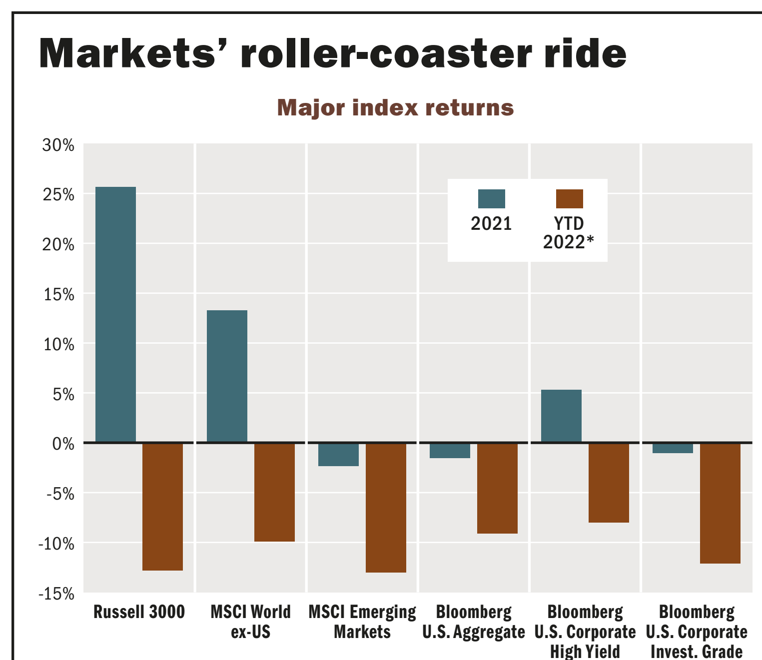
Mr. Chemouny said Natixis is noticing a similar pickup in interest now. "I'm seeing huge investors, like the big Japanese pension plans, like the big Chinese investors authorized to invest abroad, the sovereign wealth funds around the world," looking to allocate more to fixed income again.

Recession, inflation worries

Justin George Muzinich, president and CEO of $39.4 billion New York-based credit boutique Muzinich & Co., said this year's market cycle shouldn't be fundamentally different from previous ones, with certain asset segments doing well and others not. For Muzinich now, the firm's floating rate strategies are doing quite well, he said. Muzinich had $5.4 billion in floating rate strategies.

"There's no perfect solution but in a world where the two big risks on people's minds are recession and inflation, senior secure floating rate credit, both public and private, is a reasonable place to be because you're senior in the capital structure if you're worried about recession and you're floating rate if you're worried about inflation," he said.

Like Ms. Stafford, Mr. Muzinich said the rise in yields this year has made opportunities in public bond markets interesting as well. With the U.S. high yield market now yielding 7.5% for B, BB, excluding CCC, "if you have a four-year holding period, you're potentially making over 25% in coupon," and assuming 30% or 40% recovery rates, default rates would have to be close to those seen



*Through June 2. Source: Bloomberg LP

Proposals

CONTINUED FROM PAGE 1

disclose additional information on ESG strategies in fund prospectuses, annual reports and adviser brochures. The other proposal would expand the "Names Rule" under the Investment Company Act of 1940, which requires funds with certain names to adopt a policy to invest 80% of their assets in the investments suggested by that name. The latter proposal would subject fund names with terms such as "growth" or "value" and those indicating that the fund's investment decisions incorporate one or more ESG factors to the Names Rule.

Both proposals were approved in 3-1 votes with the dissent from the commission's lone Republican, Hester M. Peirce, and have 60-day comment periods upon publication in the Federal Register, which as of press time hadn't happened yet.

Added disclosure

Under the ESG disclosure proposal — which aims to promote consistent, comparable and reliable information for investors concerning funds and advisers' incorporation of ESG factors — funds that consider such ESG factors in their investment process would be required to disclose additional information regarding their strategy. The amount of required disclosure depends on how central ESG factors are to a fund's strategy and follows a "layered" framework, according to an SEC fact sheet. The layered framework starts with "a concise overview in the prospectus supplemented by more detailed information in other sections of the prospectus or in other disclosure documents," the fact sheet noted.

There are three types of ESG funds outlined in the proposal with varying requirements:

Integration funds, which integrate ESG factors alongside non-ESG factors in investment decisions, would be required to describe how ESG factors are incorporated into their investment process.

ESG-focused funds, for which ESG factors are a significant or main consideration, would be required to provide detailed disclosure, including a standardized ESG strategy overview table.

Impact funds, a subset of ESG-focused funds that seek to achieve a particular ESG impact, would be required to disclose how they measure progress on their objectives.

J. Paul Forrester, Chicago-based partner with Mayer Brown LLP, said he is concerned that the SEC is "asking for a lot of very detailed information that I'm not sure investors want or need."

Mr. Forrester also takes issue with the layered disclosure framework, particularly with respect to integration funds that consider both ESG and non-ESG factors. "For those funds, arguably the proposal is even more prescriptive and seems to treat at them in a way that seems disproportionate since many fund managers would say that some consideration of ESG factors is merely prudent, and I'm struggling to understand why they warrant that special treatment," he said. "If you're an ESG-focused fund, which maybe now everybody will want to become in order to be able to use an ESG-related name, you mostly have the same regulatory burden, which is just upside-down to me."

Clarification needed

Jon Hale, Chicago-based head of sustainability research at Morningstar Inc., is also curious to see how integrated funds react to the proposal.

"My experience is that a lot of otherwise conventional funds are claiming to use ESG information in their investment process, but it's difficult for them to explain exactly how it's used or how often it actually plays into an investment decision," Mr. Hale said. "This offers them an opportunity to clarify things," adding that it will be interesting to see if such funds go through with the added disclosure or just drop their ESG claims.

"We certainly don't want strategies, funds saying they use ESG when they don't," Mr. Hale said. "On the other hand, we're so early in terms the development of this field, especially in the mainstreaming of it, that I'm not sure I want to discourage conventional asset managers from using the information because they might find it increasingly useful and increase the weighting of it in their process over time."

Investment advisers that consider ESG factors would also be required to make disclosures in their brochures with respect to their consideration of ESG factors in the significant investment strategies or methods of analysis they pursue during the global financial crisis for investors to lose money.

ESG continuity

If expanded opportunities for bond managers count as a new development this year, interest in ESG-focused segments such as clean energy-related allocations is an area of continuity, market participants say.

For 2021, P&I's money manager survey data showed assets managed under ESG principles jumping 21.9% to $28.03 trillion.

Mr. Chemouny said the determination of clients in the wake of Russia's invasion of Ukraine to lessen dependence on energy producers "you didn't really like but you were closing your eyes" on has been a fascinating development this year. "Now your eyes are wide open and there's no way you can continue fueling Russia with billions every day," a conviction reflected in the strong interest investors are showing now to participate in clean energy funds from Natixis sustainable investing boutiques such as Mirova and Vauban Infrastructure Partners, both based in Paris, he said.

Meanwhile, even equities are attracting allocations from some investors, despite what has been an ugly environment for the asset class this year, some managers report.

In contrast to previous episodes of extreme market volatility that left many investors frozen like deer in the headlights, "we don't see that this time at all," said Gregory A. Ehret, CEO and executive director of PineBridge Investments LLC, the New York-based money management firm with global AUM of $148.7 billion as of Dec. 31.

A couple of sophisticated clients have been rebalancing consistently into equities as the markets have gone down, lowering the cost basis of their equity portfolios, he said.

PineBridge has enjoyed net inflows of roughly $3 billion this year, or 28% of the firm's target for 2022, Mr. Ehret said.

More broadly, the big changes this year in the macro-policy and economic outlook haven't led to significant changes for the company's 10-year business plans, he said, noting that as a private company PineBridge is under less pressure to respond to shorter-term shocks than a public company that has to manage to shareholder expectations. ■

Managers adjust for newly uncertain environment

By DOUGLAS APPELL and PALASH GHOSH

Money managers are grappling with their most uncertain business environment in recent memory, a wrenching change after years where extraordinary monetary policy support helped them fight through every period of market turbulence.

"We've been through a long period of favorable conditions for traditional long exposure to equities and bonds, with unprecedented monetary and fiscal support and decades of benign inflation," said Simon Coxeter, Mercer's Singapore-based director of strategic research for Asia, Middle East and Africa and Latin America.

Going forward, though, spiking inflation, Federal Reserve rate hikes and wild cards such as the Russia-Ukraine war will challenge asset managers that have "benefited from inflows buoyed by strong market performance, particularly those with undifferentiated products and unremarkable net-of-fees alpha," Mr. Coxeter said.

Quantitative easing and low interest rates effectively made investing a "one-way bet and put a floor on volatility," agreed Amin Rajan, CEO of CREATE-Research, a London-based consulting firm for the global money management industry.

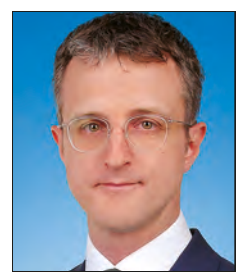
Now with the Fed becoming very hawkish in response to surging inflationary pressures and huge disruptions to global supply chains like the war in Ukraine, the risks of recession or stagflation can't be ignored, he said.

Money managers, accustomed to supportive monetary policy, say the challenges facing the Fed in taming inflation remain top of mind. Saira Malik, San Francisco-based chief investment officer at Nuveen LLC, the $1.26 trillion New York-based money manager, said her firm's clients now are most concerned with how resilient the U.S. economy and earnings growth will prove as the Fed forges ahead with further interest rate hikes this year.

With the Fed clearly behind the curve in fight inflation, "a central bank policy error" is clients' biggest worry, agreed R. Burns McKinney, managing director and senior portfolio manager with NFJ Investment Group LLC, a Dallas-based value equity boutique with AUM of $8.4 billion.

Meanwhile, Timothy C. Murray, capital markets strategist in Baltimore-based T. Rowe Price Group Inc.'s multiasset division, said the rising correlation between stock and bond prices this year — a disappointment for asset owners counting on rising bond prices to cushion equity market declines — is yet another concern. T. Rowe Price had $1.42 trillion in AUM as of Dec. 31, a figure that dropped to $1.42 trillion as of April 30.

Against that backdrop, with the monetary policy tailwind that made "buying the dips" a profitable strategy becoming a headwind now and a prolonged period of volatility dawning, buying the dip could prove "very dangerous" going forward, Mr. Rajan said.



ROUGH ROAD: Simon Coxeter said managers face many challenges going forward.

Short-term pressure

Money managers concede the industry will continue to face short-term pressures this year. The spectrum of opinion on how manageable those challenges will be remains wide.

To the extent money managers were projecting a continuation of recent industry trends, they'll be facing pressure to amend their business plans and control costs, said Andrew Hendry, Singapore-based head of distribution for Asia (ex-Japan) with Janus Henderson Investors.

And if in years past money managers could discount sharp market declines in anticipation of fairly rapid recoveries, this time around they could also find clients potentially shifting allocations to lower-risk, lower-fee assets instead — a double whammy for manager revenues, he said.

Fabrice Chemouny, Hong Kong-based head of Asia-Pacific at Natixis Investment Managers, likened the challenges facing money management firms now to dealing with a drug addiction.

Fed liquidity in response to the COVID-19 crisis, said Mr. Chemouny, has made you "feel better and better and better but you know at some point you need to live your life without the medicines, right?"

"We knew at the end of the day somebody will switch off the music," Mr. Chemouny said. "Some people are still dancing but there is no more music and definitely we need to face that," because inflation is here and it's going to be very complicated for central banks to bring it under control, he said.

That prospect has left managers predicting 2022 will remain a difficult year, even as some insist they should be able to spy light at the end of the proverbial tunnel before too long.

The current year is absolutely going to be tough, but it's not likely to be the start of a multiyear period in the investment wilderness, said Gregory A. Ehret, CEO and executive director of PineBridge Investments LLC, a New York-based money management firm with global AUM of $148.7 billion as of Dec. 31.

"No elected government ever wants to deal with a long-term recession," said Mr. Ehret. "They've found a way of helping us get out of recessions in the past by monetary policy" and there's no reason to believe they won't do so going forward, he added.

Justin George Muzinich, president and CEO of $39.4 billion New York-based credit boutique Muzinich & Co., likewise predicted a "normal recession" rather than anything that will change the asset management industry in a fundamental way.

What markets are pricing in at this point, based on the yield curve, is "we'll be in a rising rate world for a short period of time," said Mr. Muzinich, adding "the Fed will do what's necessary to tackle inflation."

Such expectations have found money managers tweaking their business plans rather than rewriting them.

"I'm certainly not investing as fast in certain types of initiatives that have a long cash burn," PineBridge's Mr. Ehret said. "But there are certain places where we can see shorter cash burns as being good investments and so … we continue to look feverishly for opportunities to invest in smart investment teams," focused on private market strategies as well as Asia-Pacific-related opportunities, he said.

Meanwhile, the prospect of a bumpy, directionless market should bring opportunities as well as challenges, market participants say.

In this year's newly volatile environment, "it may be easier to demonstrate the value proposition of active management after many years of market share gains for lower-fee passive products," Mercer's Mr. Coxeter said.

Money managers are making similar arguments now.

'You've got to be active'

Because of the volatility and the uncertainty, "you've got to be active, because no one is going to be able to call the bottom … and it's going to be really difficult to be passive and kind of buckle up and be along for the ride," said Kimberley Stafford, managing director and global head of product strategy with Newport Beach, Calif.-based Pacific Investment Management Co. LLC.

With all of the risks at present, "you just don't want to be tied to an index," she said.

Natixis' Mr. Chemouny struck a similar tone. "This is a wonderful period of time for active managers … because if you're buying the indices, there's only one way that the direction of travel is, volatile and at this stage negative," he said.

"When it's bumpy, we need to determine when I should come in, when I should come out and what is the quality of the stocks that I have," a challenging backdrop for maintaining passive exposures, he said.

Still, CREATE-Research's Mr. Rajan noted that in the prior two periods of extreme market volatility — the global financial crisis of 2008-2009 and the pandemic selloff of 2020 — active managers failed to distinguish themselves.

In both of those instances, however, extraordinary policy support led to powerful market rallies, effectively bolstering beta over alpha. It's unclear whether the anticipated absence of such support this year, amid continued inflationary pressures, will give alpha-focused managers a more sustained boost. ■

The SEC is 'asking for a lot of very detailed information that I'm not sure investors want or need.'

MAYER BROWN'S **J. PAUL FORRESTER**

and report certain ESG information in their annual filings with the SEC, the agency's fact sheet said.

Karen L. Barr, president and CEO of the Washington-based Investment Adviser Association, an organization for fiduciary investment advisers, said her group supports policies that facilitate sustainable investing but is concerned with some of the information the SEC is seeking.

"We believe that investment advisers should clearly articulate their investment strategies, including sustainable investment strategies, so their clients can understand their philosophy and can make informed decisions," Ms. Barr said. "But at a certain point, the disclosures get so granular that you're potentially leading the investors to a certain inference."

Names Rule

The SEC adopted its Names Rule in 2001 and since then the fund industry has evolved and gaps in the rule have become apparent, SEC Chairman Gary Gensler said prior to the May 25 vote. Currently, the Names Rule requires funds with a name suggesting it focuses on a particular type of investment, such as the "ABC Stock Fund" or the "XYZ Bond Fund," to invest at least 80% of its assets in the type of investment suggested by its name. Also, names suggesting that a fund focuses its investments in a particular country or geographic region, that a fund's distributions are exempt from income tax, and that a fund or its shares are guaranteed or approved by the U.S. government are subject to the rule, according to the SEC.

Mr. Forrester of Mayer Brown said an update to the Names Rule is needed. "I, like many, saw funds that were not performing (well) rebrand themselves as ESG in an attempt to attract more money and keep themselves alive," he said. "I think greenwashing is probably going on and is a pretty significant risk, and I think the public needs to made aware of it and perhaps we're going to be."

There are more than 1,400 funds in the U.S. with "value" or "growth" in their names, according to data from Morningstar Direct. Moreover, there are more than 500 funds in the U.S. sustainable fund universe, which includes open-end funds and exchange-traded funds, that thoroughly integrate ESG factors into their investment processes, pursue sustainability-related investment themes or seek measurable sustainable impact alongside financial returns, according to Morningstar Direct.

Separately, the SEC in March 2021 announced the formation of a climate and ESG task force to proactively identify ESG-related misconduct.

Just before the SEC proposed expanding the Names Rule, BNY Mellon Investment Adviser Inc. agreed to settle SEC charges that the registered investment adviser made misstatements and omissions about ESG considerations involving investment decisions for six mutual funds that it managed, the agency announced May 23. BNY Mellon Investment Adviser, a subsidiary of Bank of New York Mellon Corp., agreed to a cease-and-desist order, a censure and a $1.5 million penalty to settle the charges, though it did not admit to or deny the SEC's findings.

"Investors are increasingly focused on ESG considerations when making investment decisions," said Adam S. Aderton, co-chief of the SEC enforcement division's asset management unit and a member of its climate and ESG task force, in a news release. "As this action illustrates, the commission will hold investment advisers accountable when they do not accurately describe their incorporation of ESG factors into their investment selection process." ■

AT DEADLINE

La. Employees commits

Louisiana State Employees' Retirement System approved three new commitments to buyout funds totaling $300 million.

The $13.3 billion pension fund's board at its May 26 meeting approved the commitments of $100 million each to AEA Investors Fund VIII; Apollo Investment Fund X, managed by Apollo Global Management; and Audax Private Equity Fund VII, managed by Audax Group, said Laney Sanders, assistant chief investment officer, in an email.

As of March 31, the actual allocation to private markets was 21.9%.

Chicago fund taps CIO

Fernando Vinzons was named chief investment officer of the $13.1 billion Chicago Public School Teachers' Pension & Retirement Fund.

He will join the pension fund on July 11. He replaces Angela Miller-May, who left in August to become CIO of the $50.8 billion Illinois Municipal Retirement Fund, Oak Brook.

Mr. Vinzons was director of investments for the Cook County Employees' and Forest Preserve District Employees' Annuity & Benefit Funds, both of Chicago.

Funding dips slightly

U.S. corporate defined benefit plan funding ratios declined in May, two reports show, while a third report shows a very slight increase.

In Wilshire Advisors' monthly report, the aggregate funding ratio for U.S. corporate pension plans fell by 90 basis points in May to 97.1% from 98% as of April 30.

Ned McGuire, managing director at Wilshire, said in the report that the overall decline was due to assets falling due to poor market returns, compounded by the first monthly increase in liability values since November.

Legal & General Investment Management America said in its monthly pension solutions monitor that it estimates that the typical U.S. corporate pension plan's funding ratio fell to 97% as of May 31 from 97.2% a month earlier.

In a third report, Insight Investment said the funding ratio for U.S. corporate DB plans rose to 100.4% from 100.3% during May.

Assets decreased by 0.4 percentage points, while liabilities declined by 0.6 percentage points. The average discount rate rose to 4.24% as of May 31 from 4.19% a month earlier, according to Insight.

Trust fund outlook up

The main Social Security trust fund for retirees has a slightly improved outlook and now has a projected depletion date of 2034, one year later than last year's projection, according to the latest Social Security trustees' annual report.

If the trust fund were to become depleted, the fund's income would be sufficient to pay 77% of its scheduled benefits, said the report issued June 2.

Collectively, the Social Security trust funds — one that covers retirees and their families and one that covers disabled workers and their families — will be out of money by 2035, one year later than last year's report projected. On its own, the disability insurance trust fund is no longer projected to go insolvent within the 75-year projection period. Last year's report project it to be depleted in 2057.

Long gov't bonds cut

Denver Employees Retirement Plan is eliminating its exposure to long-term government bonds following a strategic asset allocation review.

The $2.8 billion pension fund's board approved the change at its April 15 meeting, recently released meeting minutes show.

Investment consultant Meketa Investment Group recommended the change to "address the anticipated rise in rates in the current environment," according to the minutes. Assets will be reallocated to short- and intermediate-term government bonds and hedge funds, according to the minutes.

LA Fire/Police GM to retire

Ray Ciranna, general manager of the Los Angeles Fire & Police Pensions, is retiring at the end of August after nine years at the helm of the $29.7 billion pension plan, he said in an interview.

Mr. Ciranna's announced retirement comes about a month after the departure of former CIO Ray Joseph, who resigned for personal reasons.

The LAFPP board is beginning the search immediately and is expected to determine the general manager search process at its June 16 meeting, Mr. Ciranna said. However, since the CIO reports to the general manager, the selection of a new CIO could be delayed until a new general manager is hired, he said.

PBGC OKs application

The Pension Benefit Guaranty Corp. approved a union's application for a federal assistance program that aids struggling multiemployer plans.

Mid-Jersey Trucking Industry and Teamsters Local 701 Pension Plan, North Brunswick, N.J., will receive $142 million under the Special Financial Assistance Program, the PBGC announced in a news release May 31.

The Teamsters 701 plan, which covers 1,623 participants in the transportation industry, in April 2019 implemented a benefit suspension under the Kline-Miller Multiemployer Pension Reform Act of 2014.

Top spot

CONTINUED FROM PAGE 1

es specifically to do everything they can to help clients. Part of the success for each firm is the way they provide solutions to investors as opposed to thrusting funds at them. It helps that both firms also have excellent customer service," Ms. Tepper said.

Both firms also benefit from cross-selling new strategies to existing investors, Ms. Tepper said, noting "once an investor has an investment relationship with BlackRock or Vanguard, it's easier to sell them something else."

Top 2 spots

In terms of worldwide assets under management as of Dec. 31, BlackRock and Vanguard retained the top two spots in *P&I*'s ranking with $10.01 trillion for New York-based BlackRock and $8.45 trillion for Vanguard, Malvern, Pa.

BlackRock attracted $540 billion of net inflows in 2021, the strongest annual organic growth in its history, said Zach Buchwald, managing director and head of institutional business for the U.S. and Canada, in an interview.

He added that BlackRock saw a fair amount of outflows in 2021 from indexed strategies as institutional investors systematically shifted money into the firm's active strategies in reaction to market conditions.

Last June, the Federal Retirement Thrift Investment Board, Washington, hired State Street Global Advisors as an additional manager for three index funds and transferred about $57 billion in assets to the Boston-based firm from the $739.9 billion Thrift Savings Plan.

BlackRock had been the sole manager of the three TSP index funds.

Institutional investor inflows to BlackRock's actively managed strategies saw 11% of growth last year while indexed strategies had net outflows of 4%, Mr. Buchwald

'Both Vanguard and BlackRock are seeing significant ETF growth. But when it comes to defined contribution plans, Vanguard is hitting the ground a little bit harder than BlackRock.'

MORNINGSTAR'S **GREGGORY WARREN**

said. He did not provide dollar figures.

Vanguard declined to comment for this story.

Passive investing has long made up a big portion of each manager's business, but Vanguard has been the dominant force the past five years for U.S. institutional tax-exempt investors. Passive U.S. equity was up nearly 20% for the year ended Dec. 31 and 166% over the past five years for Vanguard to $1.57 trillion, while BlackRock has seen growth rates of only 2.9% and 76%, respectively, to $948.4 billion.

It's a similar story for passive U.S. fixed income, where Vanguard has grown 11.4% over the year and 115.2% since 2016 to $364.2 billion, compared with 3.2% and 32.6%, respectively, for BlackRock, to $214.3 billion.

Mr. Buchwald said BlackRock had several other areas of strength last year, including outsourced CIO, active fixed income, private credit, LifePath target-date funds and alternative investments.

He noted that BlackRock is heavily investing in these areas, especially in alternatives, in response to client demand.

BlackRock had a big win last year when British Airways, Harmondsworth, England, selected the firm for an OCIO assignment totaling £26.8 billion ($33.5 billion).

In contrast, sources stressed that Vanguard is far more focused on the defined contribution plan market with a total of $2.045 trillion under management, a $655 billion and growing gap on second-ranked BlackRock as of Dec. 31, *P&I* data showed. Vanguard's DC assets were up 126.4% over the past five years, compared with 100.9% for BlackRock.

Vanguard's total U.S. defined benefit plan assets under management totaled only $38.5 billion, while BlackRock's defined benefit plan assets totaled $708.2 billion as of Dec. 31, the firms' surveys showed.

Vanguard DC push

"Vanguard has been pushing

Vermont

CONTINUED FROM PAGE 2

Lawmakers quickly overrode his veto, arguing the governor's recommendation was too last minute and lacked the actuarial analysis to support his suggested reform measure.

As states look to solve long-term funding shortfalls in their defined benefit plans, some are either offering new employees a DC plan as an alternative to a traditional pension or closing the plan to new hires altogether and giving them a defined contribution plan instead. To date, nine states offer a defined contribution plan as an alternative to a defined benefit plan, and three — Alaska, Michigan and Oklahoma — have taken the broader measure of offering a DC plan as the only option for new workers, said Aleena Oberthur, manager at The Pew Charitable Trusts in Washington.

Defined contribution supporters position DC alternatives to defined benefit plans as giving employees more choice, which they say is important given today's mobile workforce, as well as making state's future retirement costs more predictable. Those who support traditional defined benefit plans, however, see such measures as the first step in killing off public pension plans.

"I think the concern of a lot of the DB advocates is that this is a step toward getting rid of pensions over time," said Dan Doonan, executive director of the National Institute on Retirement Security in Washington.

Opening a defined contribution plan takes away future members of the traditional pension plan, which weakens its ratio of workers to retirees, thereby straining funding, Mr. Doonan said.

Pressure on DB funding

Vermont Treasurer Beth Pearce, a fierce defender of defined benefit plans, also sees the addition of defined contribution plans as aging the profile of existing DB plans. Fewer people coming into a DB plan means there are fewer people providing contributions to support a growing base of retirees.

"Your population is getting older and more likely to retire," she said, adding that the demographic dynamic puts added pressure on a DB plan's unfunded liabilities.

Ms. Pearce, who describes herself as "a little bit of an actuarial nerd," emphasized that the introduction of a DC option would increase costs and would not take care of the $3 billion unfunded liability of the two pension plans for state employees and teachers.

After delving into the state's data, Ms. Pearce estimates that if the DC plan now in place for exempt employees were implemented and applied to all employees, it would increase total DB and DC costs by an estimated $60 million in 10 years and continue growing each subsequent year. The increased costs would be substantial even if the defined contribution plan applied to just new employees, she said.

Ms. Pearce explained that DC plan costs are higher than the DB plans' so-called "normal costs" or those not related to the unfunded liability. "The contribution rate per participant for the existing defined contribution system exceeds the normal cost per participant in the defined benefit plan," Ms. Pearce said.

Ms. Pearce also points out that studies have consistently shown that DB plans are easier on state budgets than DC plans. For example, in a study released in January, the National Institute on Retirement Security found that the typical DB plan has a 49% cost advantage over a typical individually directed defined contribution plan, with four-fifths of the difference occurring post-retirement.

Derisk DB portfolios

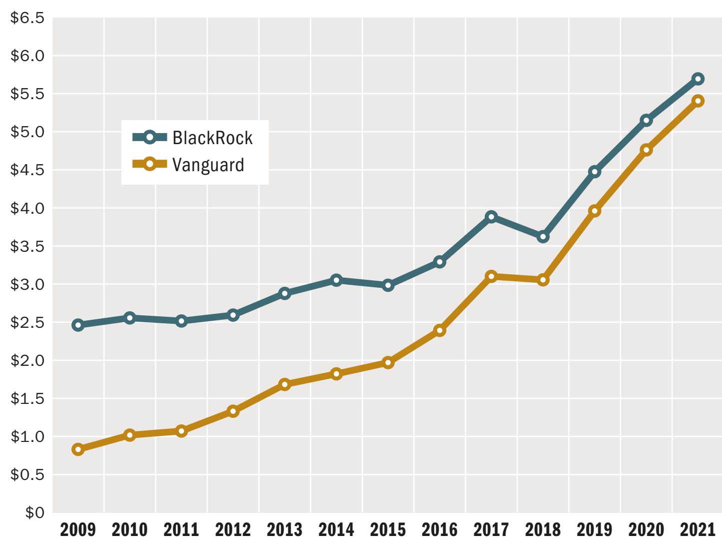
While Mr. Scott called for structural reforms to "right the ship," experience has shown that when DB plans are closed, their unfunded liabilities often grow, according to industry experts. That's because fewer people are now contributing to the DB plan, triggering negative cash flows, said Gene Kalwarski, CEO and principal consulting actuary at Cheiron Inc. in McLean, Va.

"With less money coming into the DB plan, we now have to dip into investments to pay those benefits," he said, adding that if assets

Hearing footsteps

Second-place Vanguard has been narrowing the gap with top-ranked BlackRock in worldwide assets for institutional clients.

Worldwide institutional assets (trillions)



Source: *Pensions & Investments*; data are as of Dec. 31.

much harder in its defined contribution plan business, especially its target-date funds, than BlackRock and is very focused on its ETF franchise," said Greggory Warren, financial services sector strategist for Morningstar Inc., Chicago, in an interview.

"Both Vanguard and BlackRock are seeing significant ETF growth. But when it comes to defined contribution plans, Vanguard is hitting the ground a little bit harder than BlackRock," Mr. Warren said.

He added that Morningstar data showed that both firms had strong annualized organic growth in its exchange-traded funds over the past five years with 17% for Vanguard and about 12% for BlackRock, Mr. Warren said, adding that Vanguard's lower ETF pricing caters to individual investors.

He noted that as a privately held company, Vanguard has worked on driving down costs as much as it can since there aren't shareholders to appease.

P&I's survey data showed that over the five-year period ended Dec. 31, BlackRock's ETF assets were up 153% vs. 261% for Vanguard.

"It's easy to beat up on BlackRock vs. Vanguard. Although BlackRock has stumbled here and there over the years, BlackRock likes to be seen as the guys in the white hats in the industry and it does have a pretty good reputation," Mr. Warren said.

As for the very public persona of Laurence D. "Larry" Fink, BlackRock's chairman and CEO, as of late he has been opining on ESG and other issues, Mr. Warren said. "Larry is more of a lightning rod. He's being more vocal about issues like ESG and other issues in an effort to be transparent."

Retail assets under management was one area where BlackRock has had higher growth in the year; it was up 22.4% for the year ended Dec. 31 and increased 132.5% for the five-year period compared with Vanguard's 10.3% increase for the year and growth of 67.4% over five years, *P&I* survey data showed.

Industry's powerhouse

Despite slower growth rates than its main competitor, industry sources said BlackRock likely will remain the industry's powerhouse.

"BlackRock is one of the industry's very durable investment franchises and is differentiated from other money managers because of the advantages that Aladdin, its risk-management system, provides for internal use as well as by clients and other external users," said Catherine A. Seifert, vice president and equity analyst, CFRA Inc., New York, in an interview.

Another advantage is the revenue Aladdin generates, an asset that Vanguard doesn't have, Ms. Seifert said.

But Ms. Seifert warned that "BlackRock is at some risk because it doesn't have a large alternative investment capability, an area that's in high demand especially from institutional investors" and speculated that at "some point, it would not be surprising to see BlackRock make a significant acquisition to broaden its alternative investment offerings."

In contrast to what BlackRock's Mr. Buchwald said about investor preferences in 2021, investors still are very interested in investing in passive strategies, said Jeffrey DeMaso, New York-based director of research for Adviser Investments LLC, in an interview.

"The recent surge in assets at Vanguard is the result of the shift from active managers to index funds, not just in 2021 but over the past decade. The trend has been the same whether we are talking about retail or institutional investors. Index funds have become the default choice," Mr. DeMaso said.

He cautioned that at some point — and at some asset level — those growth rates will have to come down for Vanguard, noting "Vanguard is no longer always the cheapest option around, but they have the reputation and brand power that others don't," Mr. DeMaso said.

Adviser Investments manages about $6 billion in diversified portfolios for investors.

Vanguard target-date funds

Vanguard's indexed and target-date funds are well-regarded by defined contribution plan sponsors, said Martin Schmidt, principal of defined contribution consulting firm MAS Advisors LLC, Chicago, in an interview.

"Vanguard's target-date funds seem to dominate the selections by plan sponsors," Mr. Schmidt noted, adding, "Vanguard is also utilized more across all market segments."

Even as BlackRock has lagged behind Vanguard in recent asset percentage gains, Mr. Schmidt said "BlackRock tends to be utilized more in the larger market rather than across all market segments."

"It's not clear how 2022 will impact these firms. I expect both firms to continue to gain market share. When or if Vanguard will overtake BlackRock (in total assets) is something to watch for in the future," Mr. Schmidt said.

Pension Funds

Virginia fund taps Junkin as next CIO

Andrew H. Junkin was named chief investment officer of the $105 billion Virginia Retirement System, Richmond.

He will join the system in September, spokeswoman Jeanne Chenault said in an email. He will replace Ronald D. Schmitz, who is staying on to assist with the transition before retiring in January 2023. Mr. Schmitz joined the retirement system as CIO in October 2011.

"Andrew has demonstrated vision and skill as an investor in both the public and private sectors. He has led high-performing teams, worked collaboratively in a range of environments and developed innovative investment strategies," said VRS Board of Trustees Chair A. Scott Andrews in a news release.

Mr. Junkin is currently CIO of the Rhode Island State Investment Commission, Providence, which oversees the investment management of the $10.5 billion Rhode Island Employees' Retirement System, Providence. He joined the commission in 2020 after five years as president of Wilshire Consulting.

Benjamin Smith, spokesman for Rhode Island Treasurer Seth Magaziner, whose office oversees the investment commission, could not be immediately reached for comment.

BETTER OPTION: Beth Pearce said that studies show DB plans are easier on state budgets than DC plans.

are liquidated during a market downturn, "you can't recoup."

One way to prevent the unfunded liability from growing after closing a DB plan is to derisk the portfolio by investing in assets that are less volatile, something that most public plans don't do, Mr. Kalwarski said.

"They continue to invest as though the plan is still open, and that's why the unfunded liabilities in most cases grow," he said.

For states that closed their pension plans to new employees and offered them defined contribution plans instead, the result has not been encouraging. West Virginia, for example, which closed its pension plan for teachers in 1991, wound up reopening the plan in 2005 after discovering that closing the DB plan didn't help the unfunded liability at all, said Craig Slaughter, Charleston-based CEO of the West Virginia Investment Management Board, which manages the assets of the state's DB plans for teachers and other state employees.

Even though the state developed a 40-year funding plan for the DB plan that ate up one-tenth of the state's general budget each year, it realized that the now $8.7 billion plan was shrinking because there were fewer people making contributions, he said.

"They discovered that it would have been actuarially more efficient for the DB plan to have remained opened and not do a DC plan," he said.

In addition to reopening the DB plan to new hires, West Virginia in 2008 allowed teachers in the DC plan to switch to the DB plan, an option taken by more than 78% of teachers, according to an August 2019 report by the National Institute on Retirement Security.

Alaska's funding

Alaska, too, saw its unfunded liabilities grow after closing its two statewide DB plans for teachers and public employees in 2005. As of June 30, 2021, their combined unfunded liability stood at $7.4 billion, up from $4.1 billion in 2005, according to The Public Plans Data, a public database maintained by the Center for Retirement Research at Boston College in partnership with MissionSquare Research Institute, the National Association of State Retirement Administrators, and the Government Finance Officers Association.

Alysia Jones, board liaison officer for the Alaska Retirement Management Board in Juneau, declined to discuss the impact the closing of its DB plans had on the state's unfunded liabilities.

In its 2019 report, however, the National Institute on National Security said Alaska's growing unfunded liability was exacerbated by the fact that it underpaid the actuarially determined employer contribution for many years in both the teachers' and public employees' DB plans. Still, a large one-time $3 billion infusion of the state's financial resources in 2014 was insufficient to prevent the unfunded liabilities of the two plans from growing, the report said.

The state, which NIRS' Mr. Doonan and other experts say is facing significant challenges recruiting teachers, state troopers and other state workers, is now considering legislation that would allow its teachers and public employees to choose between the state's defined benefit and defined contribution plans.

For its part, Vermont is looking to reduce its unfunded liabilities the traditional way by reducing benefits and increasing contributions. The state's recent pension reform legislation calls for teachers and state employees to boost their contributions gradually over a three- to five-year period and to accept more modest cost-of-living adjustments. The state, in turn, will make a one-time $200 million payment to the pension systems to pay down unfunded liabilities in fiscal year 2022, plus ongoing additional payments beginning in 2024 that ramp up to $15 million and remain at that level until the pension systems are 90% funded.

As Ms. Pearce sees it, defined benefit plans are better equipped to serve the state's public workers than defined contribution plans on multiple fronts, be it plan affordability and sustainability, recruiting and retention or retirement security.

Retirement plans should be attractive to employees and provide them with retirement security, while being sustainable as well as affordable to workers and taxpayers, she said.

"I believe that defined benefit plans fit the mold much better than defined contribution plans," she said.

Deadline

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a look at last year's winners, visit **pionline.com/bptw2021**.

Excellence & Innovation awards: *P&I* and its program partner, the Defined Contribution Institutional Investment Association, are seeking nominations for the Excellence & Innovation Awards program, also in its 11th year.

In a new twist for 2022, DC plan executives and their internal teams can now be recognized for well-executed, creative and unusual projects that help ensure a successful retirement for participants. Past awards were limited to a plan sponsor executive.

Entries are judged on innovation as well as excellence in execution. Participation in the program is free.

Applicants do not have to self-select the category in which they wish to compete. A panel of industry experts will work alongside P&I editorial employees to determine whether entries should compete in either the innovation or the excellence categories. *P&I* and DCIIA are looking for programs implemented on or after Jan. 1, 2021. Winners will be announced at *P&I*'s West Coast Defined Contribution Conference Oct. 23-25.

For more information and the nomination form, visit **pionline.com/excellenceinnovation2022**. Last year's winners can be found at: **www.pionline.com/excellence-innovation-awards.**

If you'd like more information on both programs, contact Executive Editor Julie Tatge at 312-649-5442 or by email at **jtatge@pionline.com**. To reach Best Companies Group, Harrisburg, Pa., call 877-455-2159.