Infrastructure Institutional Investor Trends for 2016 Survey

PROBITAS PARTNERS

probity (prō′bĭ·tē)
n. [from Latin probitas: good, proper, honest.] adherence to the highest principles, ideals and character.

On an ongoing basis, Probitas Partners offers research and investment tools for the alternative investment market to aid its institutional investor and general partner clients. Probitas Partners compiles data from various trade and other sources and then vets and enhances that data via its team's broad knowledge of the market.

Contents

Infrastructure Landscape

- Fundraising set a post-Great Financial Crisis (GFC) high in 2015, but the midyear total for 2016 has already soared above that, driven by the $11.8 billion that closed for Brookfield's latest fund this year and the $10.8 billion that closed for Global Infrastructural Partner III (GIP) as well as another $2 billion closed for GIP's Australia focused fund (Chart I). These two fund managers alone accounted for over half the money raised so far during the year.

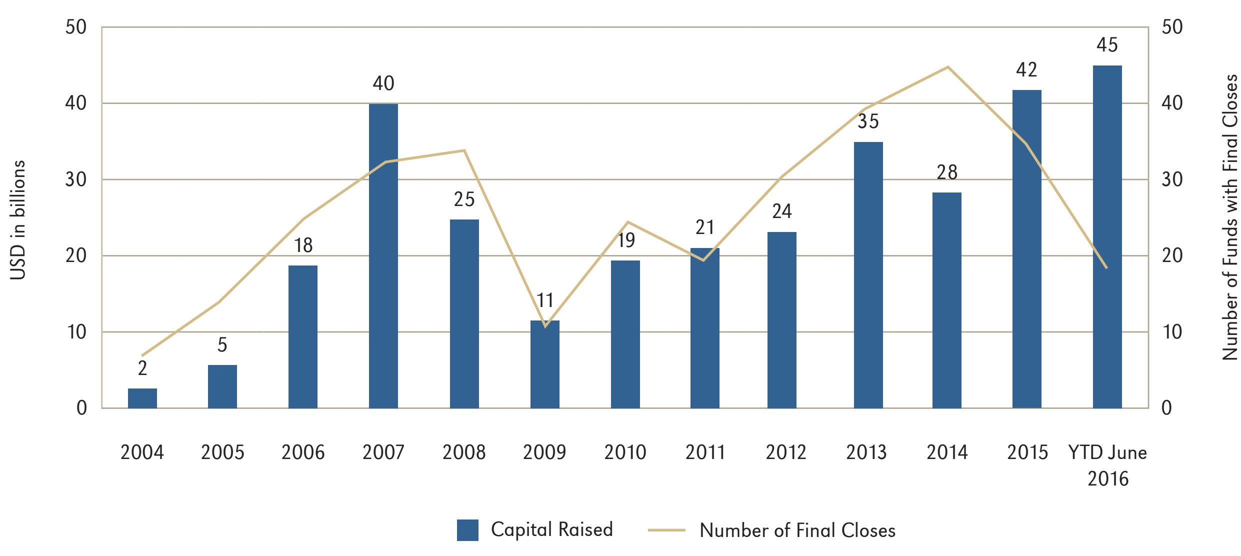
- Because both Brookfield and GIP invest globally, global funds continue to lead investor interest, dominating the market (Chart II). Interest across the three major geographic areas — North America, Europe, and Asia — was evenly split, with less than 1% raised for other emerging markets.

- Brownfield/greenfield funds (focused on brownfield investing with a limited ability to do greenfield projects, or with a focus on value-added investments that are not core brownfield) continue to comprise the largest sector of interest in the market, making up 80% of the total so far in 2016 (Chart III). Interest in pure greenfield funds remains weak, totaling less than 1% of funds raised in the first half of 2016. These numbers do not tell the whole story for core brownfield investments, as many of these are invested in by large limited partners (LPs) either directly or through separate accounts.

- Infrastructure debt funds, a new sector of the market, surged in interest in 2013, moving from 12% of fundraising in 2012 to 23%. Since then, however, interest in debt has fallen substantially, to only 5% of the market in the first half of the year 2016.

"...two fund managers alone accounted for over half the money raised so far this year"

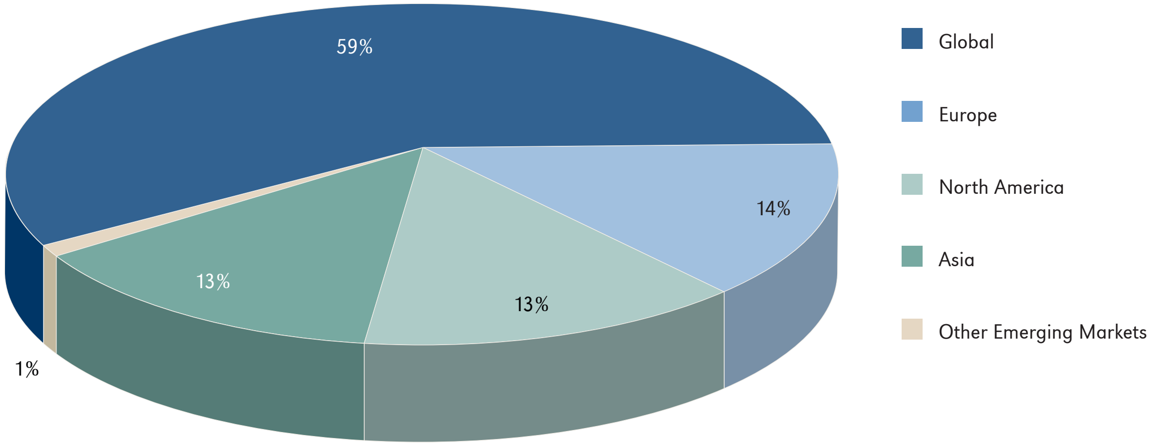
Chart I Global Infrastructure Fundraising 2004–2016



Source: Probitas Partners; PREQIN, Infrastructure Investor, Private Equity Analyst
Note: Does not include infrastructure funds-of-funds

Chart II Infrastructure Fundraising, YTD 2016 by Region

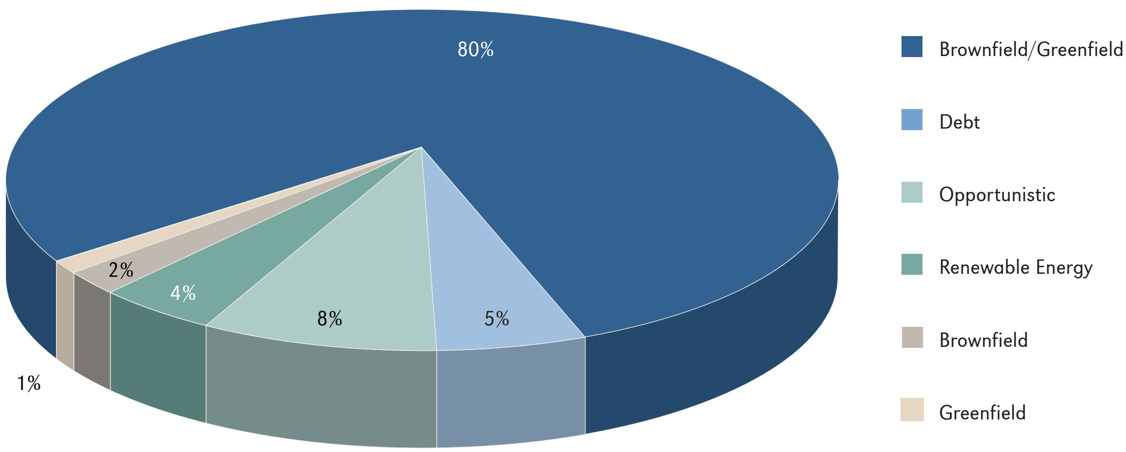
(in terms of capital raised in USD)



Source: Probitas Partners; PREQIN, Infrastructure Investor, Private Equity Analyst
Note: Does not include infrastructure funds-of-funds

Chart III Infrastructure Fundraising, YTD 2016 by Strategy

(in terms of capital raised in USD)



Source: Probitas Partners; PREQIN, Infrastructure Investor, Private Equity Analyst
Note: Does not include infrastructure funds-of-funds

Ten Largest Infrastructure Funds to Date

- **Table I lists the ten largest infrastructure funds with final closes to date. Brookfield and GIP, who drove fundraising in the first half of 2016, hold the top three spots on the table, and the $10.8 billion raised by GIP III on its first close alone (it has not had a final close yet) would rank it second.**

- **All these funds are focused on developed markets. Most of them target core and value-added brownfield projects with the flexibility to invest opportunistically in greenfield transactions.**

- **Three out of the ten funds are heavily focused on energy investments, mainly targeting North American investments.**

- **All of these large funds but one are denominated in U.S. dollars.**

Table I Ten Largest Infrastructure Funds, August 2016

Rank	Fund Name	Firm Name	Location	Year	Amount (MM)
1	Brookfield Infrastructure Fund III	Brookfield Asset Management	Toronto	2016	USD 14,000
2	Global Infrastructure Partners II	Global Infrastructure Partners	New York	2013	USD 8,250
3	Brookfield Infrastructure Fund II	Brookfield Asset Management	Toronto	2013	USD 7,000
4	GS Infrastructure Partners I	GS Infrastructure Investment Group	New York	2006	USD 6,500
5	Macquarie European Infrastructure Fund II	Macquarie Infrastructure and Real Assets	Sydney; London	2006	EUR 4,635
6	Global Infrastructure Partners I	Global Infrastructure Partners	New York	2008	USD 5,640
7	ArcLight Energy Partners Fund VI	ArcLight Capital Partners	Boston	2015	USD 5,575
8	Energy Capital Partners III	Energy Capital Partners	Short Hills, NJ	2014	USD 5,095
9	Energy Capital Partners II	Energy Capital Partners	Short Hills, NJ	2009	USD 4,335
10	Alinda Infrastructure Fund II	Alinda Capital Partners	New York	2008	USD 4,097

Source: Probitas Partners

Infrastructure Institutional Investor Survey

In mid-2016, Probitas Partners conducted an online survey to gauge investor interest, opinions, and perspectives on investing in infrastructure. Responses were received from senior investment executives representing such institutions as public and corporate pension plans, fund-of-funds, and sovereign wealth funds, among others.

"Private equity-like 10-year structures remain the most popular"

Highlights of Survey Findings

- ***Greatest fear? Too much money targeting infrastructure:*** The greatest fear among investors, more than double that of any other, is that too much money is coming into the market, negatively impacting future returns. Investors are also concerned the market is nearing the top of a cycle and more prone to downward pressure.

- ***Brownfield investing, whether through core or value-added projects, is the preference of most infrastructure investors:*** Core brownfield assets remain extremely attractive to those investors with the capability to invest directly in projects. However, their lower return profile means that fees for core funds are under continual pressure and many fund managers are now targeting value-added transactions.

- ***Interest in emerging markets declined noticeably:*** Last year interest rebounded somewhat, but increasing fears of political and economic risk lead to a decided pull back this year.

- ***Use of performance benchmarks is widely scattered:*** The results in this year's survey were actually much less concentrated than last year's results.

- ***Both interest in and fundraising for debt funds continues to fall:*** After surging to a market high in 2013, interest in infrastructure debt continues to lag as interest rates in developed markets have fallen.

- ***Interest in long-term fund duration preferences remains low:*** Private equity-like 10-year structures remain the most popular structure, even among experienced investors, while interest in open-end structures or vehicles with maturities in excess of fifteen years are quite low.

Profile of Respondents

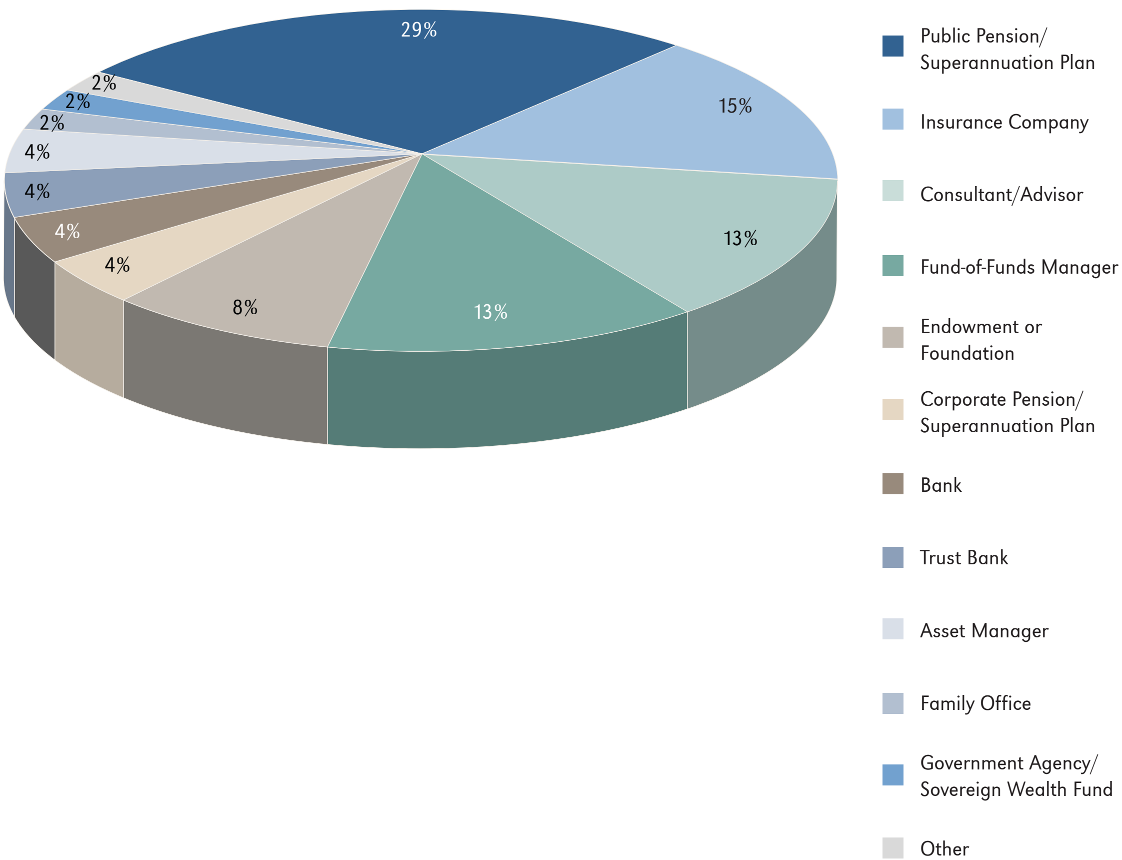
- **Chart IV highlights the diversity of institutions that responded to the survey, though pension plans, insurance companies, consultants, and funds-of-funds comprised 70% of the respondents.**

- **There was a heavier response from North America than last year, though there were a significant number of responses from Western Europe and Japan (Chart V).**

- **This year there was also a higher level of responses from experienced investors, with 40% of respondents having had an active infrastructure program for five years or more, and with another 27% having had an active program for more than a year but less than five years (Chart VI).**

Chart IV Respondents Categorized by Investor Type

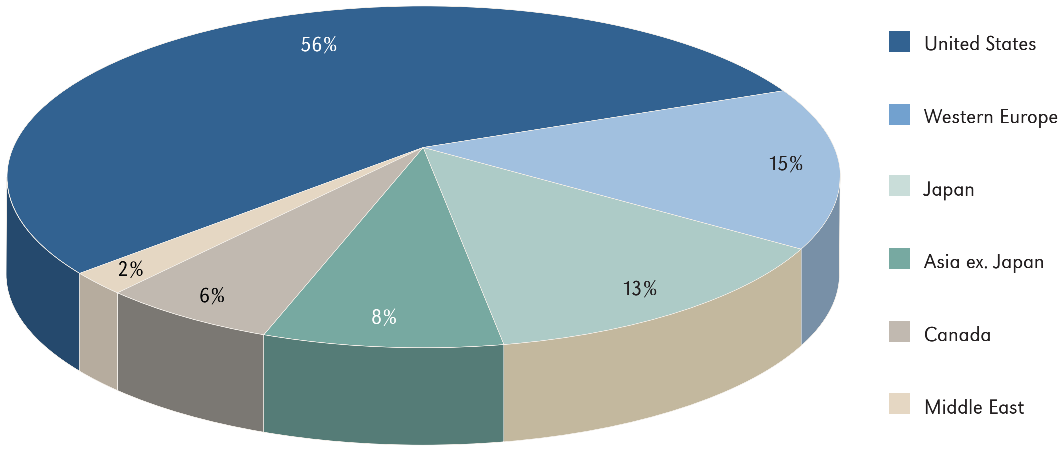
"I represent a:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart V Respondents Categorized by Firm Headquarters

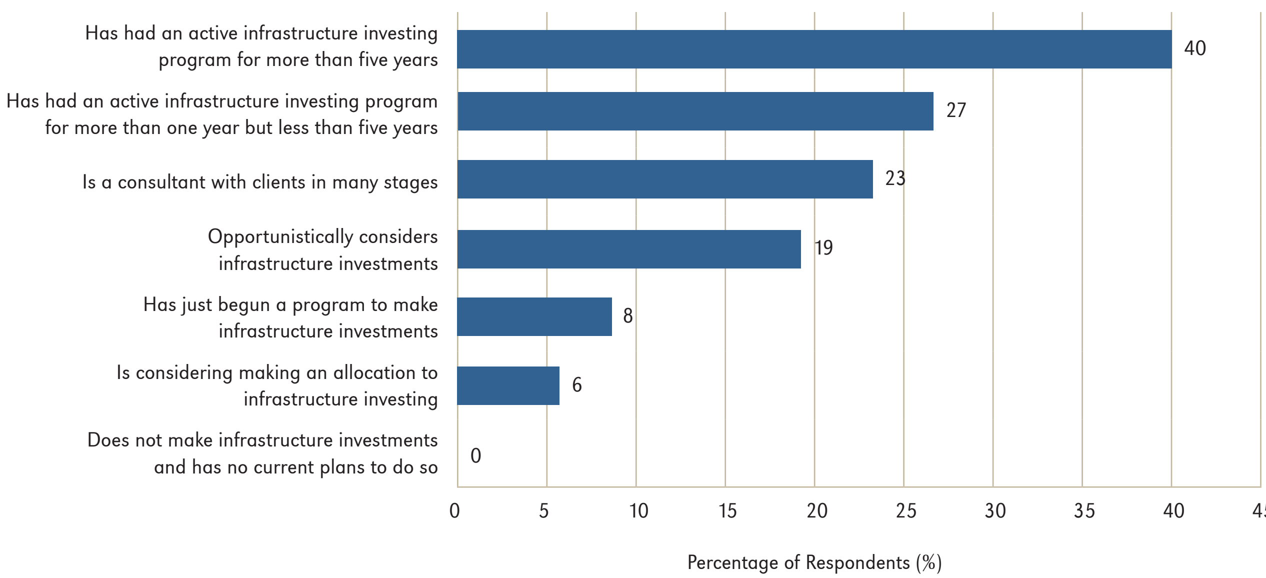
"My firm is headquartered in:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart VI Plans for Infrastructure Investing

"As far as infrastructure investing is concerned, my firm (choose all that apply):"



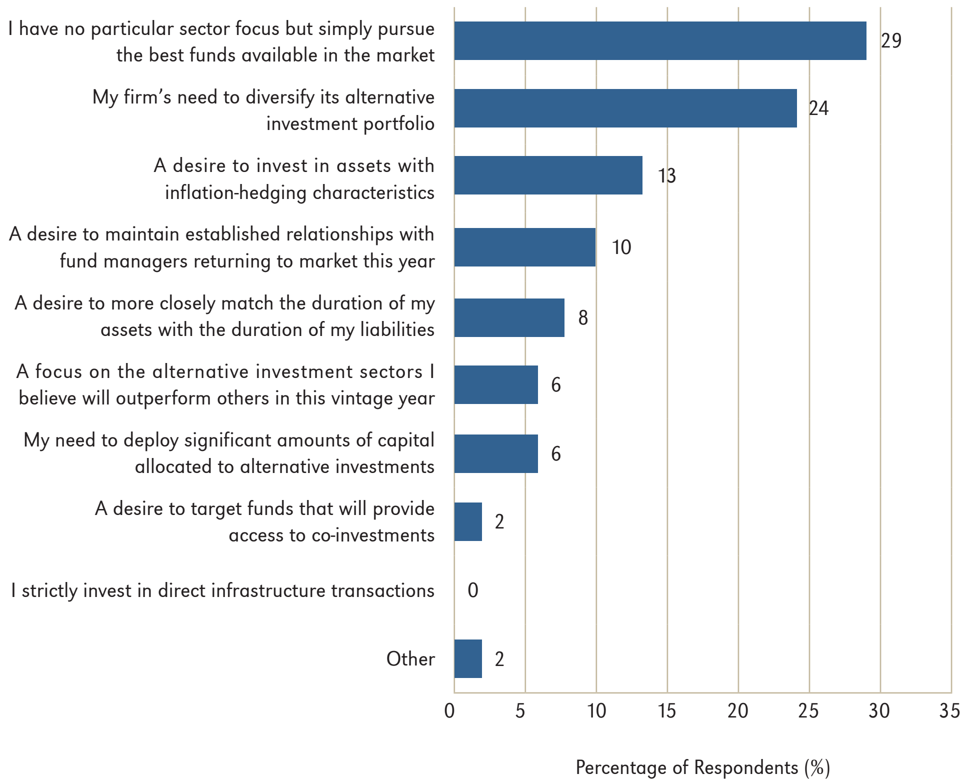
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

- Chart VII shows that the drivers of investor interest were fairly scattered. In last year's survey, 41% of respondents simply targeted what they perceived to be the best funds available in the market, it is down noticeably this year to only 29%.

- Thirteen percent of respondents targeted funds that would provide access to co-investments in last year's survey, a response that fell to only 2% this year.

Chart VII Drivers for Sector Target Focus

"My sector investment focus over the next twelve months is driven by:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

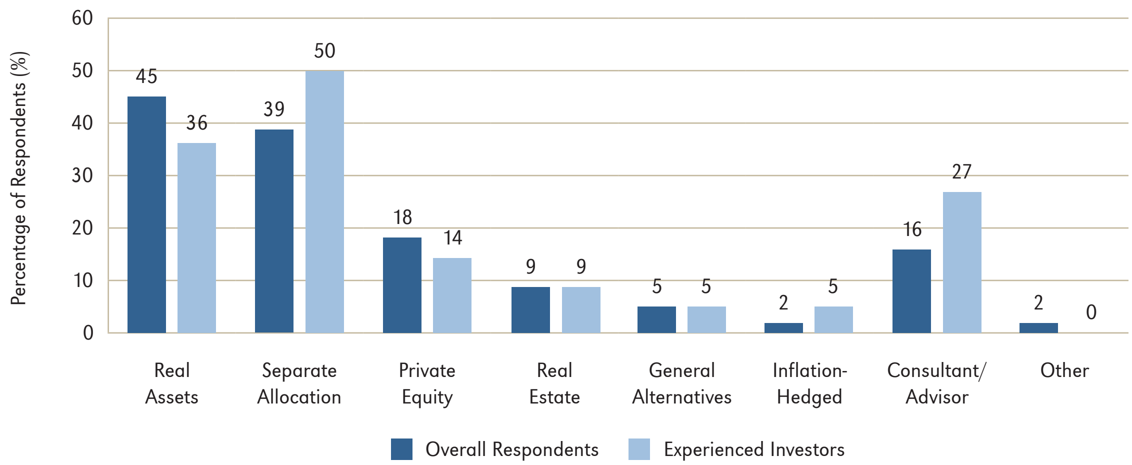
Plans for Infrastructure Investing

> *"Over the last two years, broad-based real assets allocations have become much more popular"*

- Only 26% of respondents had separate infrastructure allocations in 2007 (our first infrastructure survey), while 40% were making infrastructure investments from their private equity allocations as they made a reconnaissance of the sector. As investors have become more experienced in the sector over the last ten years, there has been a marked shift to creating separate infrastructure allocations or dedicated real asset allocations that include infrastructure along with other real assets such as agriculture, metals and mining, and oil and gas (Chart VIII).
- Over the last two years, broad-based real assets allocations have become much more popular, moving from 22% in 2014 to 45% this year.
- Certain investors put infrastructure investments in different allocations, probably driven by their different perceptions of individual fund strategies.
- Consultants and advisors, listed here as a separate category, usually have a number of clients that individually determine their allocation policies.

Chart VIII Categorizing Infrastructure

"Within our portfolio, infrastructure investments are or will be placed in (choose all that apply):"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey
Note: "Experienced Investors" constitutes those investors who have been active in the sector for over a year

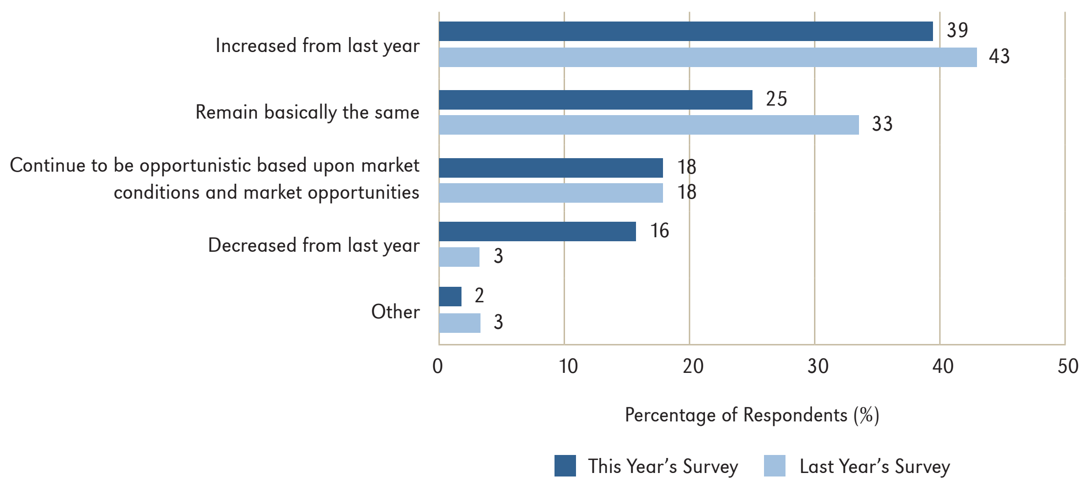
- On the back of the strong fundraising in 2015 and the first half of 2016, investors are still looking to either increase or maintain their allocations; however, those respondents that were looking to decrease their allocations over the next year rose from 3% to 16% (Chart IX).

- Though not detailed in Chart IX, North Americans are more likely to be opportunistic when looking at their allocations.

- The range of respondents' allocation to infrastructure for the next year was widely spread, including both small and large investors who often pursue different strategies (Chart X). Those without a specific allocation are either consultants or those who only invest in infrastructure opportunistically.

Chart IX Appetite for Infrastructure

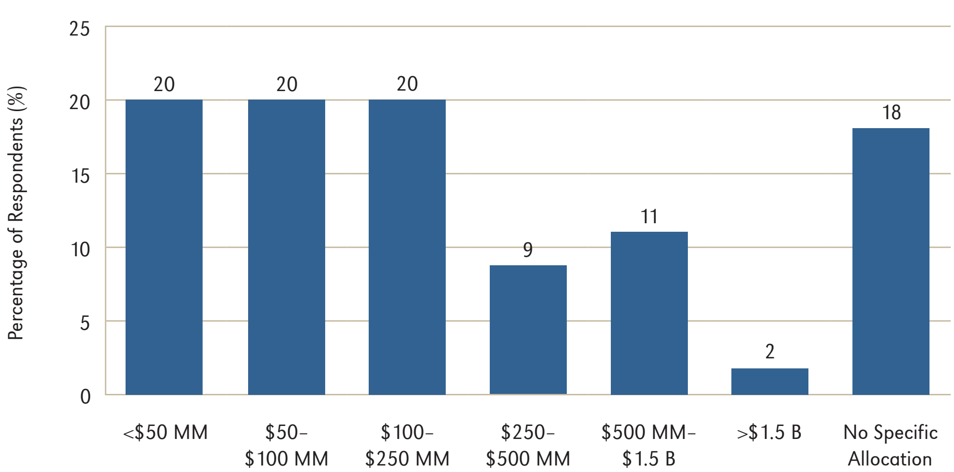
"I believe that my firm's appetite for infrastructure investments for the next twelve months will be:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart X Infrastructure Allocations

"Over the next year, my allocation to infrastructure commitments will be (in USD):"



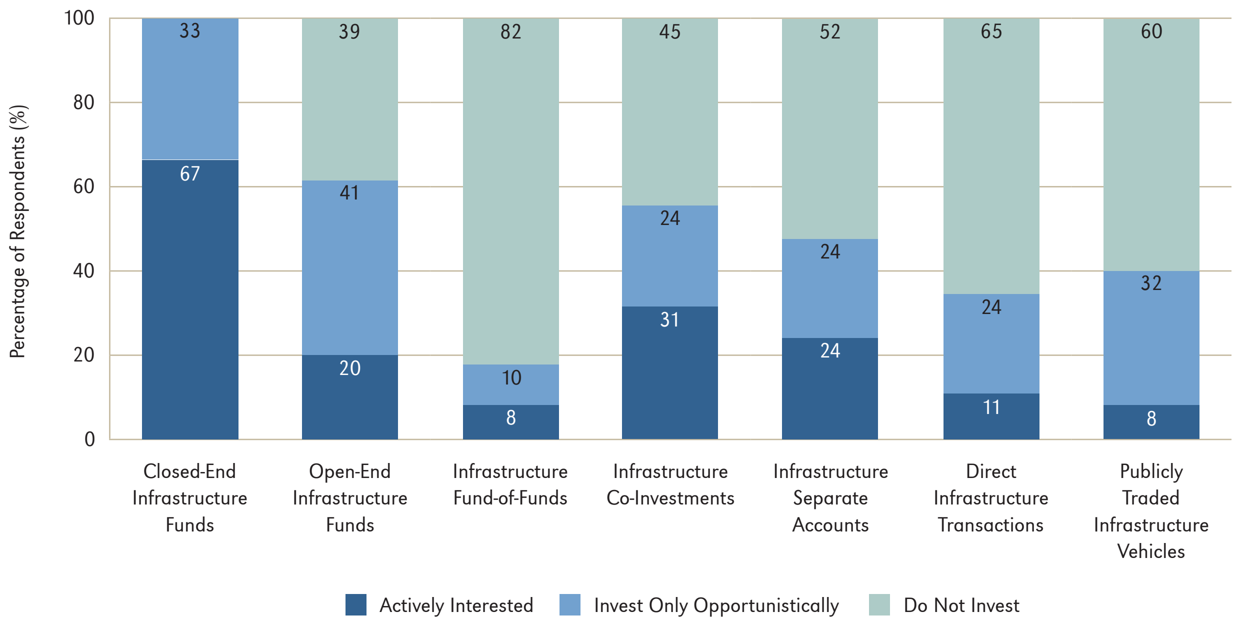
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

- All of respondents to the survey that invest in infrastructure either actively or opportunistically invest in closed-end infrastructure funds. Closed-end funds are by far the leading sector that investors actively target (Chart XI).

- The least favored structures are infrastructure funds-of-funds, with only 8% of respondents targeting them, and publicly traded infrastructure vehicles, again with only 8% of respondents targeting them.

Chart XI Interest in Investment Structures

"My firm's interest in various investment structures is:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Sectors, Industries and Geographies of Interest

- The largest area of investor interest by far is for core and value-added brownfield funds, though many respondents will occasionally invest in opportunistic funds (Chart XII).

- There is little interest in open-end funds or in separate accounts — but since actively pursuing separate accounts requires very large commitments this is more likely a matter of scale.

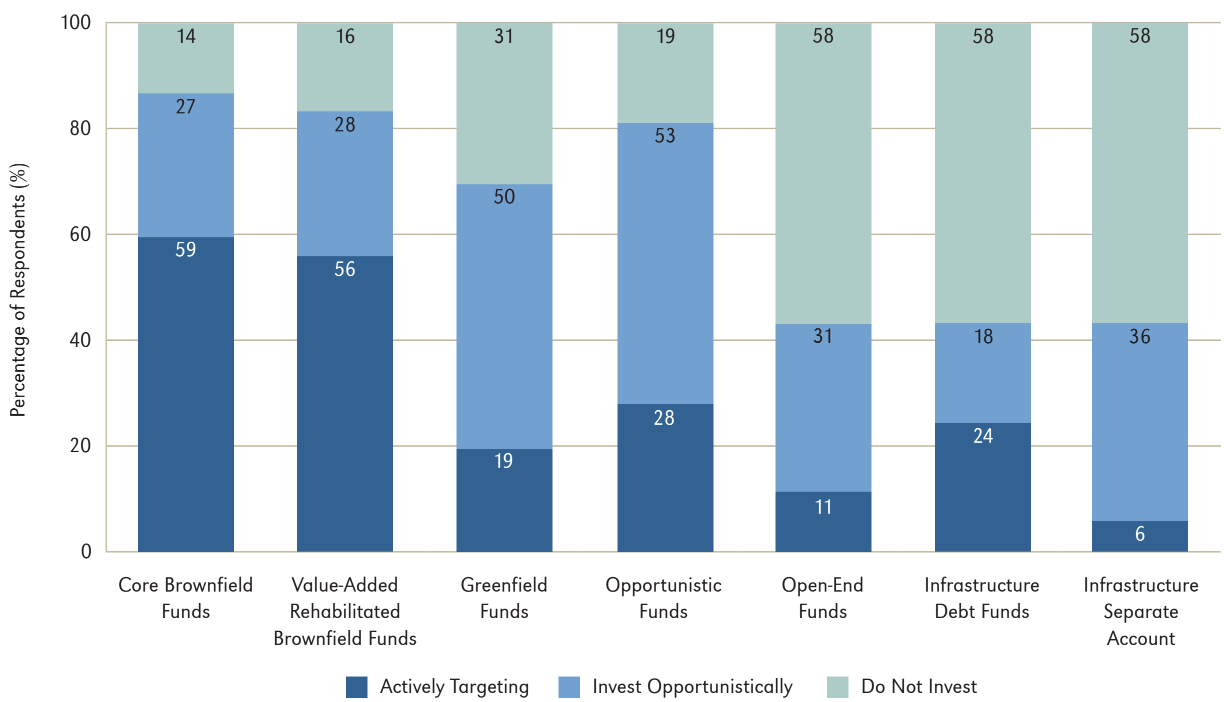
- Interest in industry sectors was very similar to last year's survey, with energy and power continuing to lead investor interest, and transportation and water and waste management following closely (Chart XIII). However, there was also a notable increase in renewable energy interest.

- Investors continue to prefer the developed markets, and interest in emerging markets dropped this year, with interest in Asia falling from 36% last year to 14% this year (Chart XIV). Interest in global funds, ranked first in interest at 76%, is driven by the fact that they are typically focused on developed markets, with very small or no allocations to emerging markets.

"Investors continue to prefer developed markets"

Chart XII Interest in Fund Strategies

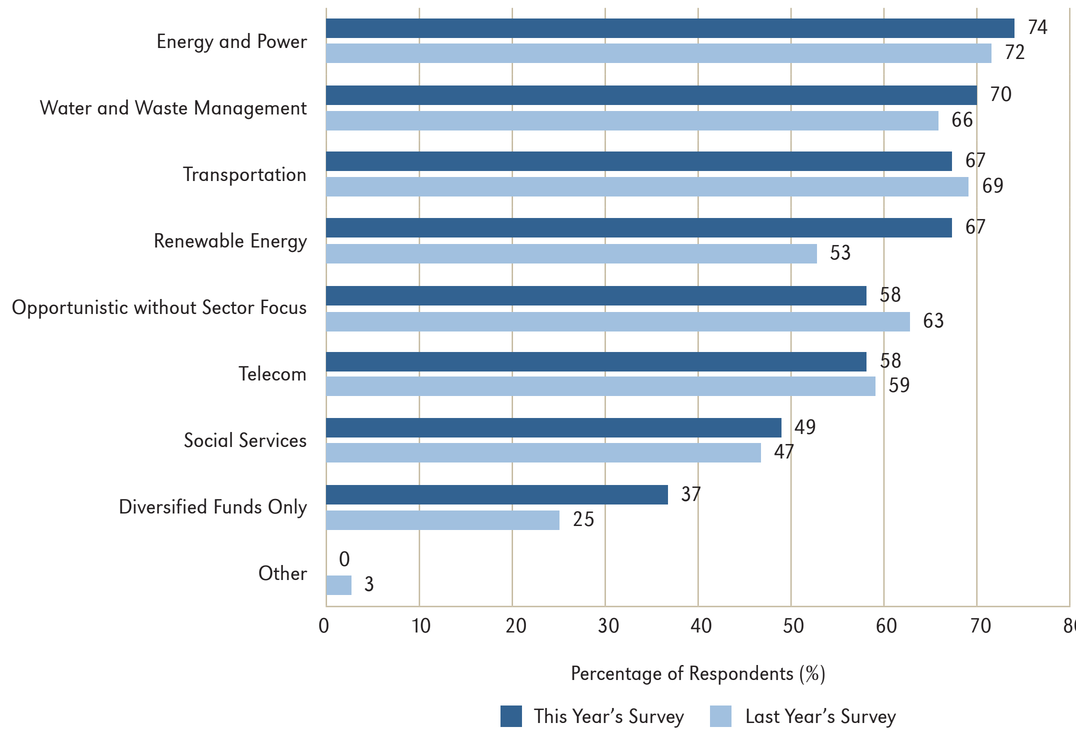
"My firm's interest in various fund strategies:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart XIII Infrastructure Industry Sectors of Interest

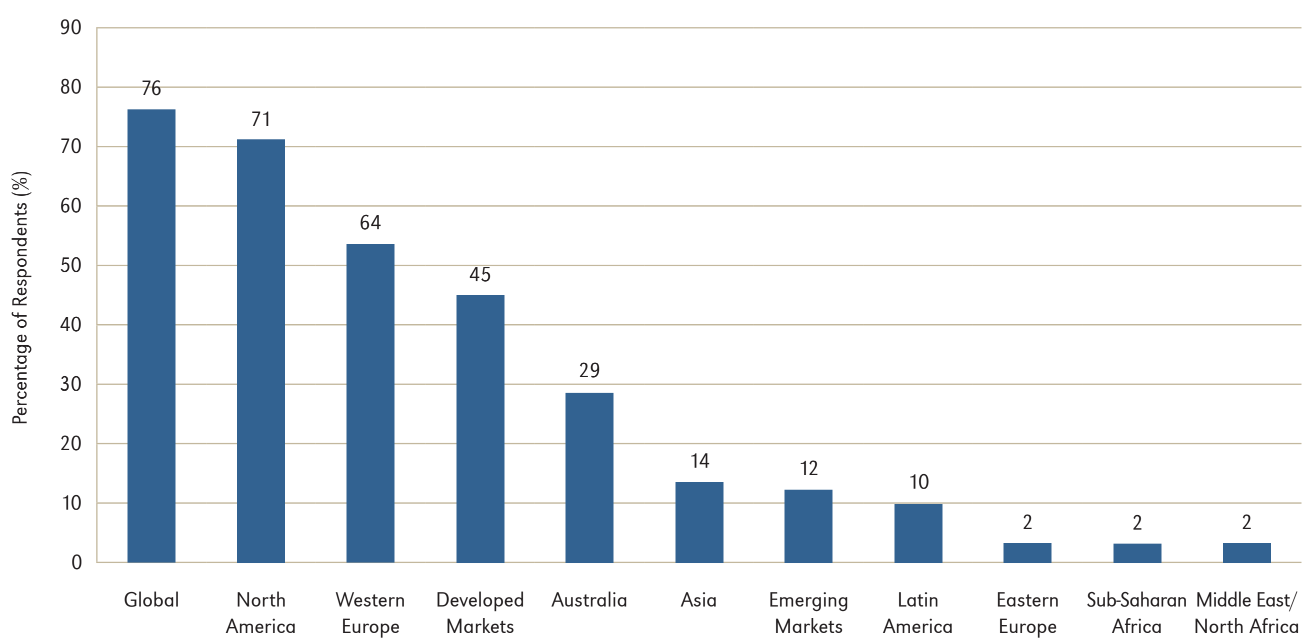
"My firm seeks to invest in the following sectors (choose all that apply):"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart XIV Geographic Focus

"My firm invests in infrastructure funds with investment mandates focused on (choose all that apply):"



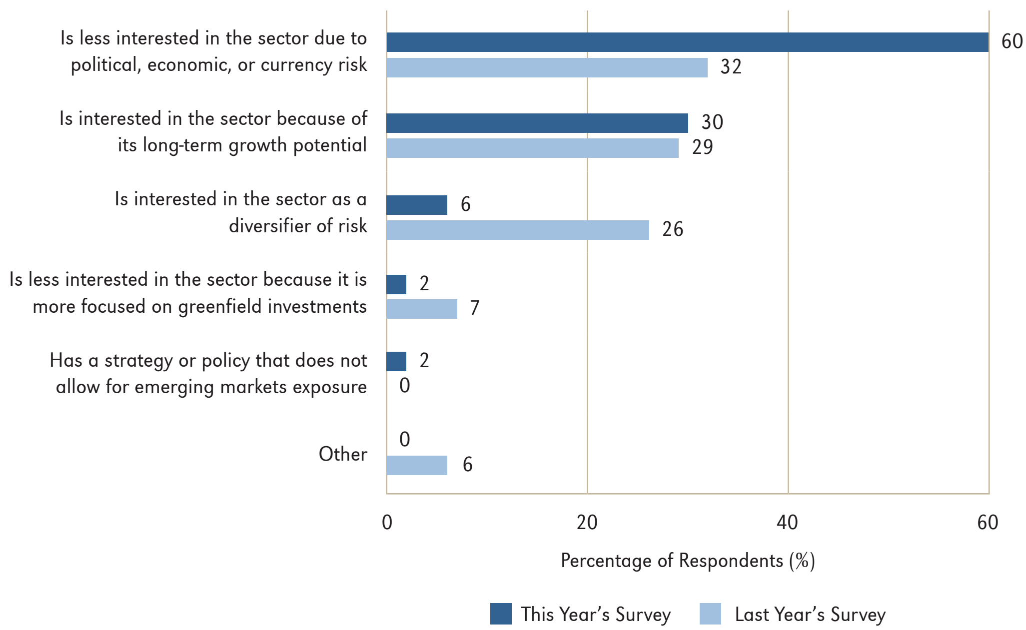
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

- The biggest shift in investor perception across the survey this year has been away from emerging markets (Chart XV); investors' fears about political, economic or currency risk nearly doubled.

- Positive interest in emerging markets — either for their long-term growth potential or as potential diversifiers of risk — decreased significantly during the year as increasing fears of risk surged.

Chart XV Interest in Emerging Markets

"As far as my interest in emerging markets is concerned, my firm:"



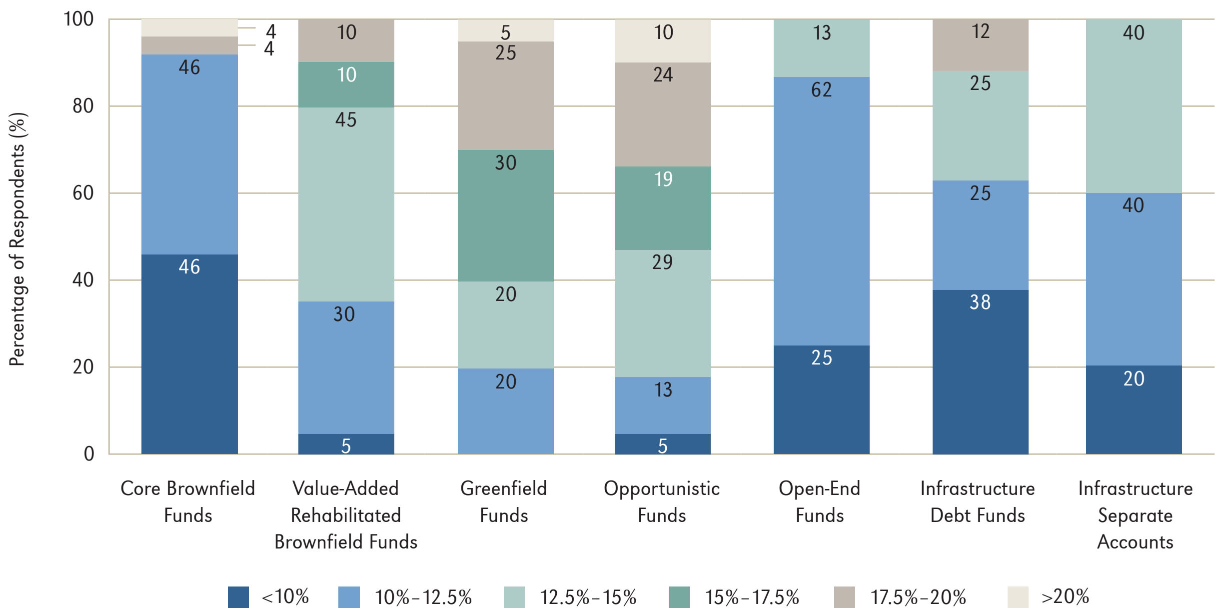
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Targeted Returns and Fees

- Respondents' perception of risk resulted in the following expectations for returns by strategy, detailed in Chart XVI:
  - 92% expect returns of 12.5% or lower for core brownfield funds, though interestingly only 63% of respondents had the same expectation for infrastructure debt funds.
  - 65% expect returns of 12.5% or higher for value-added brownfield funds while 80% expect those sort of returns for greenfield funds.
  - Expectations for opportunistic funds are higher, more in line with private equity.
  - The return expectations of open-end funds and separate accounts, which heavily focus on core brownfield projects, are roughly aligned with core brownfield fund expectations.

Chart XVI Target Net IRRs

"For the major sectors of closed-end infrastructure funds operating in developed markets, my firm's target Net IRRs are as follows:"



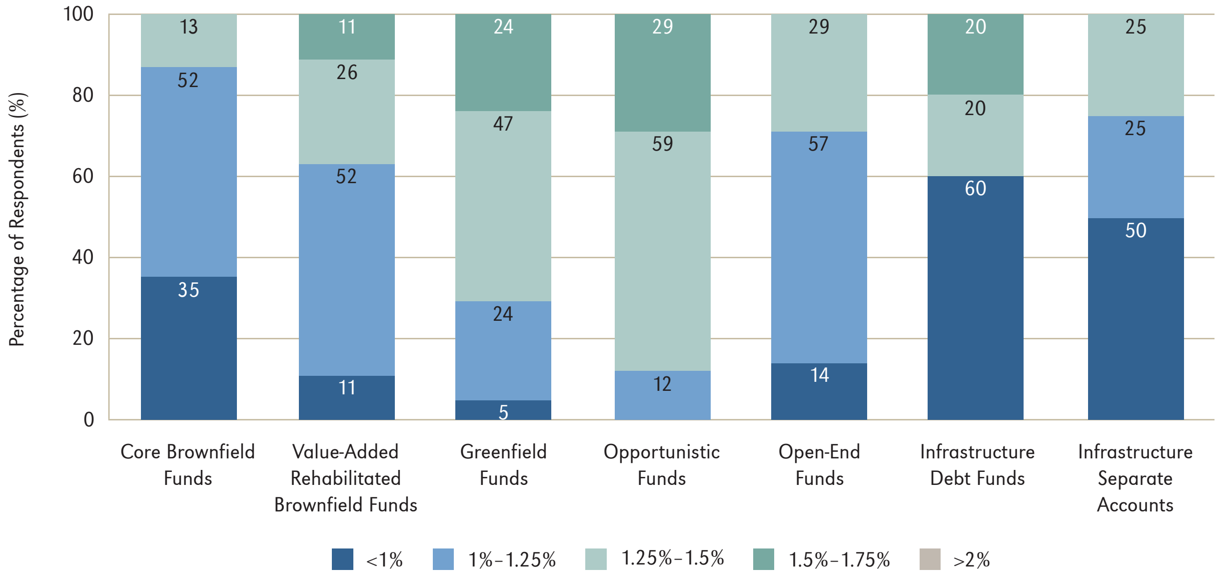
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

- The underlying risk/return profiles by strategy and structure clearly impact expectations of management fee and carried interest levels, as detailed in Charts XVII and XVIII:
  - Core brownfield funds, one of investors' most preferred strategies, are under continuing pressure from investors on fees as investors expect lower but steadier returns in the sector that will not support higher fees; 87% of respondents investing in such funds expect management fees to be 1.25% or less and 82% of respondents expect carry to be 15% or less.
  - For open-end funds and infrastructure debt funds, fee and carry expectations are matching investors' risk/return projections.
  - Separate account expectations on management fees and carry are lower than what investors expect for funds; that reflects the pricing power of the large investors in this sector making large commitments.

"The underlying risk/return profiles by strategy and structure clearly impact expectations of management fee and carried interest levels"

Chart XVII Targeted Annual Management Fees

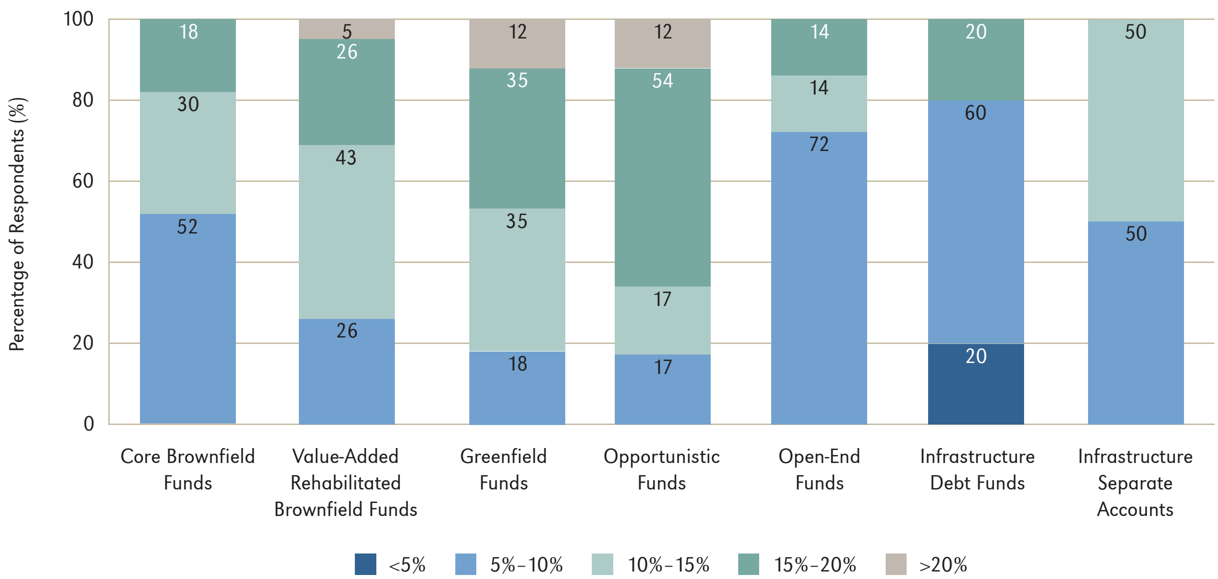
"For the major sectors of closed-end infrastructure funds operating in developed markets, my firm's targeted management fees are as follows:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Chart XVIII Targeted Carried Interest

"For the major sectors of closed-end infrastructure funds operating in developed markets, my firm's targets for carried interest are:"



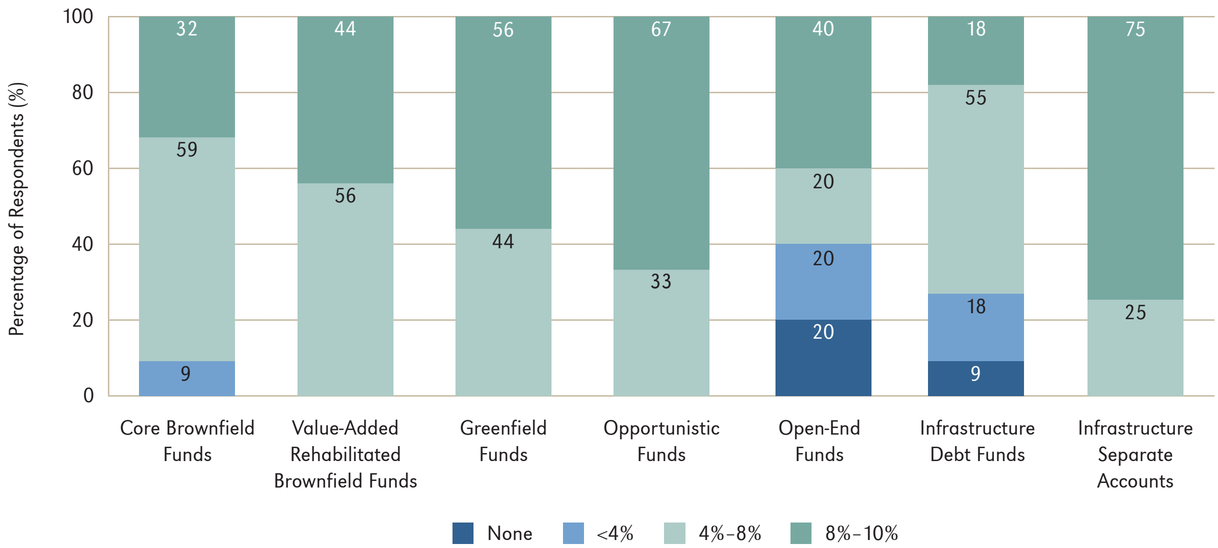
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

- **Risk-adjusted expectations also extend to carry hurdles, as detailed in Chart XIX.**

- **Only in open-end and infrastructure debt funds do certain investors expect no hurdle at all.**

Chart XIX Carried Interest Hurdle

"For the major sectors of closed-end infrastructure funds operating in developed markets, my firm's targets for carry hurdles are:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

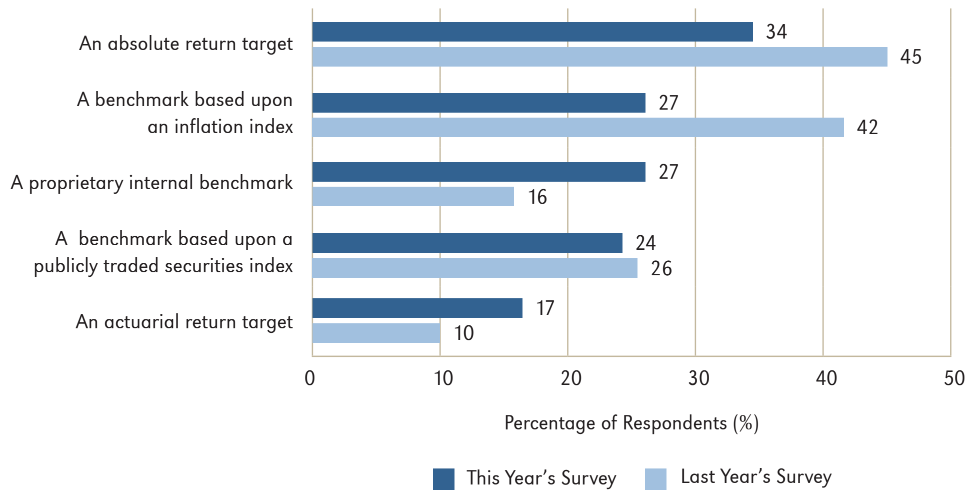
Portfolio Benchmarks

- **There has been a shift back towards proprietary internal benchmarks this year compared to last year, with an accompanying decrease in the use of absolute return targets or inflation indices (Chart XX).**

- **A number of the respondents use multiple benchmarks as the responses below total significantly over 100%, but significantly fewer respondents used multiple benchmarks this year compared to last year.**

Chart XX Portfolio Benchmarks

"Regarding portfolio benchmarks for infrastructure, my firm uses (choose all that apply):"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Investment Structures

- There remains a broad variety of term structures in the infrastructure market, unlike buyout and venture capital funds where nearly every fund has a 10-year maturity.

- There was a small but noticeable shift this year towards standard 10-year life funds, both for overall and experienced investors, which remain the preferred structure. Chart XXI details last year's preferences, while Chart XXII covers this year's survey.

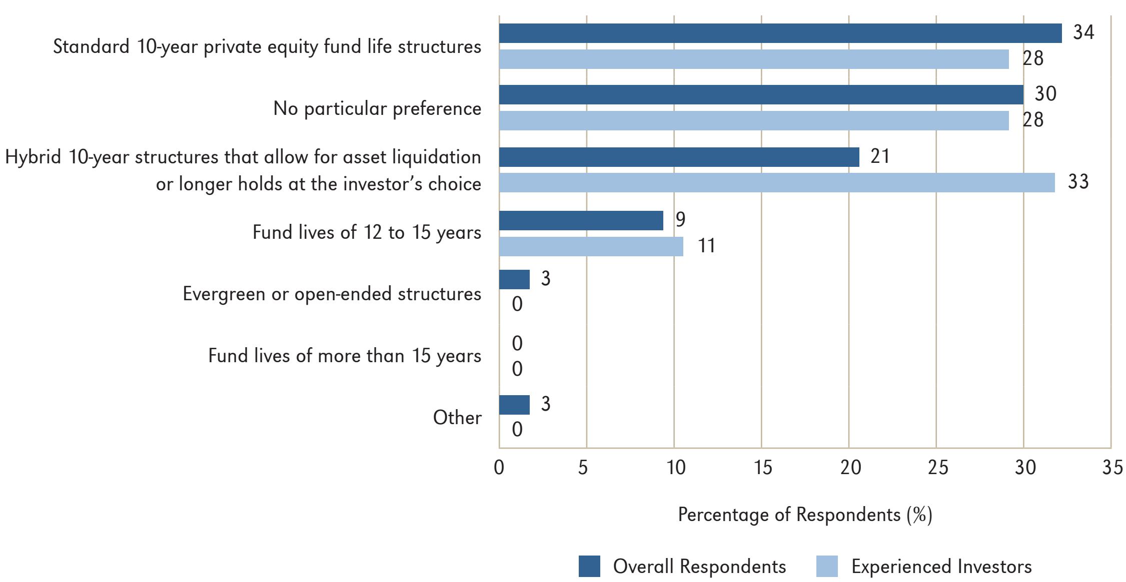
- Interest in other structures are much more clustered this year, though interest in evergreen or open-end structure, or for funds with maturities greater than fifteen years, remains quite low.

- Respondents to the survey continue to prefer independent managers without potential conflicts of interest instead of sponsored vehicles, with 62% of them feeling that way this year (Chart XXIII). However, a quarter of respondents felt that this issue was not a primary consideration in their decision-making.

"interest in evergreen or open-ended structure[s] ... remains quite low"

Chart XXI Preferred Terms Structures, 2015

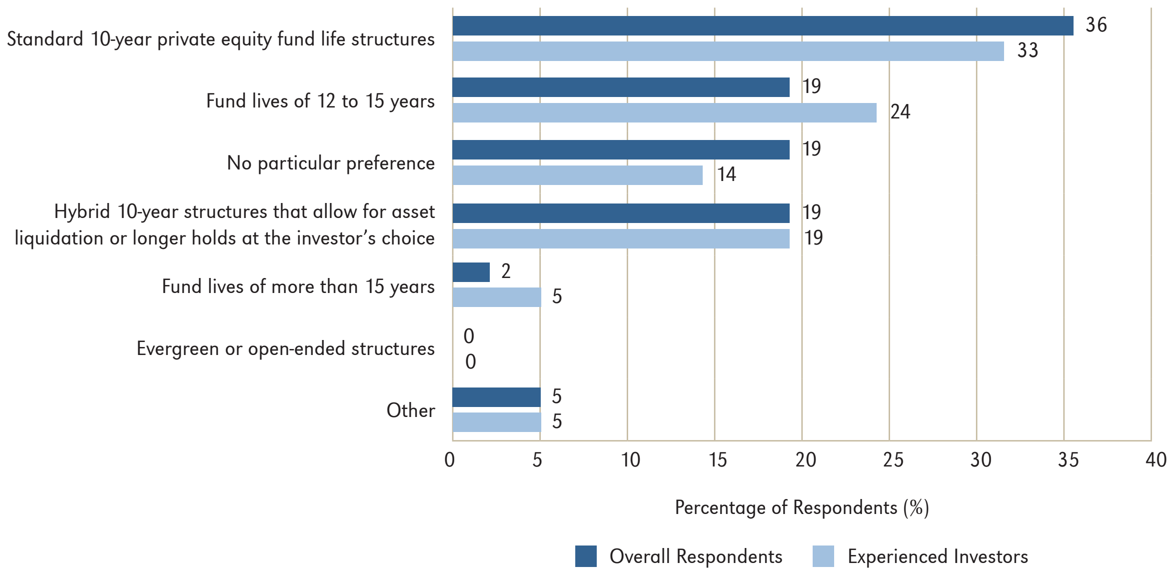
"My firm prefers to invest in vehicles with the following duration:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2015 Survey
Note: "Experienced Investors" constitutes those investors who have been active in the sector for over a year

Chart XXI Preferred Terms Structures, 2016

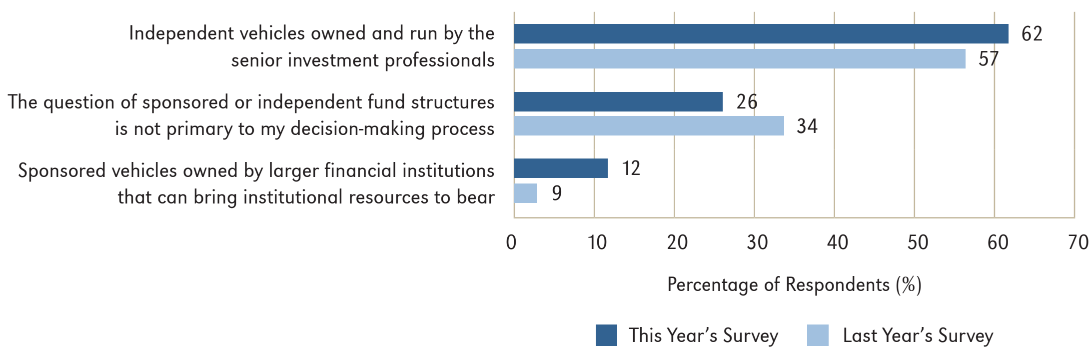
"My firm prefers to invest in vehicles with the following duration:"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey
Note: "Experienced Investors" constitutes those investors who have been active in the sector for over a year

Chart XXIII Independent vs. Sponsored Fund Structures

"As far as terms and conditions are concerned, I would prefer to invest in funds that are (choose only one):"



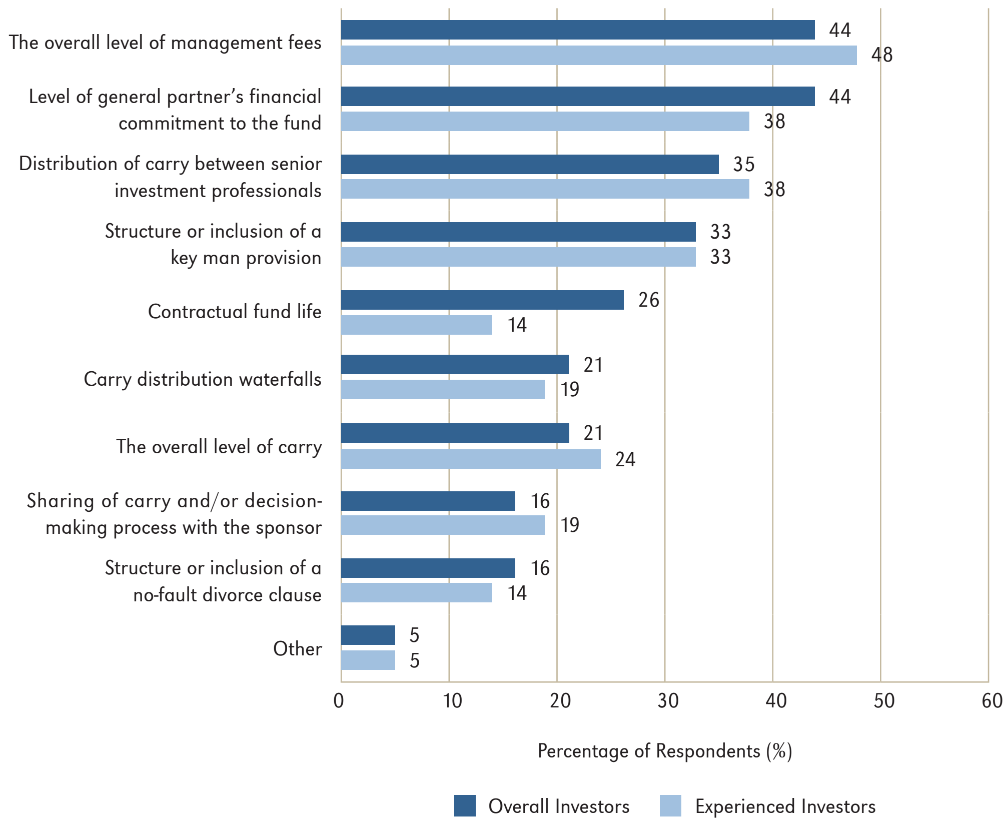
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Terms and Conditions

- **This year, the top four areas of focus on terms and conditions are relatively tightly clustered, both for overall and experienced investors (Chart XXIV).**
- **Experienced investors were less focused this year on contractual fund life than overall investors, a change from past surveys.**

Chart XXIV Terms and Conditions Focus

"As far as terms and conditions are concerned, separate from due diligence issues, my firm is most focused on (choose no more than two):"



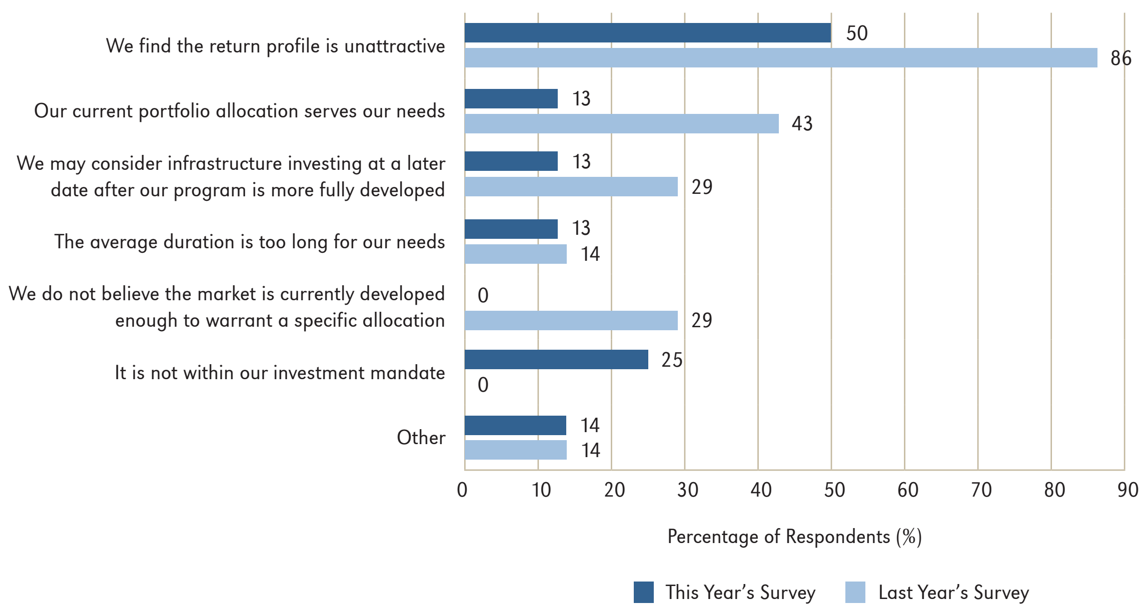
Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey
Note: "Experienced Investors" constitutes those investors who have been active in the sector for over a year

Reasons for Not Investing

- **Most of the respondents to the survey invest in infrastructure in some manner.**
- **For those few not investing, the largest reason was that they found the return profile unattractive, though that reason declined significantly from last year's survey (Chart XXV). Other responses attracted only scattered interest.**

Chart XXV Reasons for Not Investing in Infrastructure

"My firm is not interested in infrastructure because (choose all that apply):"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Infrastructure Investment Concerns

- **The biggest issue by far for investors is that too much new money is coming into the sector, potentially diluting future returns. This concern is down from the 74% who picked it last year.**

- **The top four concerns in our 2010 survey, taken in the immediate aftermath of the GFC, are compared in Table II to this year's results.**

  - **2010's largest concern, the lack of experienced fund managers in the sector, has fallen considerably into seventh position, with only 13% of respondents indicating that as an issue this year.**

  - **In 2010, the fear that too much new money was coming into the sector was the second largest concern, with 31% of respondents targeting it; this year it was the leading concern, with 65% or respondents listing it as a major concern.**

  - **The third ranked fear in both years was that too much leverage was being employed by certain fund managers.**

  - **It is also notable that the top three concerns in 2010 were tightly clustered around 30%, while the top concern in 2016 — too much new money coming into the sector — was over double the second place response.**

- **Other concerns submitted by respondents included:**

  - **fees on committed capital and the long duration nature of the assets;**

  - **market turmoil limits exit; and**

  - **Brexit.**

Table II What Keeps You Up at Night?

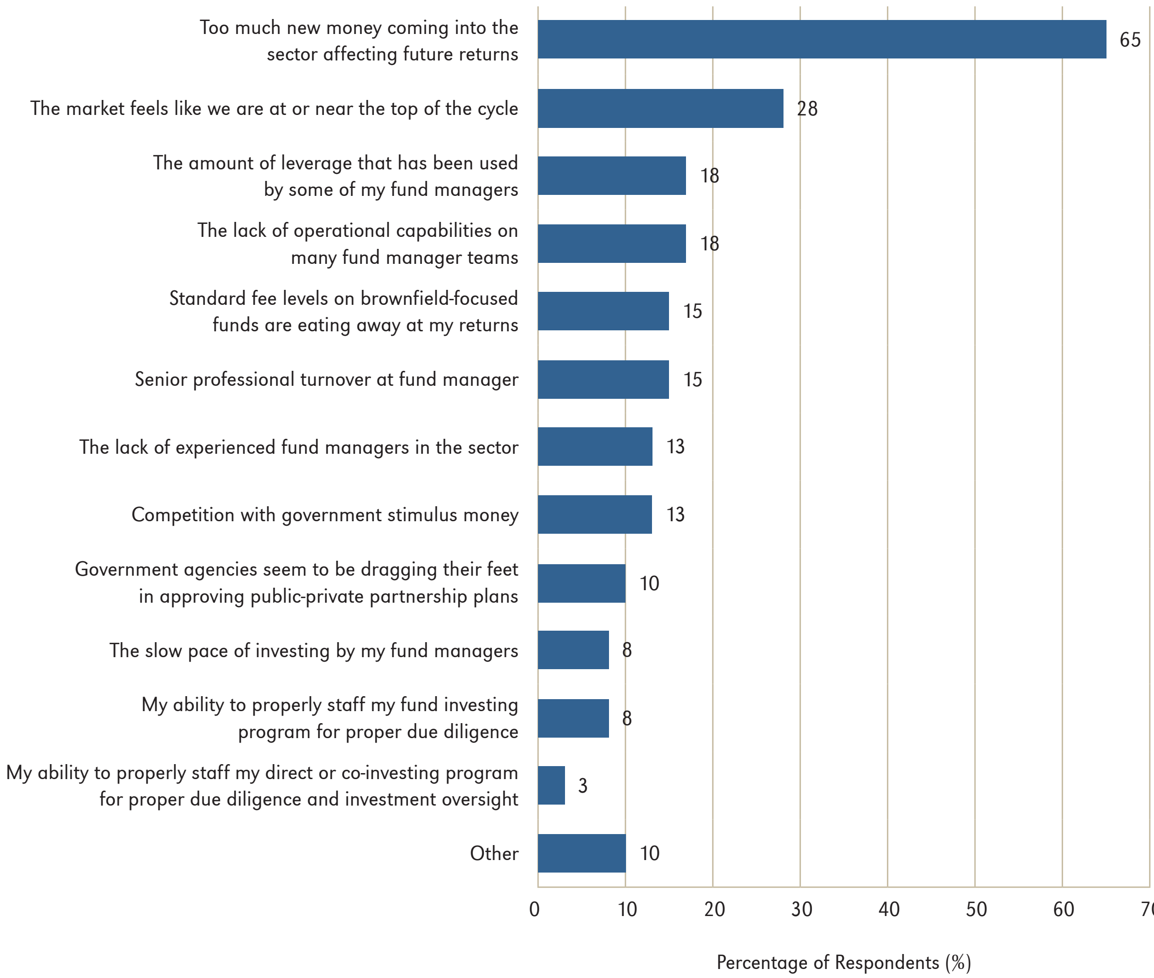
Top Four Responses

2010		2016	
Issue	**%**	**Issue**	**%**
The lack of experienced fund managers in the sector	34%	Too much new money coming into the sector affecting future returns	65%
Too much new money coming into the sector affecting future returns	31%	The market feels like we are at or near the top of the cycle	28%
The amount of leverage that has been used by some of my fund managers	28%	The amount of leverage that has been used by some of my fund managers	18%
Standard fee levels on brownfield-focused funds are eating away at my returns	23%	The lack of operational capabilities on many fund managers teams	18%

Source: Probitas Partners' Infrastructure Institutional Investor Trends Survey, 2010 & 2016

Chart XXVI Infrastructure Investing Concerns

"As an infrastructure investor, what keeps you up at night? (choose no more than two):"



Source: Probitas Partners' Infrastructure Institutional Investor Trends for 2016 Survey

Key Trends

There are a few key trends we are tracking coming both from the survey and our ongoing conversations with investors:

- ***There is a split among investors over fund strategies between brownfield and opportunistic funds:*** Many investors are heavily focused on core and value-added brownfield funds, and a number of them do not consider opportunistic vehicles to be infrastructure funds. On the other hand, other investors seeking higher returns actively pursue opportunistic vehicles, but may place them in private equity allocations.

- ***Core brownfield projects remain a basic target of direct investors and separate account investors:*** These equity projects have the lowest risk/return profile in the sector, and many of them have extremely long potential maturities attractive to certain investors with long-lived liabilities. Many of these projects are executed outside fund structures by primary investors seeking to minimize fees, but heavy competition is driving low return expectations even lower.

- ***Interest in emerging markets is likely to continue to be volatile:*** The perceived risk/return profile in the emerging markets can change significantly year-by-year, as they have over the last three years in our surveys, driven both by local economic and political issues, as well as in reaction to economic and financial developments in developed markets.

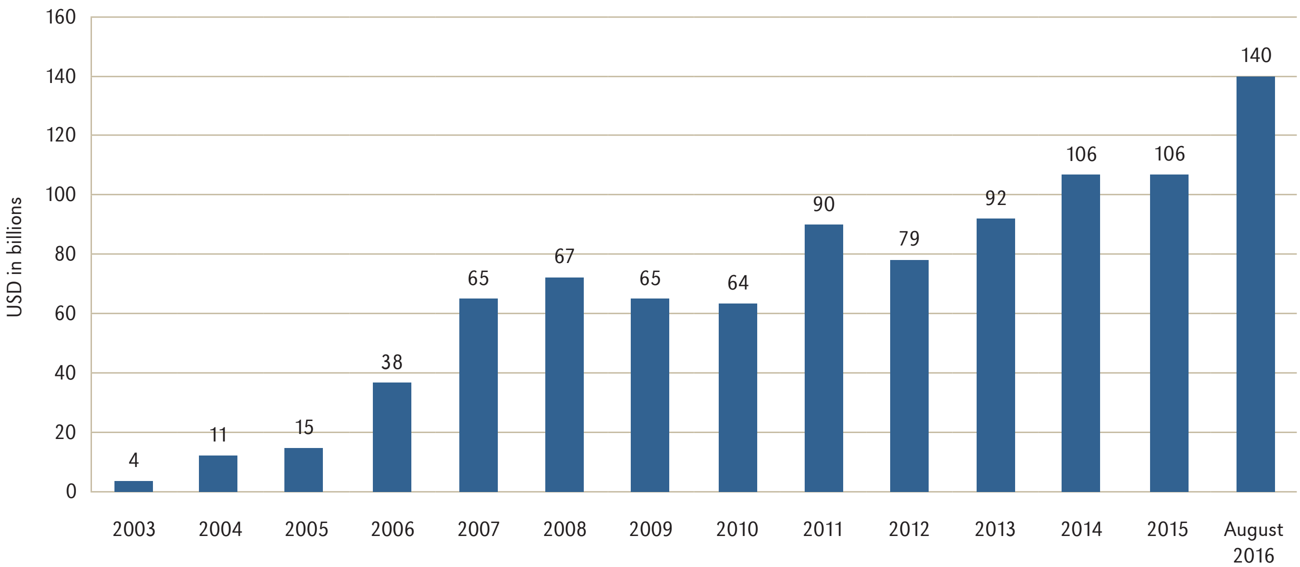
- ***Open-ended and very long maturity fund structures continue to lag fixed-term structures in investor interest:*** Even though very long-term public-private partnership concessions remain a major part of core and value-added brownfield markets, open-end fund structures and funds with maturities greater than fifteen years have failed to develop a strong following globally, and in this year's survey actually retreated in interest. The majority of investors continue to be interested in shorter-term closed-end structures.

- ***Infrastructure dry powder is continuing to rise:*** The combination of a very competitive deal market between direct investors and funds, especially for core projects, and surging fundraising has led to a significant increase in dry powder (Chart XXVII). Even as fund raising is likely to slacken as the two largest infrastructure funds ever raised clear the market, the overhang in the fund market is likely to continue at very high levels.

"The combination of a very competitive deal market ... and surging fundraising has lead to a significant increase in dry powder"

Chart XXVII Infrastructure Dry Powder

Closed-end infrastructure funds



Source: PREQIN

Notes:

Infrastructure Institutional Investor Trends for 2016 Survey

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