



VISION

Changing
Investments

Adaptive
Cultures

Risk
Upgrades

Official Institutions

Transforming to Meet the Needs of a New World

Featuring the findings of the State Street 2015 Official Institutions Survey



This Is State Street

State Street Corporation (NYSE: STT) is one of the world's leading providers of financial services to institutional investors, including investment servicing, investment management, and investment research and trading. With \$28 trillion in assets under custody and administration and \$2 trillion* in assets under management as of December 31, 2015, State Street operates in more than 100 geographic markets worldwide, including the US, Canada, Europe, the Middle East and Asia. For more information, visit State Street at www.statestreet.com.

State Street Corporation
State Street Financial Center
One Lincoln Street
Boston, Massachusetts 02111-2900
+1 617 786 3000
www.statestreet.com
NYSE ticker symbol: STT

For questions or comments about our Vision series,
e-mail us at vision@statestreet.com.

*Assets under management include approximately \$22 billion as of December 31, 2015, for which State Street Global Markets, LLC, an affiliate of State Street Global Advisors, serves as the distribution agent.

Contents

4	OFFICIAL INSTITUTIONS: A DYNAMIC NEW APPROACH
6	Responding to new opportunities
7	NIMBLE institutions lead the way
8	SPOTLIGHT: What makes an organization NIMBLE?
11	Upgrading risk management — the journey continues
12	Meeting growing technology demands head-on
13	SPOTLIGHT: New models for a new climate at the University of California pension fund
14	More reporting, greater transparency
14	Securing talent in key areas
15	SPOTLIGHT: Investing in bigger and stronger in-house teams
16	Conclusions
17	Chart Pack
22	ANNEX A: CENTRAL BANKS — NEW INVESTMENT STRATEGIES, IMPROVING OPERATIONS
23	Central banks continue to diversify
23	Moving to a more NIMBLE operating model
24	Big plans to upgrade investment risk management
24	Keeping pace with technology demands
25	Securing talent in key areas
25	Conclusions
26	Annex A: Chart Pack
30	ANNEX B: SOVEREIGN WEALTH SECTOR — INVESTING IN NEW CAPABILITIES TO IMPROVE PERFORMANCE
31	Diversifying investment portfolios
33	Moving to a more NIMBLE operating model
34	Upgrading investment risk management
34	Meeting new technology demands
35	Upgrading talent in key areas
36	SPOTLIGHT: Transitioning to a new regime at Pensionisste
38	Conclusions
39	Annex B: Chart Pack
42	ANNEX C: ABOUT THE RESEARCH

Official Institutions
A Dynamic
New Approach

Interviews with
representatives from
102 official institutions
around the world



New research commissioned by State Street reveals a leading group of official institutions that are becoming more agile and flexible in the face of a complex market environment. Drawing on a global survey of 102 official institutions, we highlight what these leaders are doing differently today.¹ We also examine how they plan to further improve their capabilities over the next three years.

This research builds on our 2014 study, *New Horizons for Official Institutions*, which showed that many organizations were weighing new strategies following the global financial crisis. They were facing the effects of increased regulation and a challenging investment environment with exceptionally low interest rates. It was time to start looking at a broader range of investments, focusing on the challenge of managing risks and seeking operating efficiencies.

Our new study takes a closer look at the progress these organizations are making on all fronts. On behalf of State Street, Oxford Economics interviewed representatives of 102 official institutions around the world. This group included central banks, sovereign wealth funds

(SWFs) and government pension funds. Oxford Economics also carried out in-depth interviews on more specific issues with industry experts, including executives of official institutions and external observers of their strategies.

The results offer a road map for official institutions of all types. The investment climate is becoming more unpredictable, and institutions are working harder to secure the returns they need. Yet a select group across all institution types, which we identify as “NIMBLE” institutions — distinguished by six measures of organizational agility — is gaining a clear performance advantage. This report highlights how these institutions are going above and beyond to position themselves for success.

¹State Street 2015 Official Institutions Survey. On behalf of State Street, Oxford Economics surveyed representatives from 102 official institutions in September and October 2015. Of these, 52 were central banks, 25 were sovereign wealth funds and 25 were government pension funds. See page 42 for full methodology.

Responding to new opportunities

Since the recession of 2008–2009, official institutions have faced an environment of low interest rates and currency fluctuations. They have been compelled to recalibrate their strategies. The effects of quantitative easing have been broadly felt by institutions across the globe. This unprecedented environment has created major challenges for central banks, sovereign wealth funds and government pension funds. To meet their long-term obligations they are seeking new ways to boost returns.

We are now entering a new phase of economic development marked by increasing uncertainty. The outlook for interest rates seems unclear. Equity market declines at the start of 2016 reflected mounting concerns about a generalized economic slowdown in China and its effects on other emerging markets whose economies depend on resource exports. The decline in the price of oil and other commodities has increased uncertainty about the global economic outlook as well as having a fundamental impact on some investors' resources.

 See Figure 01 / Page 17

As a result, official institutions are realizing that their investment objectives and strategies may have to fundamentally change. "For the last three decades you had the wind at your back, pushing you to achieve your objectives," notes Ashby Monk, executive director and research director of Stanford University's Global Projects Center. "Going forward, that's not going to be the case. There's going to be a premium on the ability to generate outperformance."

These institutions are systematically diversifying their portfolios and looking at new asset classes to find higher returns. While this broad trend applies to all institution types, investment decisions are clearly determined, and sometimes limited, by their investment mandates. Respondents to our survey indicate that:

- Asia is the most attractive region for investment: 89 percent of APAC institutions and 63 percent of institutions from other regions plan to increase their investments there, even as the outlook for growth in China weakens.
- Calls for transparency and improved corporate governance are attracting more attention: both central banks and SWFs are beginning to disclose more data about their investment priorities, risks and holdings.

“For the last three decades you had the wind at your back, pushing you to achieve your objectives. Going forward, that’s not going to be the case.”

ASHBY MONK
Executive Director
and Research Director,
Stanford University
Global Projects Center

- Though central banks generally face more restrictive mandates, more of them are investing in a broader range of asset classes (see Annex A for more on central banks’ investment strategies).
- Many SWFs are continuing to invest longer-term capital in relatively illiquid assets — like infrastructure projects — in the hope of achieving returns that beat equity markets (see Annex B for more on the sovereign wealth sector’s investment strategies).

Above all, official institutions are pursuing a more dynamic approach to their investment strategies. Many official institutions are examining cost-effective ways to invest, such as building their own in-house resources or seeking different relationships with external fund managers.

NIMBLE institutions lead the way

Faced with fundamental challenges to their investment strategies, official institutions are learning to adapt. They demand high-quality investment managers, and the underlying systems and flexible processes that help them identify opportunities, manage risk exposure and take corrective action. Given the uncertain investment environment, they must be able to respond quickly.

As public sector entities, many of these institutions are often subject to certain constraints. They may find it difficult to compete with private sector funds in attracting and retaining top-quality staff. Some have outdated IT infrastructure and budget restrictions that can curb their ability to quickly invest in the latest technologies. Others are long-established, traditional organizations with entrenched bureaucracies that resist change.

72%

of all respondents
plan to increase
investment in Asia





Spotlight

What makes an organization NIMBLE?

Based on our survey responses, we identified a leading group of institutions that are more responsive to the changing environment. We derived the NIMBLE group by aggregating responses to six questions concerning organizational flexibility. We calculated the top quartile of aggregate scores (25 or more out of a maximum of 30). The NIMBLE group represents 19 institutions that matched or exceeded this score. In summary, these institutions express high levels of confidence in the six areas illustrated (right).

The composition of this NIMBLE group, by institution type, is very similar to the overall survey sample, suggesting that a NIMBLE “culture” results from conscious management actions and investment decisions. In other words, institution type is not an important factor. Similarly, NIMBLE institutions can be large or small, and are located across all regions (see Annex C for a detailed breakdown).

NIMBLE institutions outperform other institutions in the areas associated with success in the new uncertain economic environment — sophisticated investment risk management, investing in technology, information management and upgrading skills in key areas. The actions and behaviors of these companies can provide guidance to other institutions focused on ramping up their capabilities.

19

institutions from
our survey identify
as NIMBLE

Network,
collaborate
and create
ad hoc teams
for flexible working



N



Mix
internal and
external talent
to meet
business needs



M



Learn
continuously
through a culture
that promotes
development



L



Execute
effective technology
solutions
to support
operations

E

Investigate
and react
quickly to
investment
opportunities

I

Build
adaptable
business processes
that respond to
business priorities

B

Yet our survey identifies a group of institutions that appear to be finding new ways to negotiate these formidable constraints. These NIMBLE institutions (see Spotlight on page 8) score highest on a range of measures relating to organizational agility.

Our research highlights those areas where most of our respondents need to work hardest to close the gap with NIMBLE institutions. By definition, the NIMBLE institutions score higher on all these measures (given that these questions served as the qualifying criteria for the NIMBLE group). What's notable is the scale of the gap between NIMBLE institutions and others on these critical measures of capability. This "capability gap" exceeds 30 percentage points across all measures, and rises to a 44-point gap in institutions' ability to adapt internal business processes in response to changing market needs.

 See Figure 02 / Page 18

It's important to note that even NIMBLE institutions face challenges. For example, only 68 percent say they can mobilize quickly to investigate a new investment opportunity, whether it's a specific market opportunity or new asset type. The research also shows that larger institutions (those with more than \$250 billion in assets under management) score higher on several of these measures, including networks and collaboration, mix of internal and external talent, and effective technology platforms.

But the takeaway from our research is the different strategies and actions of the NIMBLE group. As we'll see in the following sections, NIMBLE institutions have made more progress in upgrading their key capabilities — in risk management, technology and talent. They're also more ambitious in their plans in all of these areas for the next three years.



Even NIMBLE institutions recognize they have more ground to cover on risk management — only 42 percent are satisfied with their existing strategies.

Upgrading risk management — the journey continues

Our previous study highlighted risk management as a major concern for official institutions and 60 percent of respondents said they had plans to upgrade their risk management systems. The new research tracks how their journey is progressing. As official institutions take a more active role in managing a diverse range of assets, they need to better understand and manage their risk exposure. Victoria Barbary, director of Investec Asset Management's Investment Institute, closely monitors the sector. She sees signs of progress, particularly with SWFs, in looking beyond traditional techniques and seeking to understand the underlying risks and factors that drive returns.

Institutions are implementing increasingly sophisticated approaches to managing investment risk. Over half of institutions (58 percent) have changed their approach in this area over the last three years, and two-thirds are planning to make changes over the next three. Risk factor analysis is well established: 76 percent of institutions

have expanded its use over the last three years, closely followed by other techniques like portfolio diversification. NIMBLE institutions are planning to extend their use of these approaches to a greater extent than other institutions. For example, 79 percent of NIMBLE institutions plan to extend scenario modeling, compared with just 58 percent for other institutions.

 [See Figure 03 / Page 18](#)

NIMBLE institutions are also more likely to have already begun the journey toward systematically upgrading their risk management capabilities. Yet they recognize that there is more ground to cover. While 74 percent have changed their approach to managing risk to a "great" or "moderate" extent, only 42 percent say they have "very effective" or "effective" risk management strategies in place today.

 [See Figure 04 / Page 19](#)

Institutions in Asia Pacific (APAC) are most likely to improve their risk management over the next three years (74 percent), followed by those in Europe, Middle East and Africa

76%

have expanded use of risk factor analysis



Official institutions are going through a digital transformation, and investments in IT are becoming increasingly critical for success.

(EMEA) (61 percent) and those in North and Latin America (56 percent). APAC institutions are also more likely to implement currency hedging strategies over the next three years, perhaps as a consequence of the strengthening US dollar.

Meeting growing technology demands head-on

Effective technology is critical in helping official institutions achieve their objectives — whether they are improving their understanding of risk exposures, communicating with stakeholders, discerning the drivers of investment performance, recording transactions or efficiently managing their own operations. Jan Muysken, global head of sovereign wealth and investment funds at consulting firm PwC, sees this digital transformation firsthand: “The leaders are investing in their IT capabilities and developing sophisticated analytical applications to facilitate their digital and IT capabilities.”

Yet many official institutions struggle with ineffective systems. Integrating systems remains a common problem — a challenge mentioned by 71 percent of institutions. EMEA institutions report greater challenges than those in APAC. Older institutions may struggle with outdated and incompatible systems. In some developing countries, access to infrastructure and resources is

more difficult. Across all institutions, 35 percent say they are ineffective at sharing data from back to front office.

NIMBLE institutions are investing in advanced information management techniques to better manage data and the associated risks. Cybersecurity and data warehousing are particular priorities, and these are areas where NIMBLE institutions are notably ahead of others.

NIMBLE institutions are slightly more likely than others to engage third parties for specialist technical expertise. Other institutions are prioritizing employment of specialist staff and improved training to develop in-house technology capabilities. Jose Maria de la Torre Vereza, CEO of Mexico’s Pensionisste pension fund, is starting to invest in many IT projects. These include an asset and risk management platform provided by an external asset management firm and a standard CRM system to improve access for pension members (see case study on page 36). He is also focused on data analytics, including quantitative analysis of investment trends and discovering trends and patterns in time-series analysis.

 [See Figure 05 / Page 20](#)



Spotlight

New models for a new climate at the University of California pension fund

Ashby Monk, executive director and research director of Stanford University's Global Projects Center, acts as an advisor to many institutional investors. In particular, he's advising the University of California (UC) pension fund, helping its staff to introduce state-of-the-art risk management systems suitable for an uncertain investment climate.

He aims to use the increased power of data management tools to understand current risk exposure and use risk models to figure out where to invest. If a sudden crisis affects the market, "we should be able to tag all of our assets with risk factors, slice and dice quickly and have an answer [regarding the fund's exposures] in 22 minutes," says Mr. Monk. Most traditional risk modeling techniques use historical data to model future trends. To develop something new, UC recruited a chief risk officer, Rick Bookstaber, to represent a different perspective. Mr. Bookstaber has an impressive track record as an authority

on the financial crisis, and was responsible for developing risk management models for the US government. He is developing "agent-based models," a step beyond the current state-of-the-art for stress testing, because you can look at the interactions of the agents and track the evolution of the financial system based on initial market stresses. You have to define their objective functions and their endowments, and then you set them into an interaction and simulation. This approach can help to understand how risk can turn into crises and then propagate through sectors and industries.

NIMBLE institutions are more likely to prioritize upgrading skills in key areas — and the gap with other institutions is significant.

More reporting, greater transparency

About half of all institutions expect to increase the amount of data they disclose publicly and the frequency of their reporting. Victoria Barbary, director of Investec Asset Management's Investment Institute, says she's seen a noticeable trend toward increasing transparency, particularly in the sovereign wealth sector, as more SWFs are producing annual reports that discuss their performance. "They are rethinking the methodology and the type of risk that they take," she says. "There is a genuine and very positive trend towards thinking more about the fundamentals, the underlying main risk drivers to their investments and actually what should they be exposed to."

Many institutions view increased reporting and communication as a way of conveying the value they generate to their stakeholders and wider public. In our survey, 84 percent of NIMBLE institutions say higher transparency is helpful, vs. 75 percent of the rest.

Some institutions are resisting the shift toward greater transparency. Increased reporting adds costs, of course, but

institutions report other concerns as well. As one government pension fund manager commented: "Any information that can lead to any panic among people is harmful." Others see reporting in general as potentially risk-prone, as they prefer to operate privately to protect the confidentiality of their operations.

Securing talent in key areas

In a period of increased volatility, when building new capabilities is vital, institutions require advanced skills and knowledge. NIMBLE institutions are more likely to prioritize upgrading talent in key areas of their organizations. The top area of focus is data and analytics, where 79 percent of NIMBLE institutions plan to strengthen their teams. The size of the gaps between NIMBLE institutions and others is also significant — NIMBLE players are 28 percentage points ahead when asked about their focus on data management and analytics and up by 29 points on governance focus. Conversely, they are far less likely to prioritize risk and compliance, perhaps because they've already made the necessary investments here.

 See Figure 06 / Page 21

Beyond specific skills, it's also important to instill a different culture and ways of working.



Spotlight

Investing in bigger and stronger in-house teams

As PwC's global head of sovereign wealth and investment funds, Jan Muysken is seeing official institutions, particularly in the sovereign wealth sector, transform their workforce and processes as they implement sophisticated investment strategies.

Institutions will continue to outsource investment management options, particularly when investing in areas where they are less familiar. But the nature of the relationship is changing as institutions demand more from their partners, including skills transfer. Leading institutions are also building their in-house teams. "Large sovereign investors will further strengthen their investment teams with highly qualified staff in an effort to better select and monitor their investment managers and in some cases internally execute mandates previously allocated to external firms or to invest in new asset classes," he says.

Leading institutions are trying to get even closer to their investments — to achieve improved performance, meet stakeholder objectives or address environmental, social and governance (ESG) concerns. They're

also getting far more granular — so they will understand the impact of major megatrends, like urbanization, and how these will impact markets over the long term. Mr. Muysken also sees funds becoming much more active, collaborating with their peers and seeking new ways of working with private sector funds. They're also developing strategic relationships with external providers, encouraging longer-term partnership relationships that are aligned with their investment strategies.

Many funds are building up their in-house teams. They are recruiting aggressively, able to secure high-quality staff away from the private sector as the investment banking sector is still recovering. "The best funds are able to offer attractive opportunities, with exceptional training and development, and are building formidable teams," says Mr. Muysken.

“There is a genuine and very positive trend toward thinking more about the fundamentals, the underlying risk drivers to their investments.”

VICTORIA BARBARY
Director, Investec
Asset Management
Investment Institute

Beyond specific skills, it's also important to instill a supportive culture and new ways of working. Yet public sector official institutions, in particular, may face challenges here. Compensation structures that remain uncompetitive, career tenure without additional incentives, and bureaucratic organizations can hold back talent development. For Mexico's Pensionissste, changing the culture has been crucially important to building and retaining a high-quality team: “We're a very different type of organization,” says Jose Maria de la Torre Vereá. “We've changed significantly over the last two years. People have an even stronger sense of commitment and accountability.”

Conclusions

The volatile economic environment offers both threats and opportunities for official institutions. Our analysis indicates that all institution types — central banks, SWFs and government pension funds — are, to varying extents, embarking on these changes across all regions.

It is important to develop sophisticated capabilities in risk management and organizational agility to respond quickly to opportunities and threats when they arise. Specifically, the most NIMBLE institutions do four things right. They:

1. Prioritize the development of organizational agility — focusing on those areas that may be the most difficult, such as creating adaptable business processes.
2. Move risk management forward — continuing to look at ways to get better at understanding and managing risk, through investing in people and systems, and by reworking processes.
3. Invest in information capabilities — addressing existing challenges in data sharing and integrating legacy systems, and investing in technology to enhance operations while also managing the risks.
4. Develop the right talent — building strong teams in areas that are key to future success: investment, data management and analytics, technology and governance.

The attitudes and behavior of NIMBLE institutions demonstrate that, in a world where volatility, ambiguity and uncertainty will persist, improvement and learning must be continual and constant. Institutions will need to build these adaptive skills into their organizational DNA to ensure long-term success.



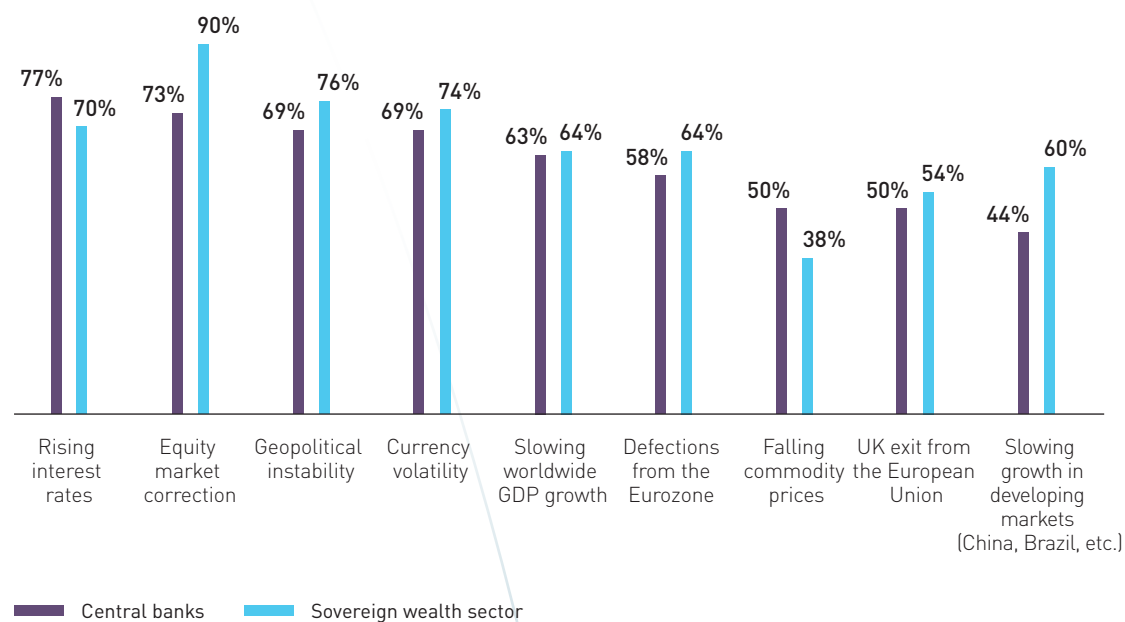
Research Chart Pack



01 TOUGH CONDITIONS AHEAD?

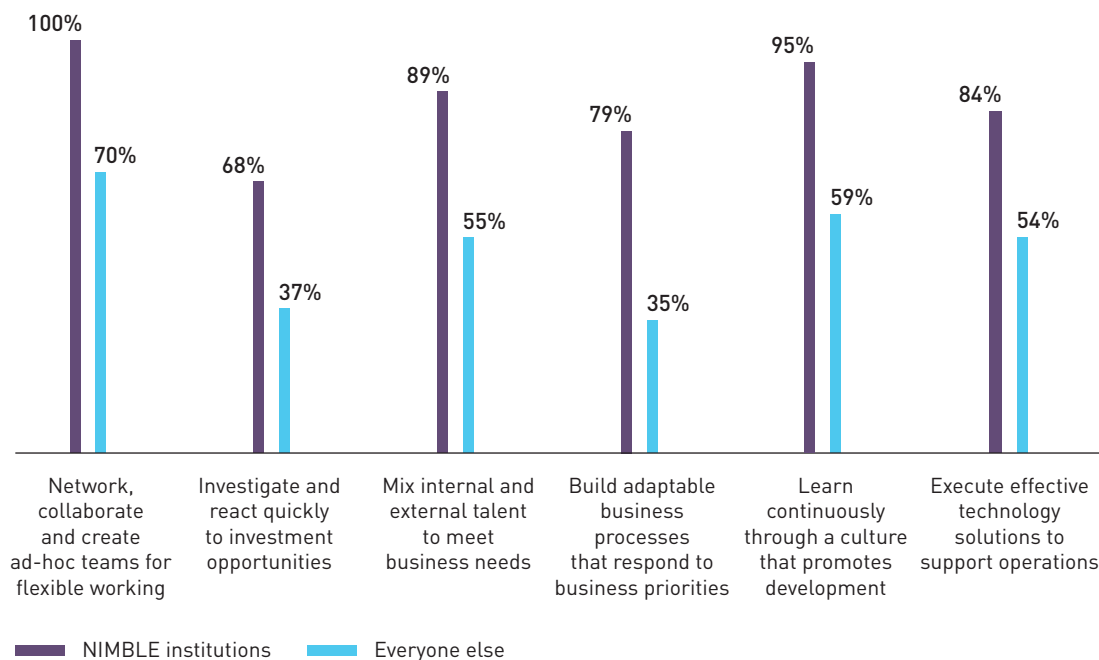
Please rate the anticipated impact of the following factors on your institution's investment strategy over the next three years.

"Moderate impact" and "Significant impact" responses



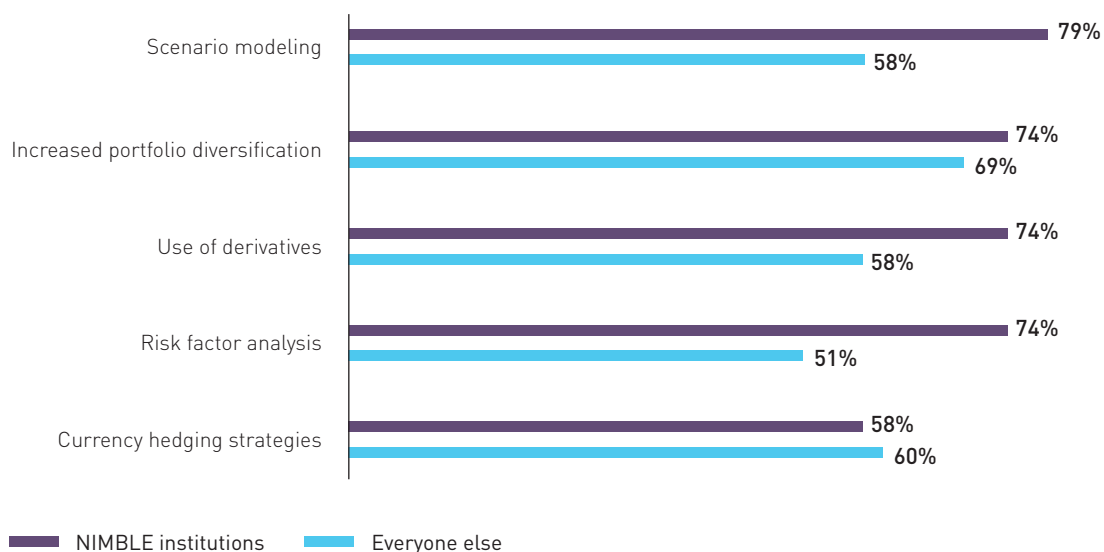
02 THE NIMBLE GAP

To what extent do you agree with each of the following statements?
“Agree” and “Strongly agree” responses



03 INVESTING IN SMARTER RISK MANAGEMENT

Will you expand your use of the following strategies or tools to better manage your investment risk?
“Will expand” responses



04 RISK MANAGEMENT: CHANGE VS. EFFECTIVENESS



"Have changed approach to managing investment risk"



"Have effective or very effective management strategies"

○ NIMBLE institutions

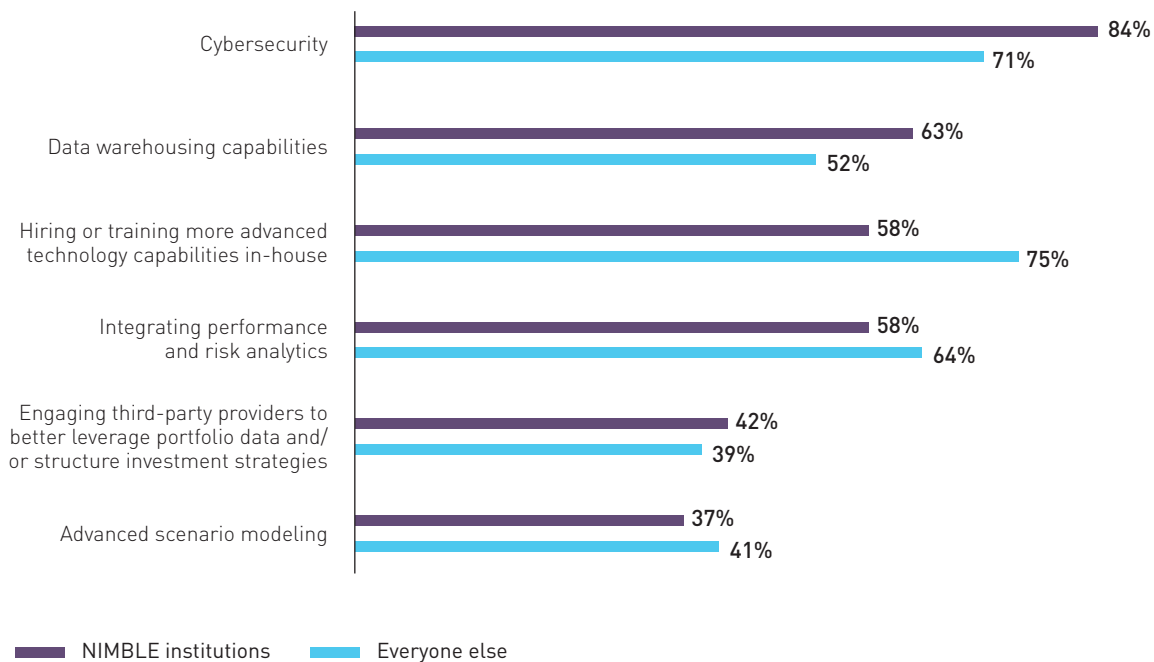
○ Everyone else



05 EXTENDING TECHNOLOGY CAPABILITIES

Over the next year, to what extent will you be strengthening the following areas?

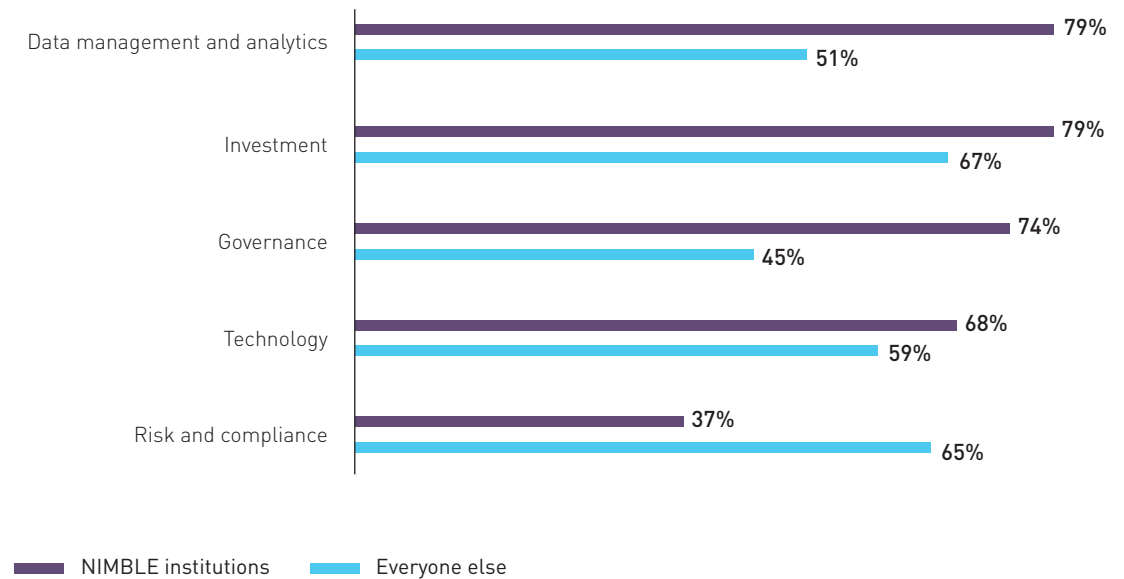
“Moderate extent” and “To a great extent” responses



06 TALENT HOT SPOTS

To what extent are you building talent in the following areas?

“Moderate extent” and “To a great extent” responses



74%

of NIMBLE institutions
are building their
investment talent

Annex A

Central banks:
New investment
strategies, improving
operations

The image shows two men in business suits. The man on the left is in profile, looking towards the man on the right. The man on the right is looking at a smartphone held in his left hand, while his right hand holds a white coffee cup. The background is blurred, suggesting an outdoor setting. A white circular callout box is positioned in the lower-left area, containing the text 'Annex A' and 'Central banks: New investment strategies, improving operations'. Thin white lines radiate from the center of the circle towards the right side of the image.

Because of their typical reliance on fixed-income investments, central banks have been particularly challenged by the low-interest-rate environment. To achieve their objectives, they have attempted to diversify their investments while working within their restrictive investment mandates. In some cases, they have looked to equities, commodities, new markets and longer durations for their investments. In our survey, central banks reported high levels of concern with the potential impact of rising interest rates and demographic changes. With interest rates starting to move amid global economic uncertainty, central banks should be more active in managing their investments and more conscious of operating costs.

Our survey demonstrates that many central banks are responding to these challenges by upgrading their risk management approaches and building greater flexibility into their operating capabilities. Indeed, central banks make up nearly half the population of NIMBLE institutions identified in our survey.

Central banks continue to diversify

Faced with an uncertain investment environment, even central banks are diversifying, though to a more limited extent than other official institutions.

Central banks are also managing their portfolios in more flexible, dynamic ways, for example, by providing managers with more flexibility to find alpha opportunities in the market.

 [See Figure 07 / Page 26](#)

Moving to a more NIMBLE operating model

Central banks need to respond quickly to changing investment demands and maintain operating efficiency. Our survey shows they are making good progress in some areas, relative to their peers in the sovereign wealth sector. They're confident that they have networks and flexible teams for ad hoc, flexible working (85 percent of central banks vs. 66 percent of sovereign wealth sector respondents). They also report higher scores for a learning culture, effective technology platforms and a mix of internal and external talent.

However, they report low scores in their ability to quickly capitalize on investment opportunities and adapt business processes in response to business need.

 [See Figure 08 / Page 27](#)

Central banks are upgrading their technology but to a lesser extent than other institutions.

Big plans to upgrade investment risk management

Faced with lower investment returns, central banks are minimizing their risk exposure at a time of economic uncertainty. As a result, central banks have been upgrading their approach to investment risk and 70 percent are planning to increase their investment here over the next three years — a 10-percentage-point margin over other institutions. Over the next three years, central banks are planning to expand risk factor analysis (63 percent vs. 36 percent of SWFs), portfolio diversification (73 percent vs. 64 percent of SWFs), and scenario modeling (67 percent vs. 48 percent of pension funds).

However, central banks appear to be playing catch-up relative to other institutions. Some 54 percent of central banks say they've changed their approach to managing risk over the last three years (against 62 percent for other institutions), and less than half rate their

risk management strategies as effective (vs. 62 percent for other institutions).

 See Figure 09 / Page 28

Keeping pace with technology demands

The survey suggests that central banks have IT-related issues to address. Almost half of central banks are concerned with data integration and legacy systems — a figure that is 10 percentage points higher than other institutions. Although they're investing in upgrading technology in key areas, they're doing so to a lesser extent than other institutions. For example, 69 percent of central banks are investing in upgrading their cybersecurity, compared with 78 percent of other institutions.

There may be several reasons for this — central banks may be more resource-constrained, for example. There may be a time lag, with central banks likely to feel the compelling need to invest later.

 See Figure 10 / Page 28

Securing talent in key areas

Our research shows that central banks lag other institutions in seeking talent in all areas. The gaps are greatest in investment management (20 percentage points), data management and analytics (16 points), and governance (8 points).

These organizations are particularly challenged by compensation constraints relative to the private sector. One strategy is to provide excellent training and development opportunities. Training becomes increasingly important when technology development creates a steep learning curve.



See Figure 11 / Page 29

Conclusions

Central banks exhibit strong signs of progress, yet there may be further scope for improvement. These institutions are also undergoing change. They are prioritizing new approaches to risk management and increasing their investments in technology. In some ways, the progress made by central banks is impressive. Many are clearly satisfied with their capabilities: they are making significant investments and a large number qualify as members of the elite NIMBLE group of institutions.

Risk management is one potential area for further upgrading. This may be understandable given their different investment profiles, compared with other institutions in this sector. And although they plan to invest in key areas like information management and skills development, their plans are less ambitious than other institutions. In a fast-changing world, it is by developing flexible capabilities that they will make the most of opportunities ahead.

70%

of central banks
plan to upgrade their
approach to managing
investment risk

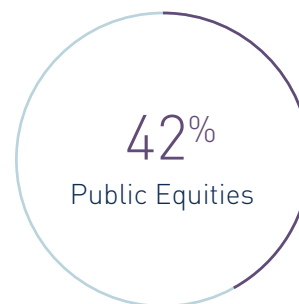
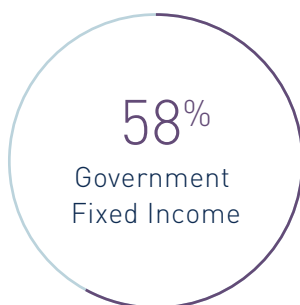


Annex A Chart Pack



07 CENTRAL BANK INVESTMENT BY ASSET CLASS OVER THE NEXT 3 YEARS

Over the next three years, to what extent are you increasing or decreasing your portfolio allocation to the following asset classes? Increasing responses:

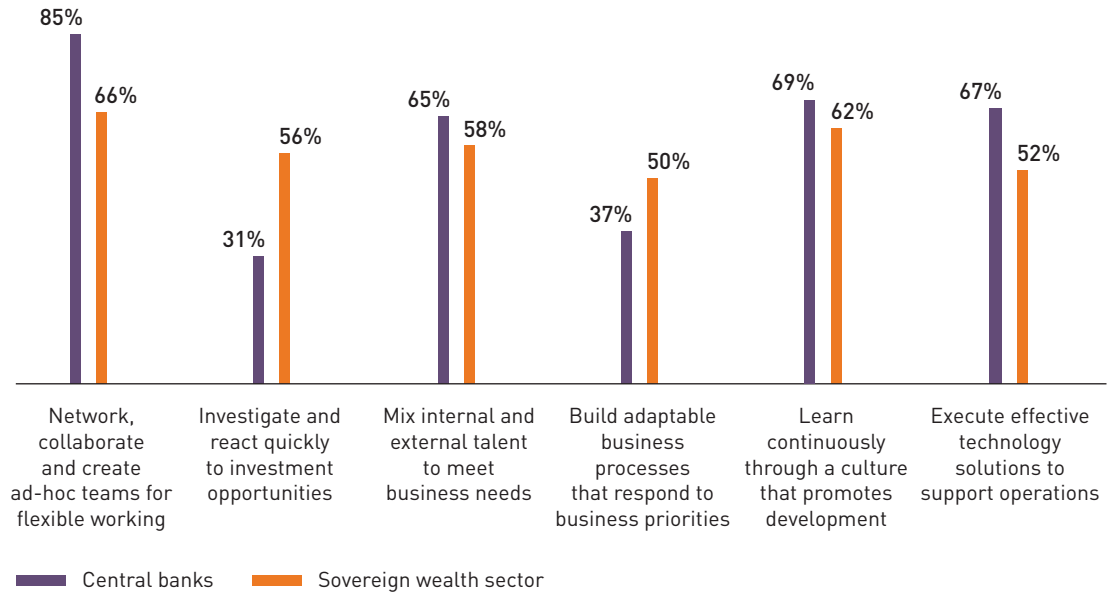




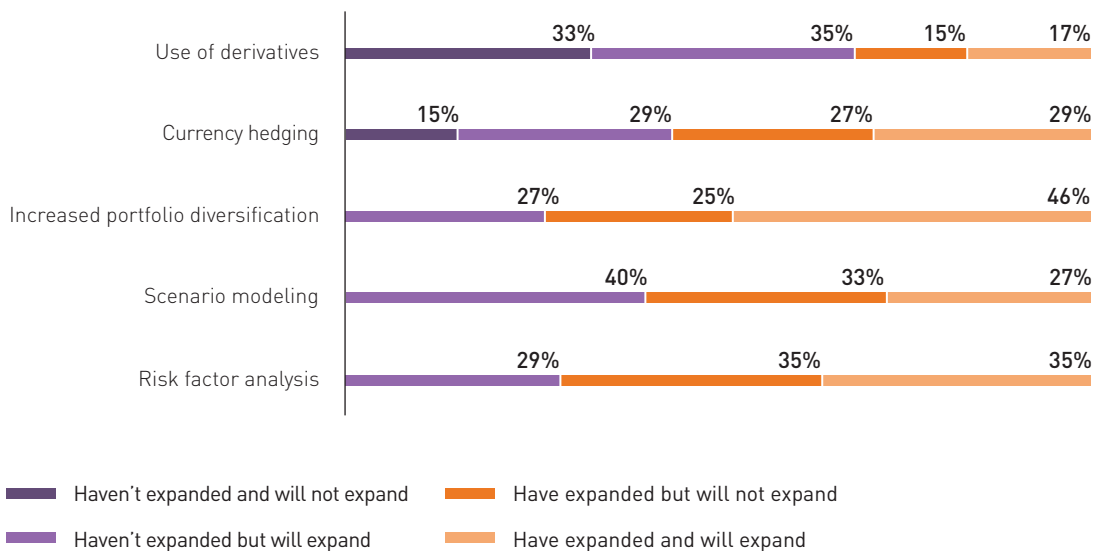
08 ORGANIZATIONAL AGILITY

To what extent do you agree with each of the following statements?

“Agree” and “Strongly agree” responses



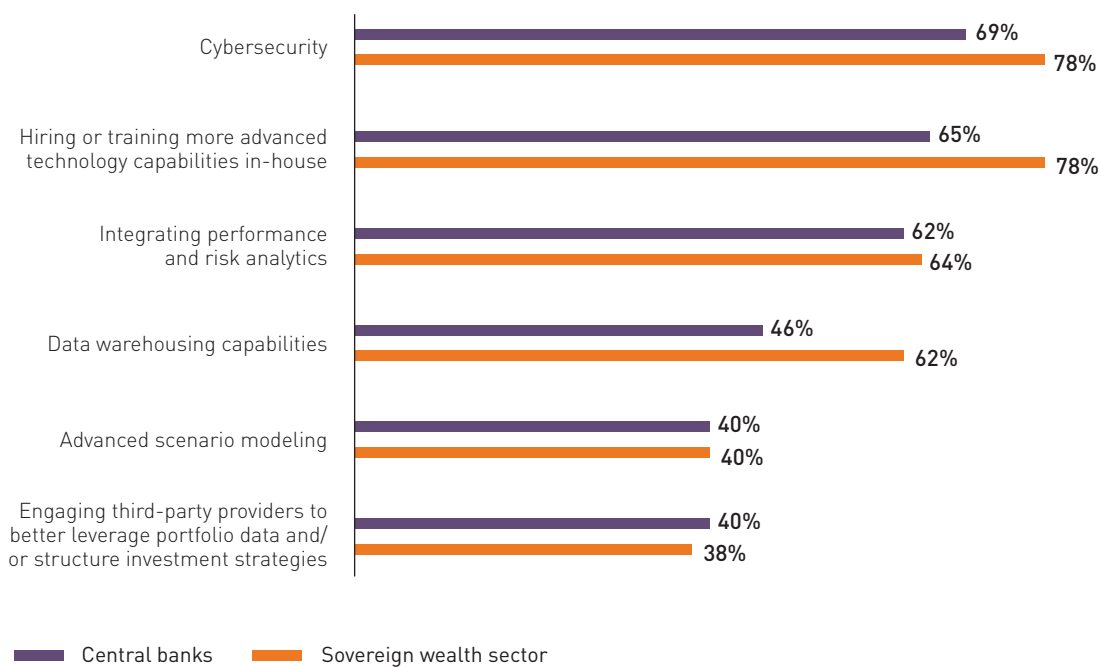
09 CENTRAL BANKS' ADOPTION OF RISK MANAGEMENT TECHNIQUES



10 CENTRAL BANKS SET TECH PRIORITIES

Over the next year, to what extent will you be strengthening the following areas?

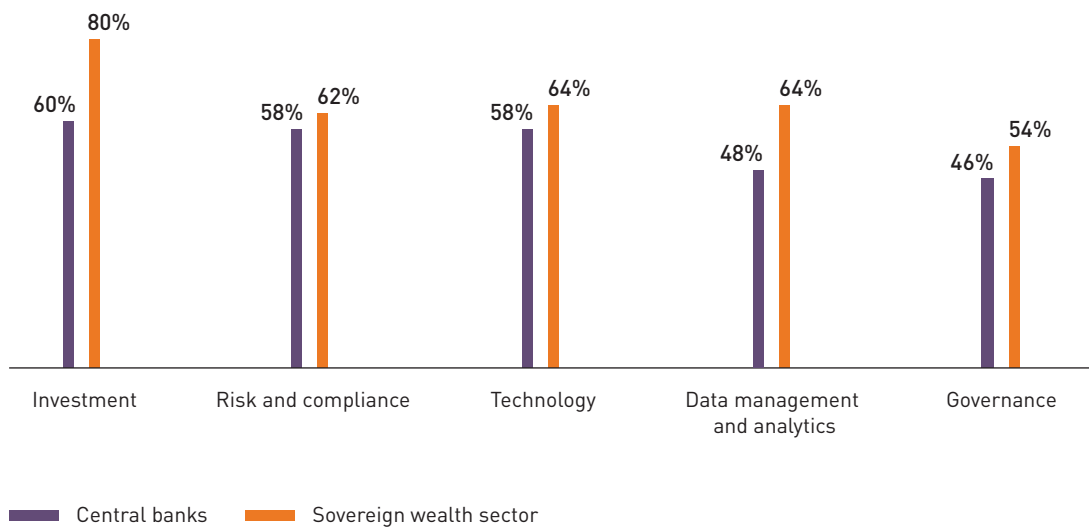
"Agree" and "Strongly agree" response



11 CENTRAL BANKS' TALENT HOT SPOTS

To what extent are you building talent in the following areas?

“Moderate extent” and “To a great extent” responses



Annex B

Sovereign wealth
sector: Upgrading
in-house capabilities
to improve
performance

The sovereign wealth sector contains a wide range of institutions with differing mandates, investment objectives, stakeholders, scale and sources of funding. We surveyed 25 SWFs and 25 government pension funds from countries around the world. Although the sample is relatively small, the results provide directional guidance on how these institutions differ in their approach to investment and building operational capabilities.

“The power balance [with external advisors] is shifting to become much more equal, and when they do go external they’re looking for very specific things.”

VICTORIA BARBARY
Director, Investec
Asset Management
Investment Institute

Diversifying investment portfolios

SWFs and government pension funds are keenly aware of the uncertainties facing global markets. For some SWFs, the decline in the price of oil is having a fundamental impact on their mission. Across the sovereign wealth sector, they register greater concern than central bankers about potential movements in equity markets (see Figure 1 on page 17). Faced with slowing returns from fixed-income investments, SWFs and pension funds are seeking to use a much broader range of alternative investments, as shown in Figure 12 (page 39) .

The survey uncovered specific differences in investment strategies by institution type. Although both SWFs and pension funds have long-term investment horizons, pension funds may seek investments that match returns with their long-term liabilities, like real estate and private equity. SWFs may

favor investment in hedge funds and government fixed-income investments significantly more than pension funds.

 [See Figure 12 / Page 39](#)

While official institutions are seeking greater efficiencies, they’re also moving more aggressively to build their own investment teams. Many of these institutions use a combination of internal and external investment expertise. “They’re moving from being just pure asset owners to being part asset managers,” observes Victoria Barbary, director of Investec Asset Management’s Investment Institute. This is also changing the nature of the relationship with external advisors. “The power balance is shifting to become much more equal, and when they do go external they’re looking for very specific things.”

“You need to identify the areas where your fund has a competitive advantage and double down in those areas because that’s the only place you can truly outperform.”

ASHBY MONK
Executive Director
and Research Director,
Stanford University
Global Projects Center

The search for outperformance is leading funds to explore new investment frontiers. As it becomes increasingly difficult to secure target returns through equities and brownfield investments, institutions are developing more specialized strategies. For example, Future Fund in Australia is pursuing active management to pick stocks linked to the expected growth of the emerging middle class in Asia. Ashby Monk, executive director and research director at Stanford University’s Global Projects Center, describes how the University of California pension fund is making greater use of its internal expertise to identify research and development opportunities in areas like renewable energy. To succeed, he says, “You need to identify the areas where your fund has a competitive advantage and double down in those areas, because that’s the only place you can truly outperform.”

Leading investors are also thinking beyond asset classes to develop broad investment strategies based on their understanding of long-term trends. They’ll then set out an investment

strategy to optimize returns over an extended period, investing across the capital structure, at different development stages and risk profiles. With more concentrated and long-term investments, many institutional investors are becoming closely involved in the stewardship of the companies in which they invest. For example, three years ago ADIA, AIMCo and the New Zealand Superannuation Fund created the Innovation Alliance. Together, they invest in capital-intensive midstage companies in areas like Green Energy. They are active shareholders for the long term, claiming seats on the company boards. This shift in attitude has been given further impetus by the Volkswagen emissions scandal, which demonstrates the impact stewardship can have on financial performance.

The institutions in our survey registered very high interest in environmental, social and governance (ESG) investment strategies. In September 2014, the New Zealand Superannuation Fund published its Responsible Investment Framework. This includes “social returns” alongside

financial performance in its investments profiles. Jan Muysken, global head of sovereign wealth and investment funds at PwC, sees this as a growing trend: “Thanks to their size and potential market advantage, and due to their long-term investment horizons, the sovereign investors have the potential to catalyze change beyond their own portfolios and contribute to a better world.”

With their focus on long-term potential, it’s not surprising that the sovereign wealth sector is more likely than central banks to be increasing their investments in developing regions like APAC (78 percent vs. 65 percent) and Latin America (42 percent vs. 29 percent).

Moving to a more NIMBLE operating model

To implement more dynamic, responsive investment strategies, institutions need to build strong, flexible investment teams supported by a NIMBLE operating model. PwC’s Jan Muysken describes how the global financial crash was one of the catalysts that compelled the sovereign wealth sector to adapt: “Some dramatic

numbers came off top lines. There was a realization at that point they needed to do things differently. They reviewed their strategies, in particular investment risks.” Stanford University’s Ashby Monk believes innovation and entrepreneurial attitudes will become increasingly important. “You need to be innovative in the way you think about investing money,” he says, “but also in terms of how you organize to manage the investment.”

Sovereign wealth funds and pension funds are more positive about their ability to respond to investment opportunities than central bankers, and about half report being able to radically adapt business processes (vs. 37 percent for central banks). On other measures of organizational agility, however, they actually lag slightly behind central banks. Pension funds score particularly low on the effectiveness of their technology platforms and mix of internal and external talent. They identify these areas as priorities for improvement.

 [See Figure 13 / Page 40](#)

78%

of SWFs plan
to increase
their investments
in APAC

Both SWFs and pension funds report significant challenges managing data across their internal information systems

Upgrading investment risk management

SWFs lead other institutions in upgrading their risk management approaches. Almost two-thirds have changed their approach in the last three years, compared with 60 percent of pension funds. SWFs also appear to be more satisfied with their approach to risk management: 72 percent report their risk management strategies as “effective” — 20 percentage points higher than pension funds.

SWFs, in particular, have expanded the use of risk factor analysis over the last three years, along with the use of derivatives. Over the next three years, SWFs are giving equal priority to all of the approaches except risk factor analysis, which they appear to have already implemented. Pension funds are prioritizing the use of derivatives and diversifying their portfolios.

 See Figure 14 / Page 40

Mexico's Pensionissste has invested heavily in upgrading risk management capabilities, with a combination of more staff and investment in third-party IT platforms over the last few years. As the fund is able to manage risk more frequently and at a more granular level, it can operate much closer to the regulatory limits on its investment portfolio.

Meeting new technology demands

Both SWFs and pension funds aim to improve their information management. PwC's Jan Muysken has observed the trend for a number of years: the forward-thinking SWFs in particular have developed very sophisticated capabilities in areas like scenario analysis. According to our survey, however, there remains much to be done. Less than half of

80%
of SWFs are
investing in
technology talent

SWFs have particularly strong intentions to hire in key areas — investment, data management and analytics, technology and governance.

SWFs say they're effective at sharing data internally; 36 percent of both SWFs and pension funds have challenges integrating data with legacy systems.

Both types of institutions are investing in training and recruitment of technology resources in the next year (80 percent of SWFs and 76 percent of pension funds). Both are also strengthening their cybersecurity capabilities, particularly pension funds. SWFs are also prioritizing data warehousing to a greater extent than other institution types (68 percent vs. 51 percent overall).

 See Figure 15 / Page 41

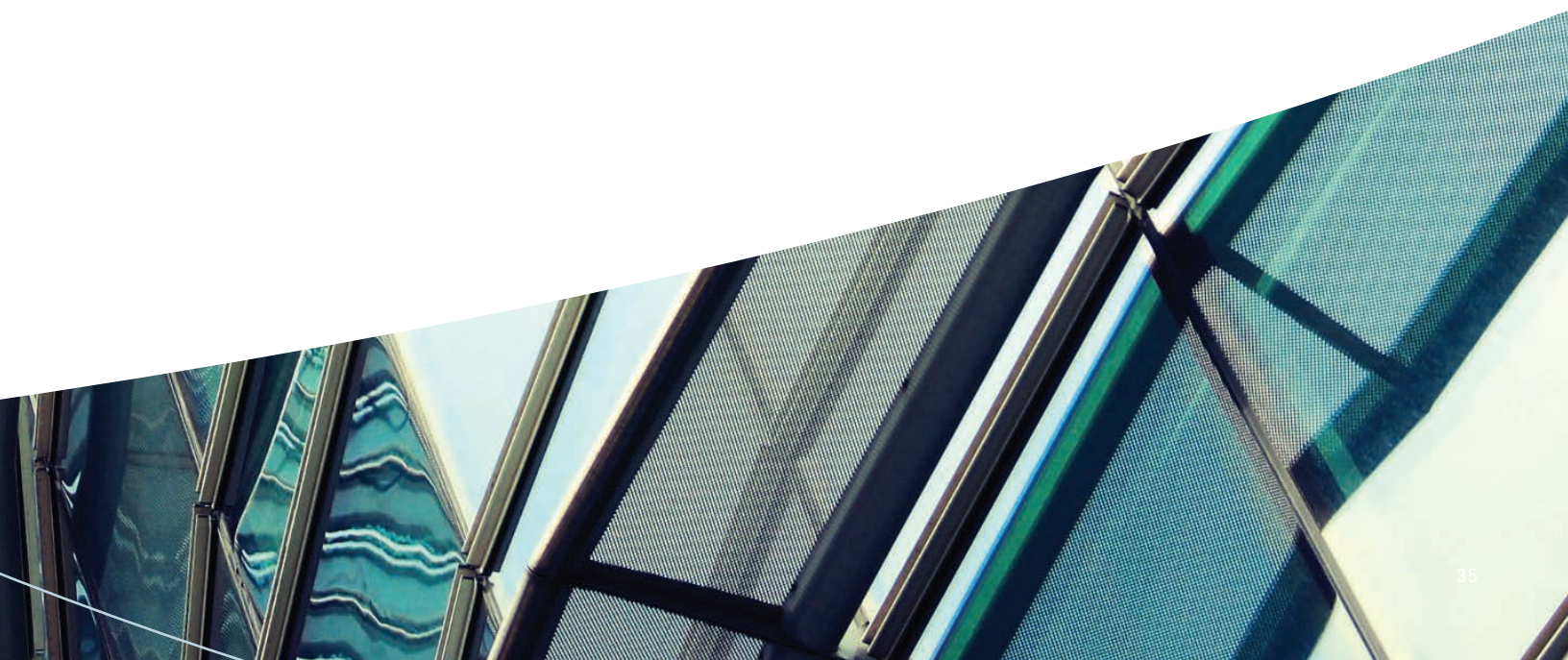
Upgrading talent in key areas

SWFs have particularly strong intentions to hire in key areas including investment, data management and analytics, technology and governance. In some areas, gaps with other institutions are

significant, such as data management and analytics (76 percent vs. 52 percent of pension funds) and technology (72 percent vs. 56 percent). This may demonstrate the increased pulling power of SWFs. They are able to attract top talent with more attractive pay and conditions.

Pension funds have an equally strong focus on building talent in investment as they seek to build their internal teams to provide improved returns and save operating expenses. Pension funds are upgrading risk and compliance staff to a much greater extent than other institution types, with a 28-percentage-point gap over SWFs, reflecting the increased regulation facing the pensions sector.

 See Figure 16 / Page 41





Spotlight

Transitioning to a new regime at Pensionissste

Chief executive officer Jose Maria de la Torre Vereá has overseen rapid transformation at Pensionissste, Mexico's largest government pension fund with more than \$12 billion under management. In 2009, the government opened the public pension fund to private sector competition. Many federal employees moved their savings from their Pensionissste fund to private providers. As a result, at one stage the fund was losing 3 percent of assets under management every two months. The challenge facing Pensionissste was to reverse that process. With the government extending pension reforms, providing public sector pension funds with greater flexibility to manage their investments and extend their customer base, this process of transformation is set to continue.

Mr. de la Torre Vereá's strategy is to exploit the new freedoms to diversify their investments to retain federal employees and attract new savings from local government employees, as well as private pension funds. Pensionissste is exploring a much more dynamic and varied investment strategy, investing in a wider range of asset classes, including single stocks, private equity, infrastructure and real estate trusts. Soon Mr. de la Torre Vereá expects to be given authorization

to trade in currencies and limited forward trading. Key to this strategy is transforming the capabilities of the fund by becoming a more highly skilled and more NIMBLE institution.

Action will be required on several fronts: transforming the skills of existing staff, bringing in new talent and partnering with external experts. Staff have been allocated to teams specializing in asset classes, with new expertise brought in to

An aerial photograph of a city street, showing a multi-lane road with cars, sidewalks, and lush green trees. The image is partially obscured by a white rectangular area containing text and a blue geometric design element consisting of a circle and radiating lines.

cover new areas. “I’ve been doing everything I can in hiring people to ensure I have top-quality people in my portfolio management group and risk management areas,” says Mr. de la Torre Vereá. The risk management team has doubled in size to 12 people. The fund has also bought an external platform to help compute risk metrics on a daily basis. As a result, Pensionissste is able to be much bolder in its investment strategies, working much closer to the regulatory limits in search of improved returns. After a rigorous selection process, the fund is partnering with an international bank to act as custodian and help extend the fund’s reach across global markets. In terms of financial returns and assets under management, results are impressive.

Much remains to be done, however. Mr. de la Torre Vereá is planning to continue with his plans to upgrade operations by building a high-quality team with improved technology support. He now has greater freedom to offer improved compensation, providing extensive training and education, and aims to strengthen a positive culture that keeps staff engaged and productive. The fund is also planning to invest in a CRM system next year and is hoping to extend the use of quantitative investment analytics.

Conclusions

Our research highlights the extent to which SWFs and government pension funds are changing their approaches to investment to meet increasingly demanding objectives. Individual institutions' investment strategies are sure to differ as a result of their different mandates, objectives and circumstances. Yet the changing economic environment, combined with advances in technology, presents clear opportunities as well as challenges to these institutions.

Our survey shows that many SWFs and government pension funds are actively introducing more sophisticated approaches to risk management, developing new information management capabilities and hiring specialist talent.

Yet the survey highlights significant gaps between many of these institutions and class-leading NIMBLE institutions. Most also recognize that there remains much to be done. Many institutions operating in this sector face challenging constraints, including regulatory, financial and stakeholder influences.

Faced with an uncertain economic environment, SWFs and government pension funds should make the case for keeping up with the leaders in the sector and building the organizational flexibility to respond quickly to changing investment demands. "We have to become incredibly more agile," says Pensionisste's Jose Maria de la Torre Vereá.

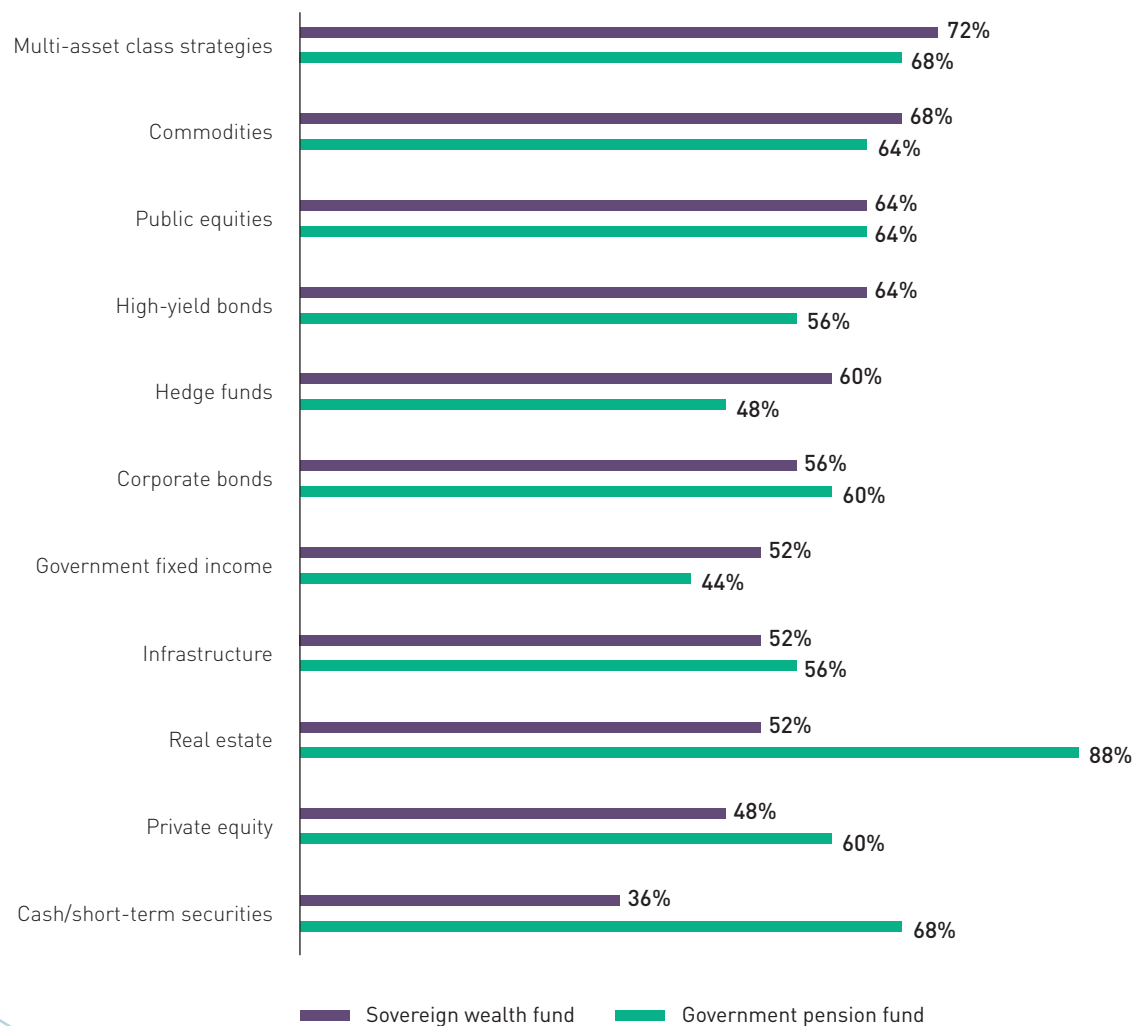
Annex B Chart Pack



12 SOVEREIGN WEALTH SECTOR, INVESTMENT BY CLASS ASSET

Over the next three years, to what extent are you increasing or decreasing your portfolio allocation to the following asset classes?

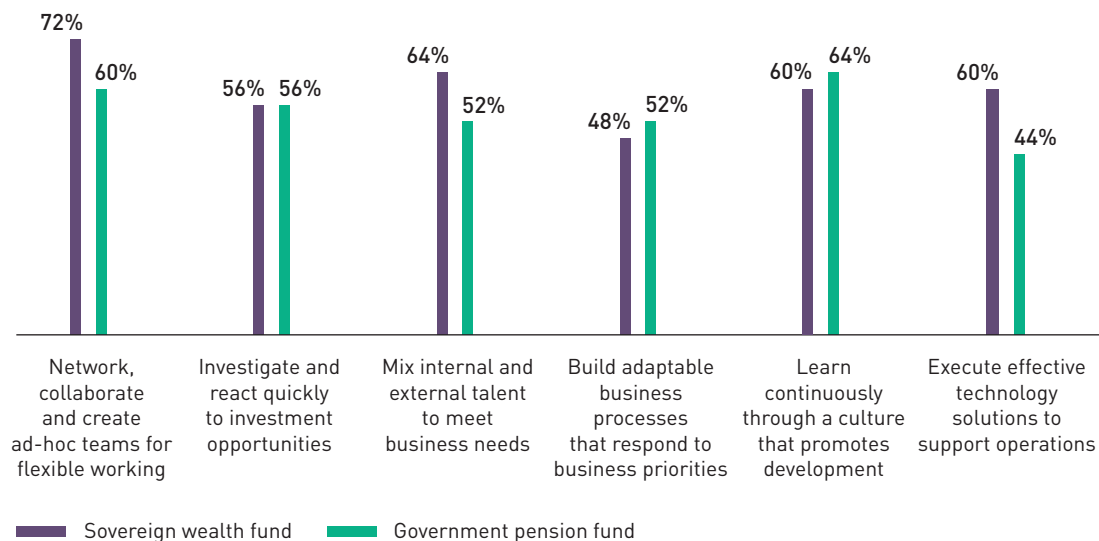
“Somewhat increasing” and “Significantly increasing” responses



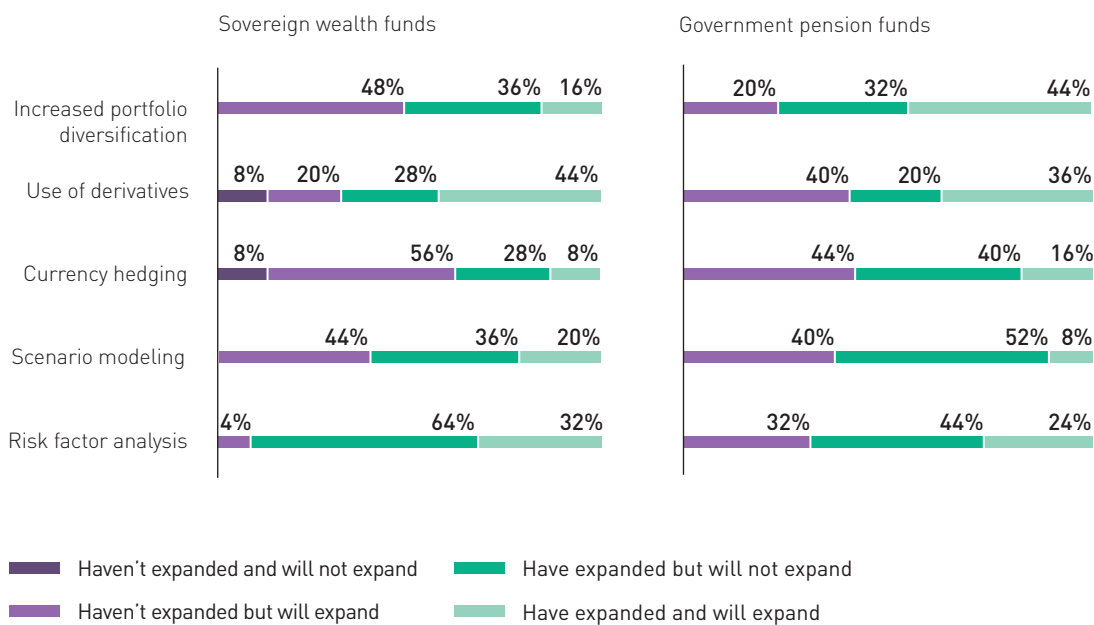
13 ORGANIZATIONAL AGILITY

To what extent do you agree with each of the following statements?

"Agree" and "Strongly agree" responses



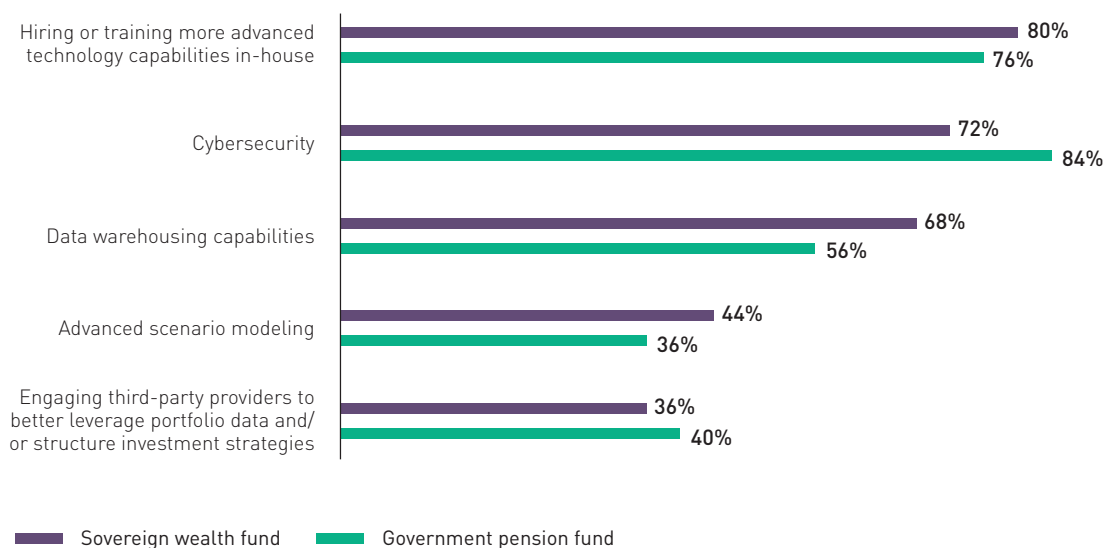
14 ADOPTION OF RISK MANAGEMENT APPROACHES



15 INVESTMENT IN TECH CAPABILITIES

Over the next year, to what extent will you be strengthening the following areas?

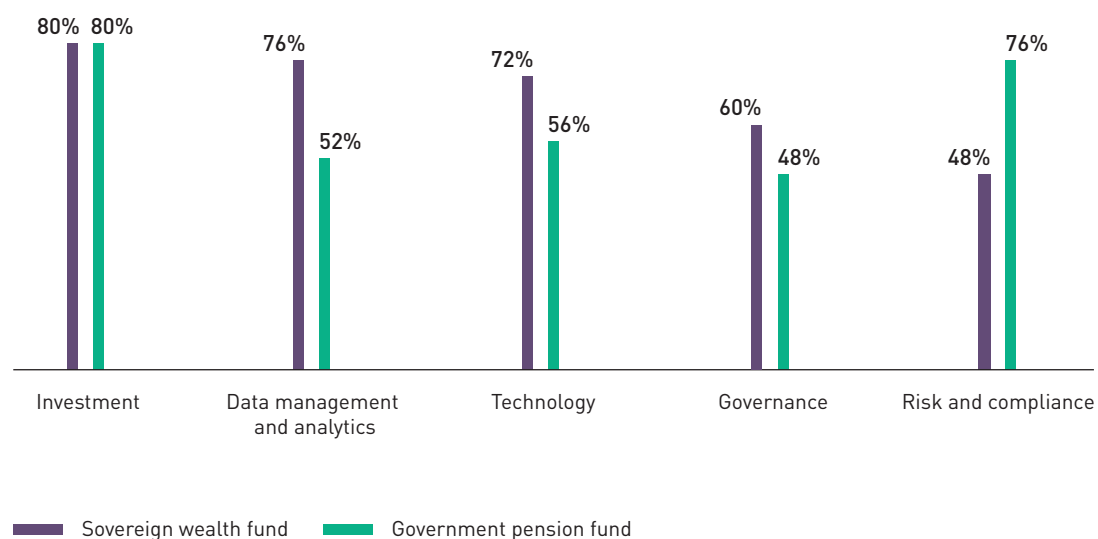
“Moderate extent” and “To a great extent” responses



16 INVESTMENT IN TALENT

To what extent are you building talent in the following areas?

“Moderate extent” and “To a great extent” responses





About the research

Oxford Economics surveyed representatives from 102 official institutions in September and October 2015. Of these, 52 were central banks, 25 were sovereign wealth funds and 25 were government pension funds. Respondents covered a range of roles with strategic oversight of their institutions' investment strategies, including fund managers, portfolio managers, CFOs and strategy directors. Those surveyed were asked for their views on the investment environment, and answered a series of questions regarding changes they had made — and plan to make — to their operations over the next three years.

We derived the NIMBLE group by aggregating responses to six questions concerning organizational flexibility. We calculated the top quartile of aggregate scores (25 or more out of a maximum of 30). The NIMBLE group represents 19 institutions that matched or

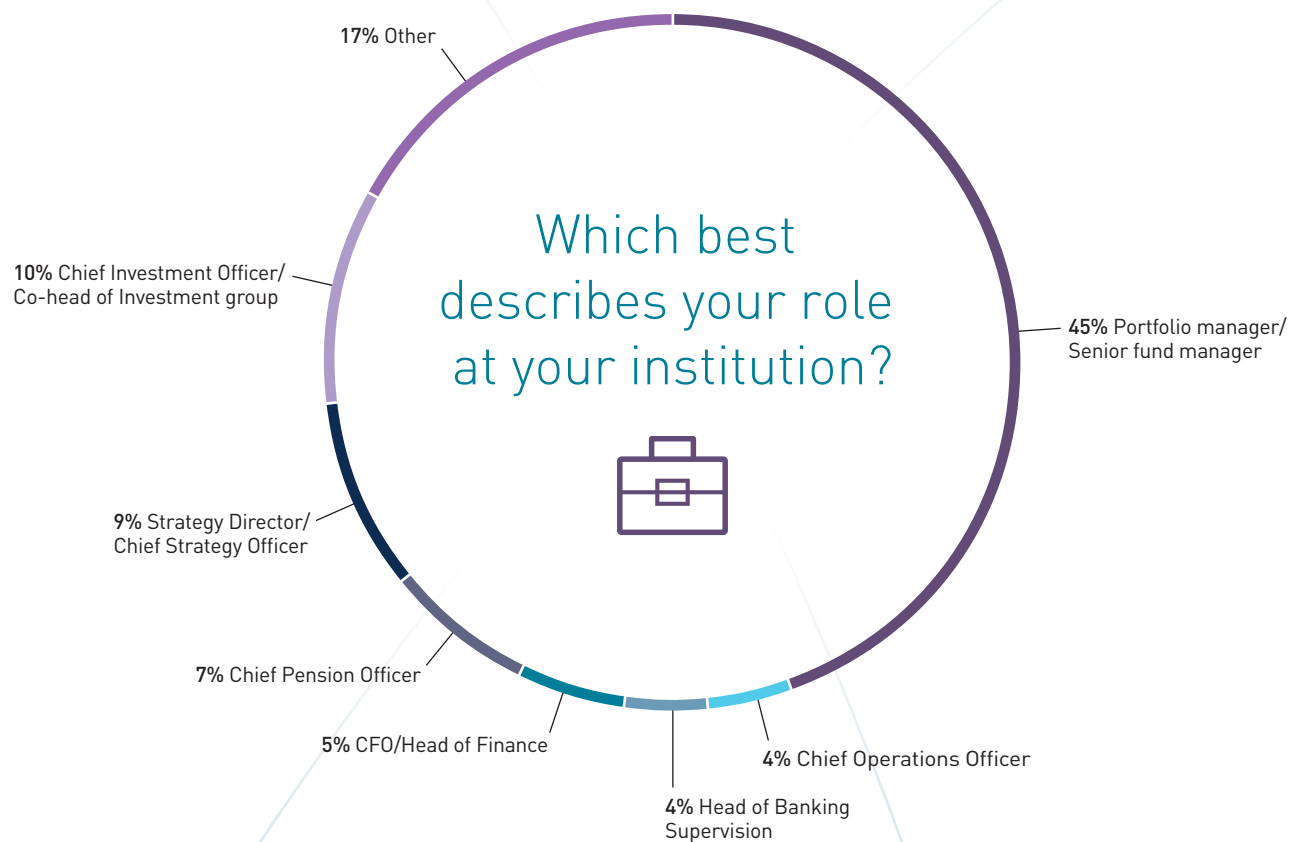
exceeded this score. We then analyzed how this group responded to the full survey compared with the rest of the population.

 [See Figures 17–19 / Page 43–45](#)

Annex C Survey Demographics



17 SURVEY DEMOGRAPHICS—ALL RESPONDENTS



18 SURVEY DEMOGRAPHICS—ALL RESPONDENTS

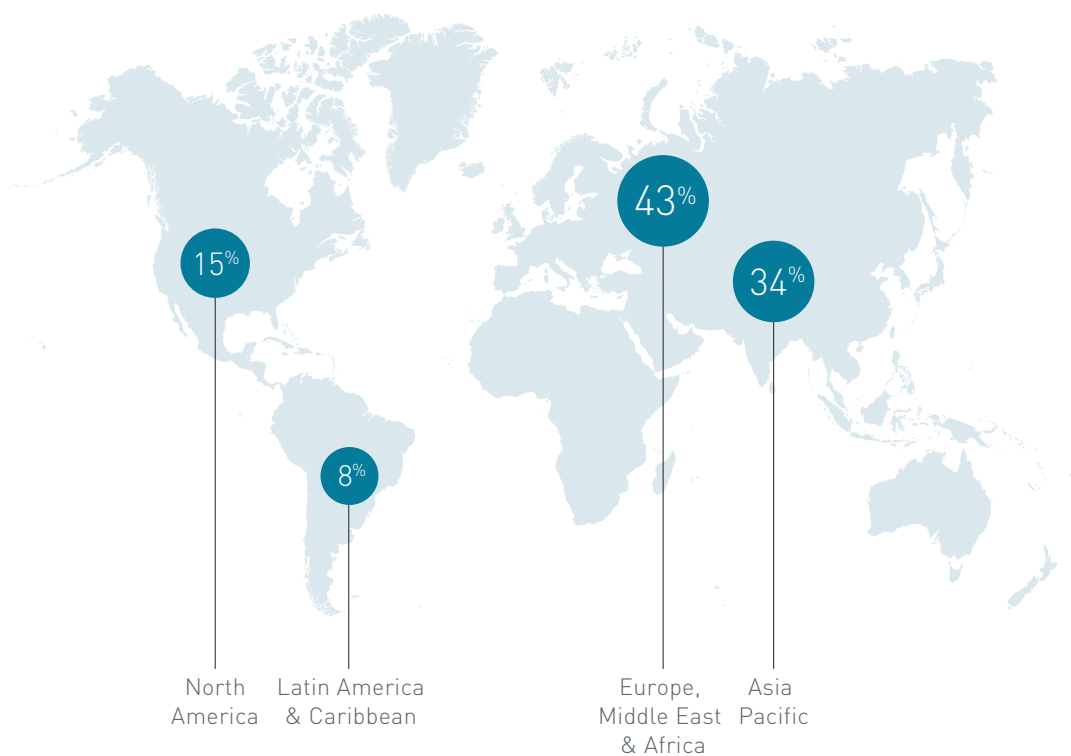


- 51% Central bank
- 25% Sovereign wealth fund
- 25% National-government-owned pension fund



- 64% Less than \$100 bn
- 20% \$100 bn – \$250 bn
- 17% More than \$250 bn

In which region are you located? (Total)



19 SURVEY DEMOGRAPHICS—NIMBLE INSTITUTIONS

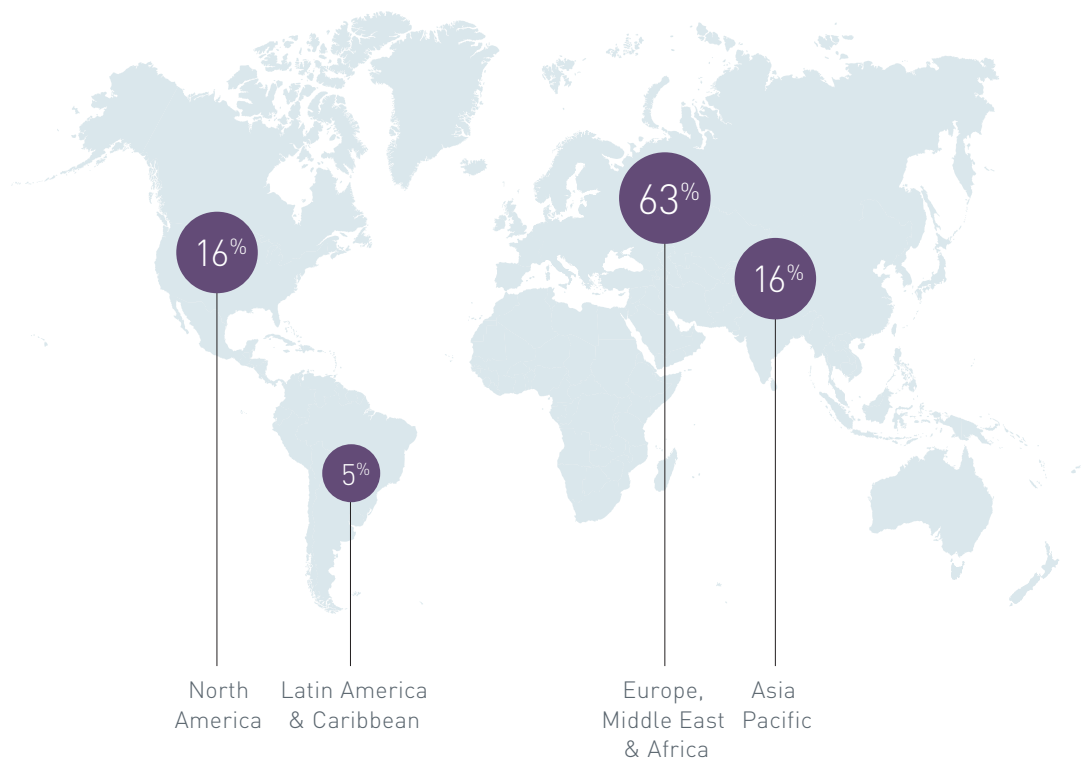


- 47% Central bank
- 26% Sovereign wealth fund
- 26% National-government-owned pension fund



- 42% Less than \$100 bn
- 37% \$100 bn – \$250 bn
- 21% More than \$250 bn

In which region are you located? (NIMBLE institutions)







For more
information visit

statestreet.com/NIMBLE

About the Research

This report is based on a State Street survey of 102 representatives of official institutions. The State Street 2015 Official Institutions Survey was conducted by Oxford Economics in September and October 2015. Respondents included 52 central banks, 25 sovereign wealth funds and 25 government pension funds. Respondents covered a range of roles with strategic oversight of their institutions' investment strategies, including fund managers, portfolio managers, CFOs and strategy directors.

statestreet.com/NIMBLE

For more information about our solutions for official institutions, please contact:

AMERICAS

Hector Lopez-Camacho

+1 617 662 4076

hlcamacho@statestreet.com

APAC

Kevin Wong

+852 2103 0203

kevin.sc.wong@statestreet.com

EMEA

Rod Ringrow

+44 203 395 7657

rringrow@statestreet.com

STATE STREET.

©2016 State Street Corporation — All Rights Reserved

16-27259 SSB-0020

Expiration date: 03/31/2017

Investing involves risk including the risk of loss of principal. The whole or any part of this work may not be reproduced, copied or transmitted or any of its contents disclosed to third parties without State Street Corporation's express written consent. The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor. All material has been obtained from sources believed to be reliable. There is no representation or warranty as to the accuracy of the information and State Street shall have no liability for decisions based on such information. The views expressed in this material are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.