



FUTURE STATE OF THE INVESTMENT PROFESSION

PURSuing BETTER OUTCOMES—FOR THE END INVESTOR, THE INDUSTRY, AND SOCIETY

Organizational Game Changers



DEFINING INVESTMENT ORGANIZATIONS

Following the framework adopted in the "Investment Industry Ecosystem" chapter, we suggest that investment organizations can be subdivided into three broad categories: asset owners, asset managers, and investment intermediaries—essentially, other investment organizations, particularly sell-side firms, investment advisers, investment banks, data providers, and other research providers. All of these are very much "people businesses," dependent on talented leaders and staff to move the organizations forward.

Size of the Market for Investment Professionals

In our classification we see "investment professionals" as those individuals who are influential in allocation decisions through such areas as investment strategy, portfolio construction, and trading. Their job titles include portfolio managers, strategists, research analysts, and financial advisers.

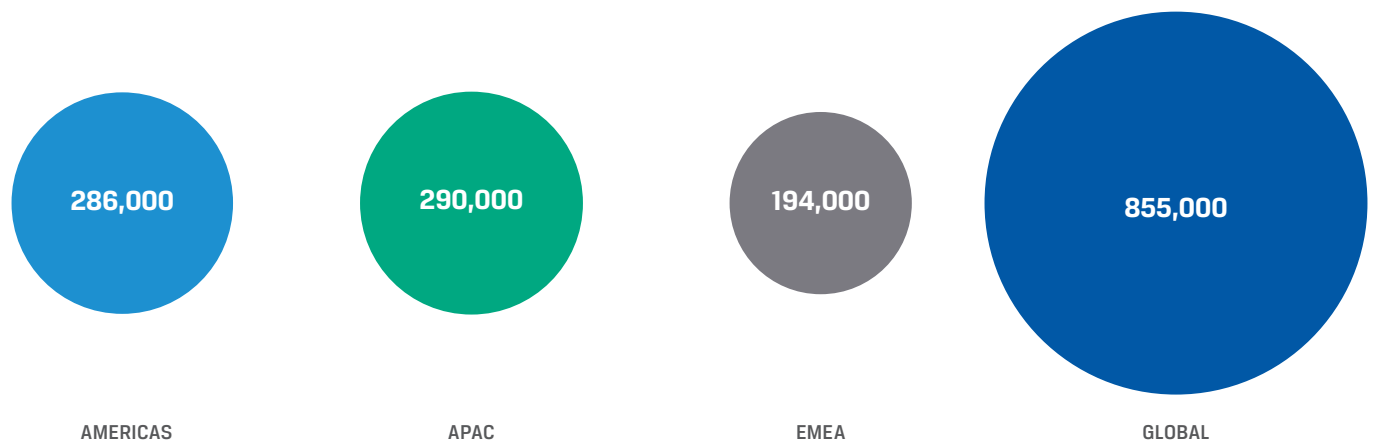
In addition, we see "investment support professionals" as those individuals who are closely associated with the investment function but not influential in the decisions or advice. Their job titles include client services and administrative roles.

Although this list is not exhaustive, it should provide a general understanding of the scope of our analysis. (In fact, in research conducted by Mercer for CFA Institute that examined job titles and postings from online sources, they found that titles in the investment space especially lack standardization versus other industries.)

In 2015, CFA Institute commissioned Mercer to conduct a study to ascertain the size of the market, and it revealed that financial services overall has approximately 32 million workers globally. Of these, only 1.3 million employees work in investment management, with about 1 million at asset managers, 200,000 at wealth managers, and 100,000 at asset owners. The roles involved cover investment professionals, investment support professionals, and other professionals. In follow-up research, they estimated that about 1,500 new graduates take on "investment professional" roles in the United States each year.

When investment roles alone are considered throughout financial services, they total approximately 855,000. Globally, about 9% are CFA charterholders, with the largest penetration in the Americas (18%), followed by 6% in Europe, the Middle East, and Africa (EMEA), and 4% in Asia-Pacific (APAC). (The CFA Institute membership base is larger than this would imply, but not all CFA Institute members work in the investment industry.) To become a CFA charterholder, an

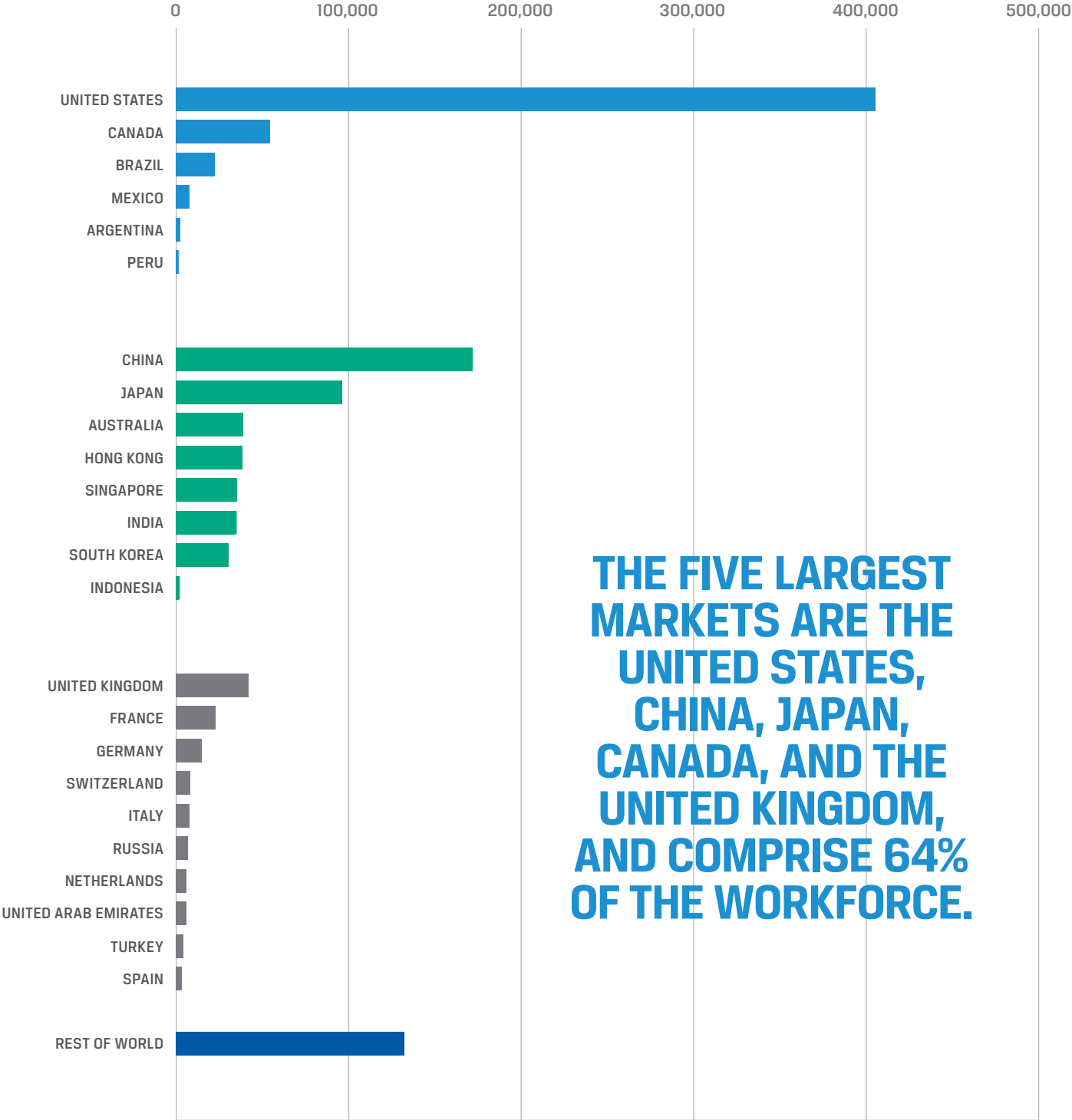
INVESTMENT INDUSTRY PROFESSIONALS



Note: Regions include only major markets and global includes estimate for rest of world.

INVESTMENT INDUSTRY WORKFORCE AT ASSET MANAGERS, WEALTH MANAGERS, AND ASSET OWNERS

AMERICAS APAC EMEA REST OF WORLD



THE FIVE LARGEST MARKETS ARE THE UNITED STATES, CHINA, JAPAN, CANADA, AND THE UNITED KINGDOM, AND COMPRISE 64% OF THE WORKFORCE.

Body of Knowledge and Practice Analysis

CFA Institute has developed a Global Body of Investment Knowledge (GBIK) that includes the subjects that well-informed investment professionals should know. A subset of the GBIK is the Candidate Body of Knowledge (CBOOK), which is the testable material suitable for the CFA exam. This body of knowledge is re-evaluated on a rolling basis through a program of Practice Analysis, in which we ask practicing investment management professionals, university faculty, and regulators what critical competencies they believe are needed in an investment role today and how those should be translated into exam weights. CFA Institute conducts this analysis through panels, focus groups, online platforms, and surveys.

During the most recent Practice Analysis cycle, the following were the top three trends:

- Risk factor-based asset allocation
- Negative (low) interest rate environment
- Pension funding shortfall

Other trends observed in Practice Analysis:

- An increase in portfolio allocations to alternative assets
- An understanding of the importance of financial market history
- An acceptance of the role of environmental, social, and governance (ESG) factors in the investment decision-making process
- An increase in supply and demand for private wealth management
- A rise in the use of passive versus active investment management
- A growing preference for investment professionals trained in soft skills
- A recognition of the role of big data in financial analysis

The Practice Analysis process includes the following:

- In-depth conversations with investment management professionals about their job roles and professional practices.
- Discussions with employers about the challenges they face in recruiting and retaining competent investment professionals.
- Ongoing dialogue with regulators about ethical and professional practice standards designed to protect the public.
- Discussions with university faculty about recent advances in applied investment analysis and portfolio management research.
- The use of annual, global surveys of investment management professionals.

individual must hold a bachelor's degree, possess four years of work experience as an investment professional, provide three professional references, and pass three levels of a rigorous exam, each with pass rates of 40%-50%. These exams are meant to provide a generalist foundation for those who want to enter the industry. In addition to technical skills, the exams also cover the CFA Institute Code of Ethics and Standards of Professional Conduct.

The five largest markets are the United States, China, Japan, Canada, and the United Kingdom, which comprises 64% of the workforce.

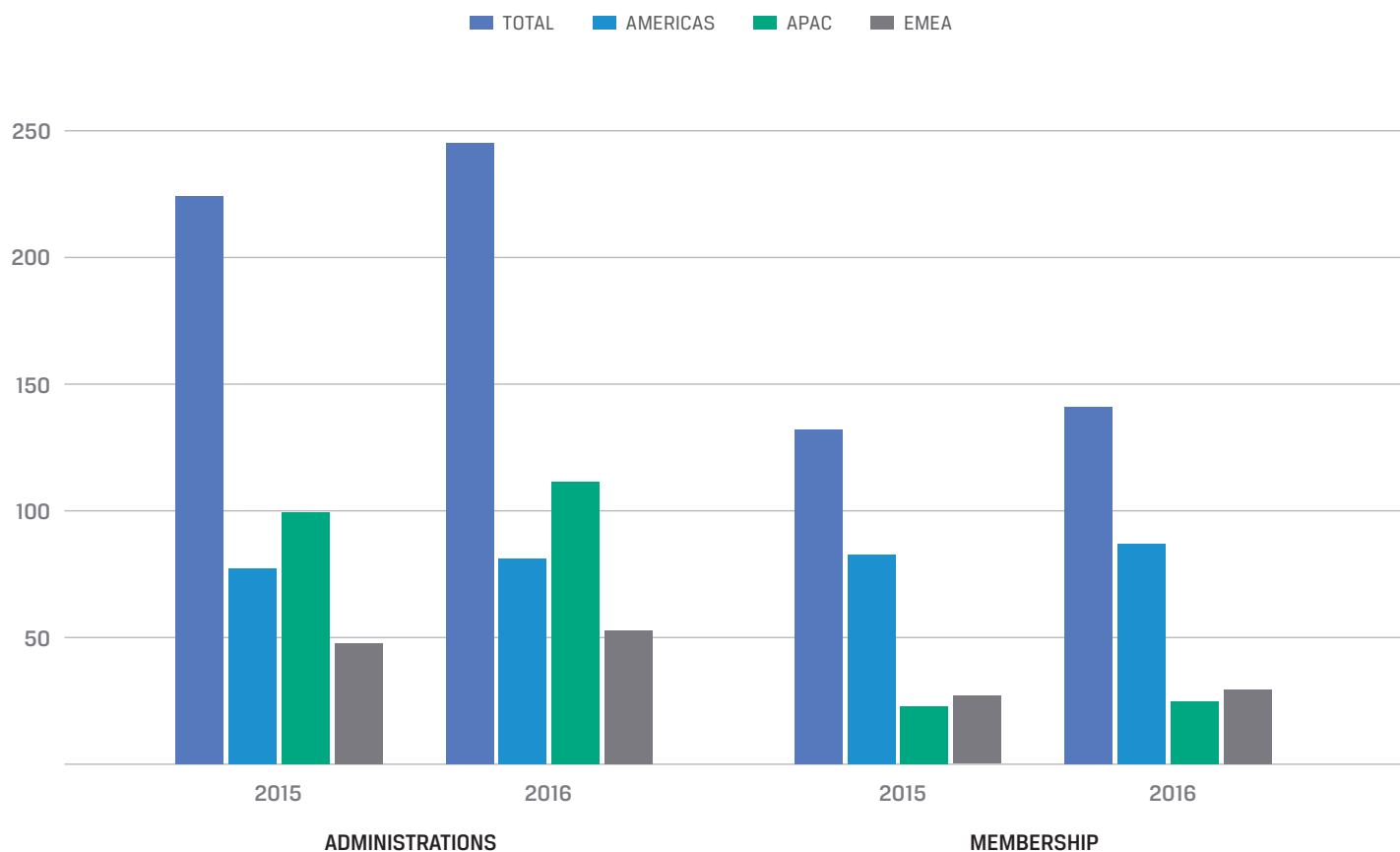
Trends in the Market for Investment Professionals

The growth trends in CFA Institute membership provide a view into demand for these skills and the availability of them by region. The number of candidates has grown in recent years, which offers interesting data on the pipeline of the profession and interest levels in investment management as a career choice. For several years, the total number of candidates has been highest in the APAC region, although by country, the United States was still the largest. However, as reported in the fiscal 2016 CFA Institute Annual Report, "Notably, for the first time ever, new Level I CFA Program administrations in China overtook the United States in volume, reflecting a changing demographic in program demand, and a potential shift in future geographic membership distribution."

Supply of Skills for New Entrants

More than 200,000 people each year take the CFA exam in order to advance their careers in the investment industry. The CFA charter has become recognized as "the gold standard" in education for investment professionals, and it provides transferability of skills across markets. The fact that the exam is conducted in English tells future employers that a CFA charterholder is also comfortable speaking about financial concepts in English. Mercer examined more than 8,000 job postings and found that a preference for a CFA charterholder was noted in 46% of investment analyst postings, 35% of research analyst postings, and 16% of personal financial adviser postings. In particular, job postings for personal financial advisers seek CFA charterholders in a greater proportion than is available in the private wealth marketplace.

CFA PROGRAM ADMINISTRATIONS AND MEMBERSHIP BY REGION (THOUSANDS)



Career Paths in Investment Management

In the Mercer research, they also examined typical career paths and found that across countries, career paths are similar, although in growing markets, such as China and Hong Kong, career paths are shorter (i.e., there are younger investment professionals in more senior roles). Job roles are most specialized in the United States, United Kingdom, and Canada. In Brazil, firms hire very few investment professionals via job postings; these positions are mostly filled by internal hires or by referral. In China, state-owned banks are a training ground before moving on to asset management firms (the opposite pattern of migration does not happen). The United States is the only major market in which the research analyst role is prevalent as a long-term career versus a transitional role.

ORGANIZATIONAL GAME CHANGERS

As we turn our attention to a more detailed view of the future for investment organizations, we review three large game-changing factors that will have significant impact on the future landscape for investment organizations, and on the scenarios described in the "Investment Industry Ecosystem" chapter in particular.

These three areas are

- the new skills for new circumstances,
- the future state of the private pension and lifetime savings models, and
- the evolving state of trust between providers and end clients.

Game Changer 1: New Skills for New Circumstances

The results of our survey of 1,145 investment leaders (see Appendix B for details) revealed perspectives on the skills and attributes that will propel investment professionals to the top of their profession. This is a key part of improving investment outcomes, which is one of the key focus areas for CFA Institute and its Future of Finance initiative.

Our survey group ranked the importance for success of certain skills for three key investment roles—chief investment officers (CIOs) and portfolio managers, CEOs of asset manager organizations, and CEOs of asset owner organizations.

RANKING OF SKILLS NEEDED FOR SUCCESS IN CIO AND CEO ROLES

MOST IMPORTANT SKILLS	CIOs/PORTFOLIO MANAGERS		CEOs OF ASSET MANAGERS		CEOs OF ASSET OWNERS	
	RANK	%	RANK	%	RANK	%
ABILITY TO ARTICULATE A COMPELLING VISION FOR THE INSTITUTION	1	36%	1	49%	1	40%
RELATIONSHIP-BUILDING SKILLS	2	35%	2	38%	4	34%
SPECIALIZED FINANCIAL ANALYSIS SKILLS	3	35%	8	20%	5	31%
ABILITY TO INSTILL A CULTURE OF ETHICAL DECISION MAKING	4	30%	3	38%	3	37%
UNDERSTANDING OF CORPORATE GOVERNANCE/REGULATIONS	5	25%	4	28%	2	39%
SOPHISTICATED KNOWLEDGE OF IT	5	25%	9	12%	9	13%
KNOWLEDGE OF SCIENCE, ENGINEERING, AND MATHEMATICS	7	24%	10	10%	10	10%
CRISIS MANAGEMENT SKILLS	9	23%	5	27%	6	29%
CONSULTATIVE SELLING SKILLS	8	23%	6	23%	8	17%
INTERNATIONAL AND CROSS-CULTURAL SKILLS	10	15%	7	21%	7	20%

Note: Responses to question: Which of the following skills will be more important in the next 5–10 years? (choose three).

■ TOP THREE RANKED SKILLS ■ BOTTOM THREE RANKED SKILLS

The following are the 10 skills we asked respondents to rank:

- Ability to articulate a compelling vision for the institution
- Ability to instill a culture of ethical decision making
- Consultative selling skills
- Crisis management skills
- International and cross-cultural skills (including foreign languages)
- Knowledge of science, engineering, and mathematics
- Relationship-building skills
- Sophisticated knowledge of IT (e.g., programming, artificial intelligence)
- Specialized financial analysis skills
- Understanding of corporate governance/regulations

For all three leadership roles considered, there was agreement on the importance of the following top-ranked skills:

- Ability to articulate a compelling vision for the institution
- Relationship-building skills
- Ability to instill a culture of ethical decision making

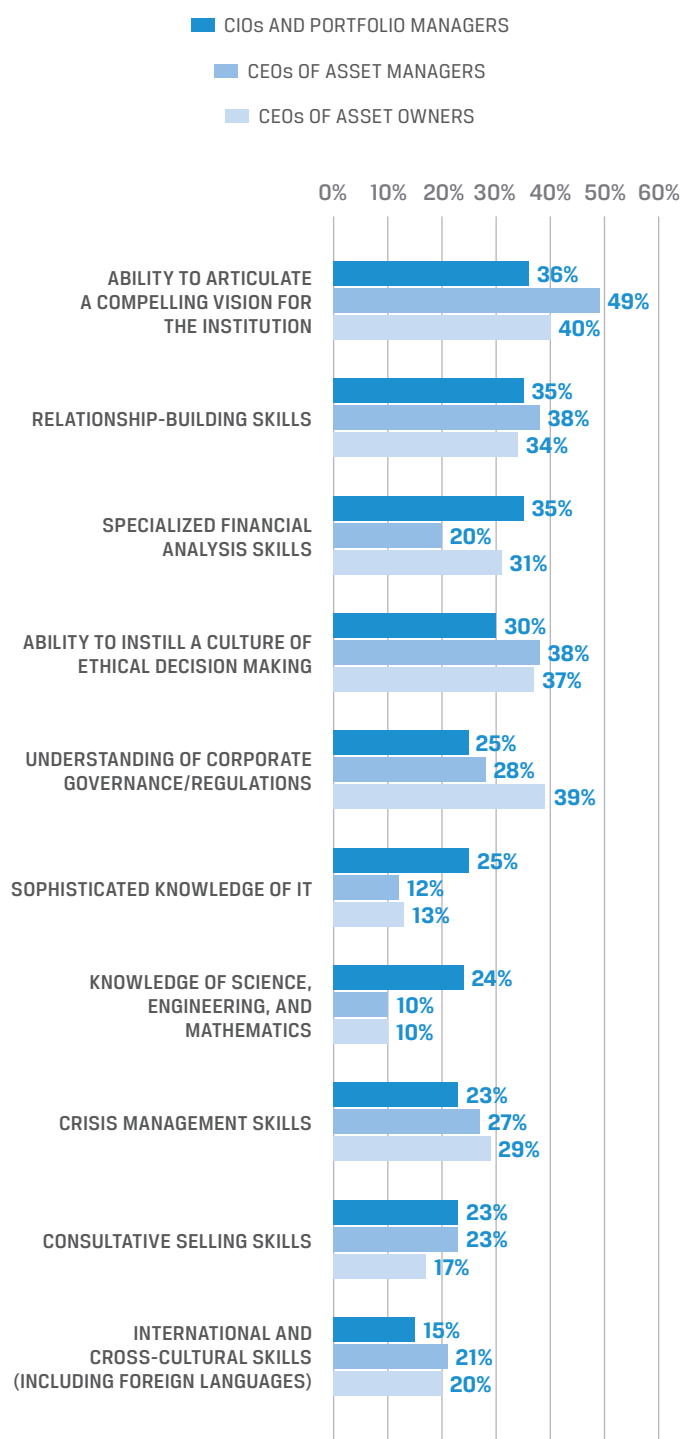
These results confirm the view that surfaced in our scenarios that investment organizations need to recruit and develop employees along new dimensions, such as creativity, empathy, and judgment in complex situations. John Kay, a *Financial Times* columnist, expresses this thinking this way: "The only thing we know about the future world is that the capacities to think critically, judge numbers, compose prose, and observe carefully will be as useful then as they are today."¹ We can summarize this view as fluency with situations and contexts.

By contrast, there was also agreement across the roles on the lesser-ranked skills: knowledge of science, engineering, and mathematics; sophisticated knowledge of IT; and consultative selling skills. Again, what emerges is a sense that leaders of investment organizations need to become more human, not less, in order to compete.

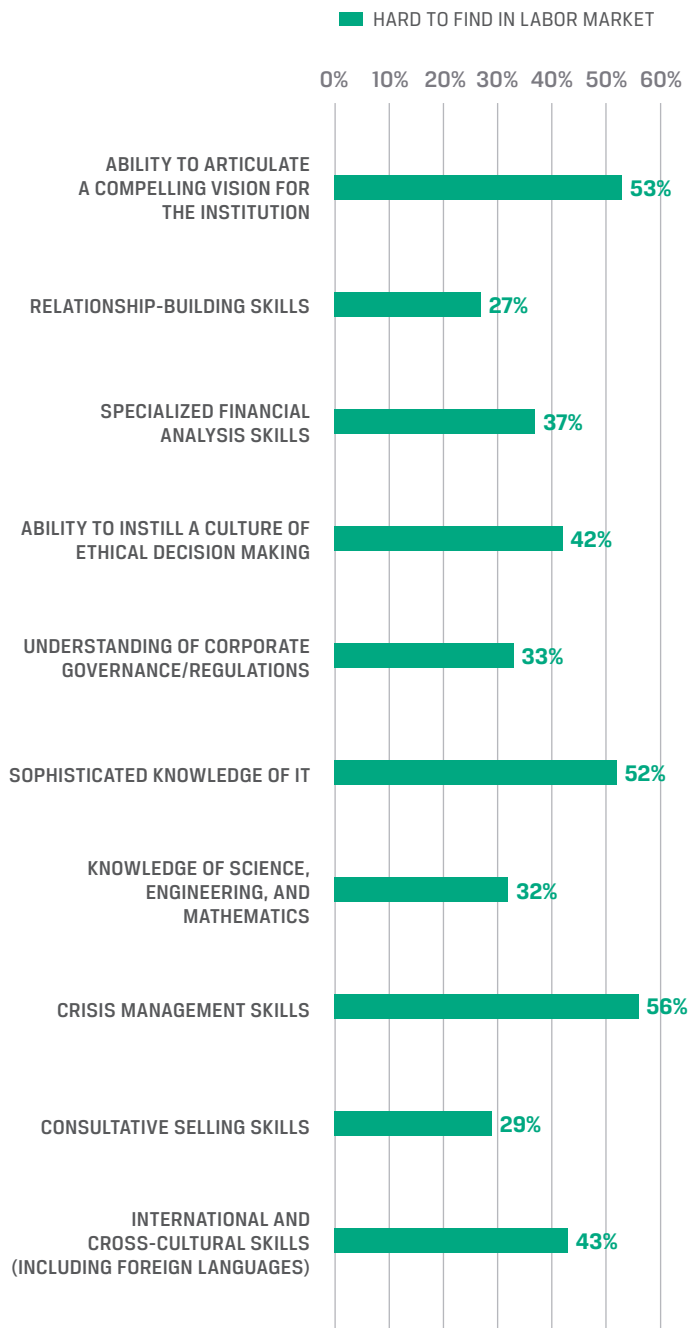
"You need the traditional skills to understand the implications of market events, but you need the interpersonal skills to relate that to others," says an emerging markets strategist. "Interpersonal skills are directly related to leadership."

Success as a CIO or portfolio manager over the next 5 to 10 years will require an ability to articulate a compelling strategic vision, say 36% of respondents around the world. "For the frontline investment adviser, there is an increasing need for people with business management skills," says a consultant to registered investment advisers. With the business model in the industry having moved from large broker/dealer firms to a firm with many smaller independent businesses, these organizations are now growing and maturing, and they can no longer afford to have a principal who is wearing many hats, juggling client relationships, and trying to run the firm. "It's going to require operations managers, chief operating officers, and people who can not only implement strategy, but come up with their own vision for strategy—leaders," he says.

MOST IMPORTANT SKILLS FOR THE FUTURE



THE DETERMINANTS OF SUCCESS ARE OFTEN THE HARDEST TO FIND



Survey respondents also note the importance of specialized financial analysis skills, particularly for CIOs, portfolio managers, and leaders of asset-owning institutions. "The investors that we look for need to have technical rigor, interpersonal skills, the ability to communicate effectively, the ability to create partnerships, and they need to have leadership skills," says the director of research at a US mutual fund provider. The head of manager research at a retirement services provider agrees: "Technical skills are the most important—you need to be able to use the tools to evaluate performance and evaluate and analyze data."

And perhaps in response to the tepid endorsement of asset managers' business practices, survey respondents selected the "ability to instill a culture of ethical decision making" as one of the top skills required for executive leadership. "Also important is being ethical," says the head of manager research at a retirement services provider, by which he means having a moral framework to recommend the best product to an investor over the higher revenue product. "For client-facing investment professionals, that is going to be critical, and fortunately, the industry is already moving in that direction," he says.

An increase in regulatory requirements also affects the skills needed for future success. Compliance costs overall have been escalating, and with that is the need for staff to manage compliance rules. According to Thomson Reuters, two-thirds (67%) of financial services firms expect senior level compliance staff to cost more because of high demand in the marketplace and the volume of regulatory change.²

Most Important Skills Are Often Hard to Find

Investment organizations looking to retool for the future face some particular challenges at the personnel level. According to our survey respondents, two of the most valued skills in executive-level investment professionals are difficult to find in the talent marketplace: the ability to articulate a compelling vision for the institution and the ability to instill a culture of ethical decision making.

From our survey, 53% say it is hard to find people in the marketplace with the ability to articulate a compelling vision for the future, and yet it is ranked as the most important skill for success in each of the three roles we examined. The ability to instill a culture of ethical decision making is also a top priority, yet 42% say it is difficult to find this skill. Perhaps refreshingly, 73% of respondents believe that professionals with relationship-building skills, another top skill, are somewhat or readily available in the talent pool.

These more general leadership skills play out in a distinct way in the investment industry. "This is a hard job, and the first thing we look for is confidence and a passion for investing," says the head of global equity at a mutual fund provider. "It requires an element of diligence and perseverance, a psychological perspective on investing, and a willingness to understand the markets and expectations around it," he says. "Investing requires an ability to figure out what's important, a maturity to understand patterns, and the conviction to develop a differentiated point of view."

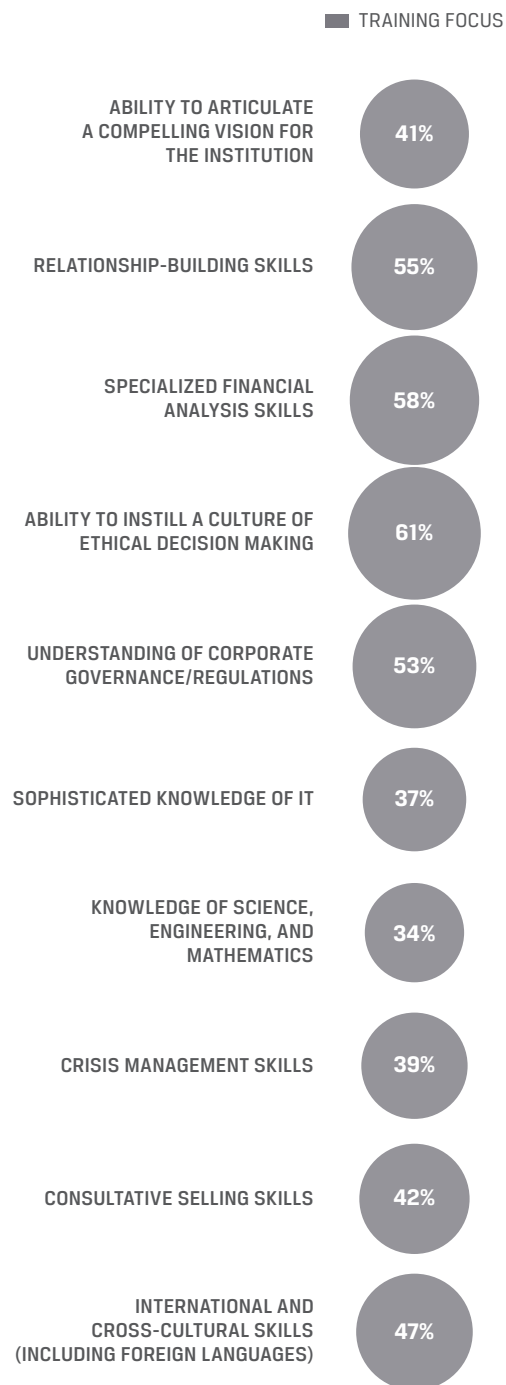
Training

How organizations build their talent pool for the next five years will depend on training, and our survey results indicate where organizations should most productively focus their training budgets. Survey respondents believe that the core training budget requirements should be focused on ethics and specialized financial analysis.

More than 60% of respondents chose ethical decision making as a priority for employee training programs, a greater proportion than any other skill mentioned. The growing acknowledgement of the need for ethical decision making is not simply a matter of good behavior, but also one of good business, say respondents. "The industry is more ethical," says a registered investment adviser consultant. "It is not necessarily because advisers are good people, although they generally are, but they also understand that being more ethical means a more profitable, successful business." He believes that higher ethical standards and regulation will be driven by market demand.

Leadership requires going against consensus at times, and as a fixed-income portfolio manager says, "It is hard to find people who are comfortable having strong opinions." Confidence develops with experience and success, so it can be difficult for younger professionals to speak up.

ETHICAL DECISION MAKING THE TOP TRAINING PRIORITY



The Role of Diversity

The other major dimension of workforce capabilities will be the contribution of improved diversity.

Diverse people are most often identified through surface characteristics (gender, race, national culture, education, sexual orientation, age, etc.), but the business case for diversity is linked to intrinsic individual characteristics, such as values, perspectives, experiences, knowledge, and way of thinking. With the complex problems faced in many investment decisions, it is easy to see how a sameness of thinking due to limited diversity can result in roadblocks to solving problems. With increased diversity, ways through the blocks can emerge.

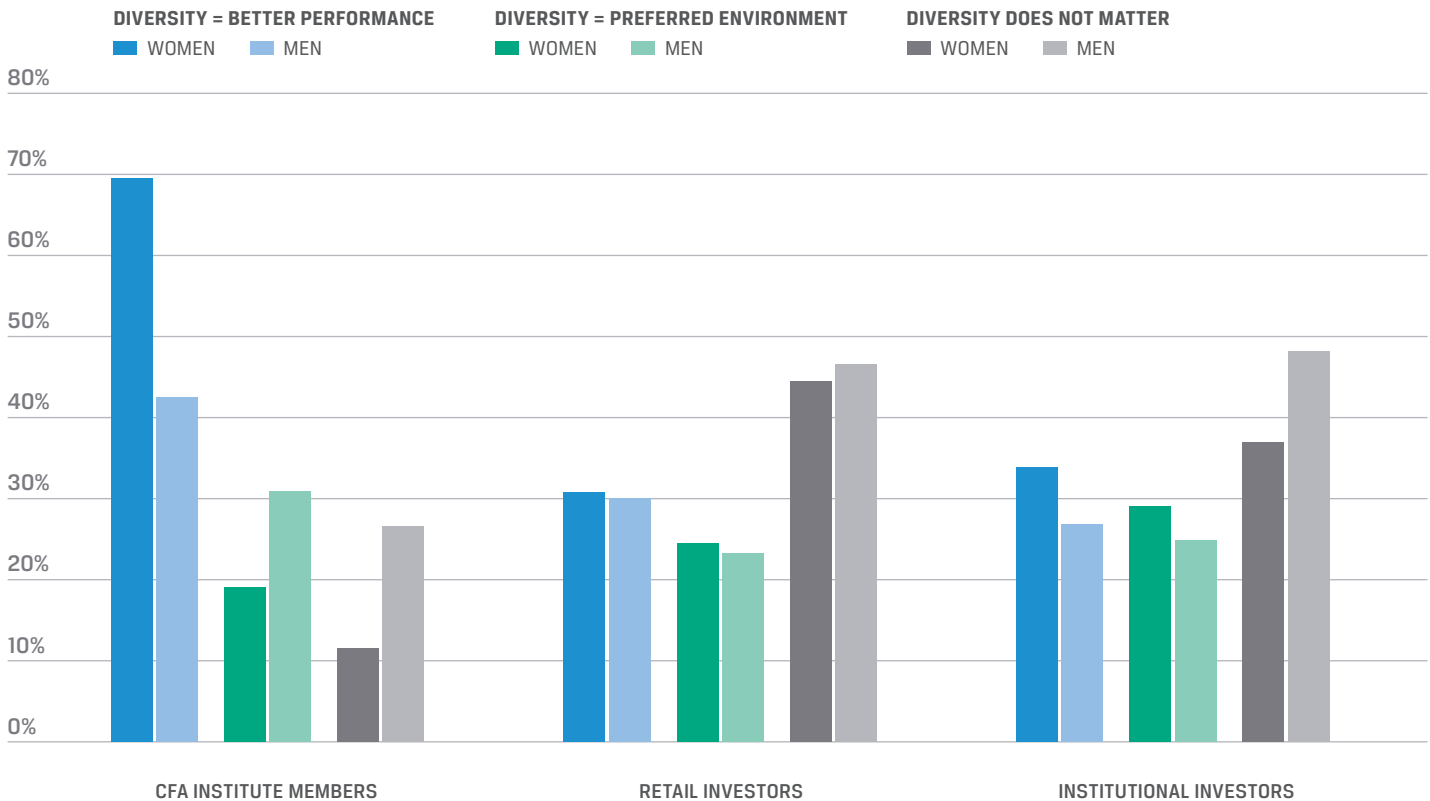
The business case for diversity is that diverse people provide more and different ways of seeing complex problems, and thus diverse teams often find better ways of solving challenges. In particular, a

growing body of research has shown the link to better performance and better culture that a gender diverse industry could have.³

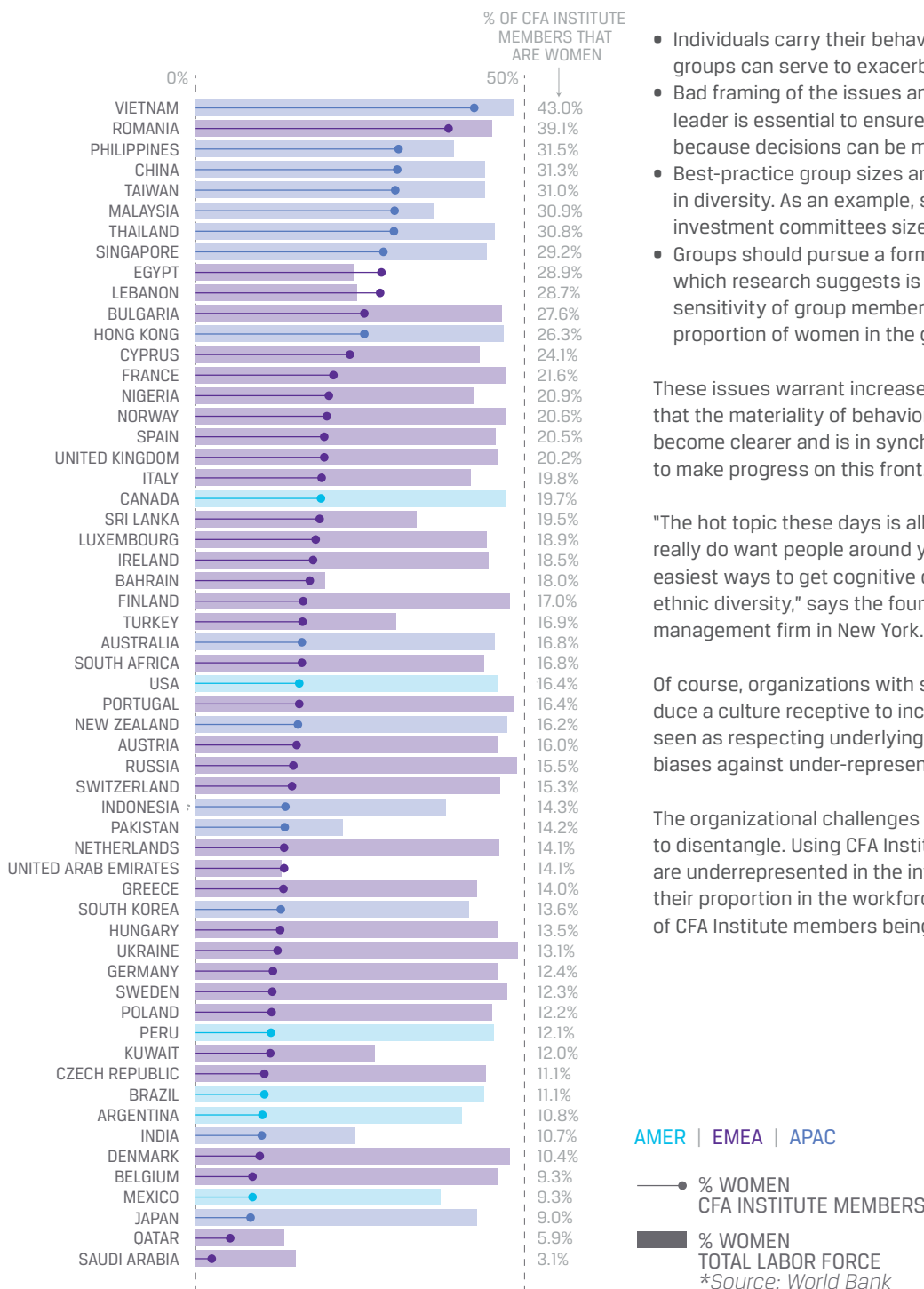
"The trends toward more fragmented regulations and markets will require diversity," says an alternative investment consultant and CFA charterholder in Belgium. "People with a broad knowledge of different cultures and different local laws and regulations will have a competitive advantage. I see more of the benefits to people who have a diverse geographical and educational background."

One survey respondent believes gaining diverse viewpoints goes hand-in-hand with training. "We define training as exposing yourself to new themes and ideas—networking with people in different roles and locations who perhaps have a completely different perspective," says a fixed-income portfolio manager at an insurance company. "It does not focus strictly on the development of an individual skill."

WHEN IT COMES TO THE GENDER DIVERSITY OF A TEAM OF INVESTMENT PROFESSIONALS, WHICH ONE OF THE FOLLOWING BEST DESCRIBES YOUR VIEW?



PERCENTAGE OF WOMEN IN TOTAL LABOR FORCE VS. PERCENTAGE OF WOMEN CFA INSTITUTE MEMBERS (BY COUNTRY)



Source: Reprinted from CFA Institute Research Foundation (2016).

Good group decisions are no easy task, but there are opportunities to benefit from cognitive diversity and overcome the risks of groupthink. There are a number of issues to balance, including the following:

- Individuals carry their behavioral biases into group situations, and groups can serve to exacerbate and validate these biases.
- Bad framing of the issues amplifies biases, and a strong group leader is essential to ensure that differing views are heard because decisions can be made only with shared information.
- Best-practice group sizes are important to hitting the sweet spot in diversity. As an example, some evidence exists to support investment committees sized between six and eight people.
- Groups should pursue a form of collective intelligence (C factor), which research suggests is correlated with the average social sensitivity of group members, conversational turn-taking, and the proportion of women in the group.⁴

These issues warrant increased attention from leadership given that the materiality of behavioral factors to decision outcomes has become clearer and is in synch with the thinking and methodologies to make progress on this front.

"The hot topic these days is all about cognitive diversity, so you really do want people around you who think differently. One of the easiest ways to get cognitive diversity is by gender diversity and ethnic diversity," says the founder and CIO of a \$550 million asset management firm in New York.

Of course, organizations with strong values around fairness introduce a culture receptive to increased diversity. The organization is seen as respecting underlying merits over conscious or unconscious biases against under-represented groups.

The organizational challenges in gender diversity are quite difficult to disentangle. Using CFA Institute membership as a proxy, women are underrepresented in the investment industry compared with their proportion in the workforce in almost all countries, with just 18% of CFA Institute members being women.⁵

AMER | EMEA | APAC

● % WOMEN CFA INSTITUTE MEMBERS
 ■ % WOMEN TOTAL LABOR FORCE
 *Source: World Bank

Indeed, the investment industry compares poorly with the legal and accounting industries in terms of entry and the pipeline to C-suite positions, which prompted CFA Institute to launch the Women in Investment Management initiative in 2015.

The significance of women's familial responsibilities, when applicable, is a factor that should be considered in the context of work flexibility within the investment industry. Evidence from CFA Institute sources suggests these broad categories of flexibility in the following table.

SOURCE OF WORK FLEXIBILITY	INVESTMENT PROFESSIONALS
Flexibility to take time off to take care of personal or family matters	Worse off than other professionals
Flexibility to change daily starting and ending times	Better off than other professionals
Flexibility to reward compensation and promotions without regard to long-hours cultural norms	Worse off than other professionals

Sources: Fender, Adams, Barber, and Odean (2016); Thomas Philippon and Ariell Reshef, "Wages and Human Capital in the U.S. Finance Industry: 1909–2006," *Quarterly Journal of Economics*, vol. 127, no. 4 (November 2012): 1551–1609.

Investment industry firms have had an unnecessary and unrecognized constraint on talent. Firms that can more fully realize the potential of the talent available to them will have an advantage.

Perhaps the most telling is the strength of the "long-hours culture," which has contributed substantially to the current weak "brand" of the investment sector as a career choice for university-qualified new entrants.

If investment organizations want to achieve an increase in diversity culture and practice needed for the future, significant attention needs to be given to these structural human resources issues, with strong support from firm leaders themselves.

Summary: New Skills for New Circumstances

- There is an increasing need for soft skills, particularly given the increasing effectiveness of technology to replace straightforward human processes.
- Leadership skills overall, and the ability to adapt to change and deal with challenging organizational settings, are in short supply. These skills together are often referred to as situational fluency.
- Training particularly needs to focus on ethical and professional orientation. Training will also be needed to support technical proficiency, which is naturally more complex than in prior experiences.
- It is critical to achieve more diversity for a business case and for improved cultural strength.
- Organizations need to increase their understanding of how to optimize human skills in group settings organized to address complex problems (such as within boards and committees).

Game Changer 2: Pensions and Lifetime Savings Models

Managing lifetime wealth is a core focus of CFA Institute and the Future of Finance initiative.

The demographic megatrend described in the "Investment Industry Ecosystem" chapter encompasses increasing aging and proportionately smaller workforces in most economies. These issues are among the most difficult of our time. Pension funds are one of the most important ways to deal with these challenges, but there is evidence that they will have to adapt significantly to play their part.

The data suggest that managing lifetime wealth is where the majority of the investment industry applies its craft, and pension funds lead this investment segment.

- Pension funds are the largest single category of assets under management, amounting to around \$40 trillion at the end of 2016 (see country breakdown in the table).
- There are 300 funds that make up 50% of pension fund assets, with asset size amounting to sums between \$15 billion and more than \$1 trillion. Conservative estimates suggest that there are more than 100,000 pension funds overall, with the vast majority of funds by number being less than \$100 million in asset size.
- In the lifetime wealth management segment, private wealth is estimated to be worth \$32 trillion.
- The insurance (\$28 trillion) and mutual fund (\$28 trillion) segments include significant assets designated for retirement; the sovereign wealth fund segment (\$6 trillion) includes a small amount of assets designated for retirement.

Source: Willis Towers Watson and secondary sources.

¹ Only includes pension assets from closed entities.

² Only includes Enterprise Annuity assets.

³ Only includes pension assets for company pension schemes.

⁴ Does not include the unfunded benefit obligation of corporate pension plans (account receivables).

⁵ Only includes autonomous pension funds. Does not consider insurance companies.

⁶ Includes IRAs.

PENSION FUND ASSETS BY COUNTRY

COUNTRY	2016 TOTAL ASSETS (USD BILLIONS)	ASSETS/GDP
AUSTRALIA	1,583	126.0%
BRAZIL ¹	251	14.2%
CANADA	1,575	102.8%
CHILE	172	73.0%
CHINA ²	141	1.2%
FINLAND	199	83.2%
FRANCE	146	5.9%
GERMANY ³	415	11.9%
HONG KONG	133	42.0%
INDIA	105	4.7%
IRELAND	130	42.2%
ITALY	153	8.2%
JAPAN ⁴	2,808	59.4%
MALAYSIA	190	62.7%
MEXICO	154	14.5%
NETHERLANDS	1,296	168.3%
SOUTH AFRICA	207	73.8%
SOUTH KOREA	575	40.9%
SPAIN	39	3.1%
SWITZERLAND ⁵	817	123.3%
UK	2,868	108.2%
US ⁶	22,480	121.1%
TOTAL OF 22 COUNTRIES	36,435	62.0%
ESTIMATED GLOBAL TOTAL	39,000	NA

There are three main attributes that pension organizations will require in the future:

- A strong governance model, with transparency and efficiency being central factors.
- A progressive investment model that emphasizes a barbell strategy, which combines growth investing for long-term liabilities and income investing for short-term liabilities.
- Effective collaboration with the sponsoring employer. This collaboration is a form of social capital that depends on the shared values, beliefs, and purposes in pension arrangements. This social capital will be strengthened by good engagement, communication, and mutual trust, with both parties seeing value in the arrangements.

Much has been written about the decline of defined benefit (DB) pension funds in most developed economies. This decline seems likely to continue because of eroding trust in DB pensions given the loss of pension security when deficits cannot be corrected. DB pensions will likely become an area of increasing litigation, with further implications for trust.

There are multiple causes for problems with DB pensions, but the decline in the social capital between employer and employee—the

Pension engagement and advice are ripe for disruption—it has an outdated business model that workers do not trust. The private pension system can rebuild itself, but it must pay attention to new models that use technology more efficiently.

key win-win payoff—has often been a contributory factor. Corporate sponsors of pension funds have lacked faith that they can successfully meet the unpredictable costs of DB pension deals when times get tough, and increasingly they see the deal as win-lose. But there is a design they do like—the alternative of defined contribution (DC) plans—largely because it produces predictable costs and can fulfill the trust principle.

Central to successful DC plans is how the governance is designed to manage the pursuit of complex organizational goals with multiple parties involved, as well as how it provides extreme clarity of expectations, high-level stakeholder management to achieve efficiency and fairness, clarity of communication, and meaningful measurement.

In all institutional settings, we like to measure processes through to their ultimate outcomes. But pension funds are an evergreen vehicle, so the measurements must be focused on progress and inputs as much as outcomes.

In the investment model, there is much to admire about the innovations developed in global best practices. These include global investing that enables greater diversification relative to home-biased approaches, exposure in private markets, and investing through passive funds and risk factors. One particularly important innovation is the barbell design in which earlier life accrual of returns is complemented by later life generation of income. In DB pensions, this is liability driven investing. In DC plans, this is lifecycle investing in default funds.

DC investing presents a particular challenge for communication. We see best practice as giving an authentic account through an array of measures and indicators. There are temptations toward partial accounts that are light on facts and heavy on opinions, but a strong fund is effective in telling a clear and authentic story.

Both governance and investing also need a stronger member engagement model that addresses the obvious limits of financial literacy. Better answers lie in harnessing a mixture of technology, social media, and behavioral finance. A good example is the auto-enrollment design, which successfully encourages pension savings. Pension fund members do not expect much engagement, but they do expect some empathy with their circumstances along with fair treatment.

Much of the weak engagement we see in DC plans is also evident in the post-retirement arena. Opportunities abound for private sector products to innovate successfully by integrating longevity insurance and health care costs into later life pension savings.

There is one further critical feature of future pensions: How pension funds create trust. The pension commitment is in play over a lifetime. In fast-changing times, it is understandable if people doubt that the commitments made to them at the outset will be honored. Who knows what can happen? Trust in the system and the funds themselves varies widely, but it is not spectacularly high anywhere.

Trust generally reflects recent experiences. Countries that have been shortsighted in not honoring past promises pay a price in trust, as do overhyped funds. Without trust, pension contributions will lag, as will retirement income, wealth, and societal well-being.

Technology and leadership are also needed. Technology should be used to lower the high costs in the current funds and sharpen the personalization of the offering through the quality of the investment platform. Leadership should be used to extend the reach of efficient pension delivery and increase the trust.

The pension system obviously cannot be left to market forces alone, and some regulatory protections are necessary. What is critical is that public pension policy be the result of good dialogue and process and properly reflect the views of state and pension industry entities.

Of course, the central missing piece in successful private pensions is the level of contributions. For adequate retirement income, the requisite working lifetime contribution experts suggest should at least average 10% of lifetime pay. The average contribution levels attained currently fall well short of this figure.

Under most scenarios, this shortfall will be difficult to fix. If all workers raise their savings by the amount necessary to retire on half of their final working income at 65 or even 70, GDP would fall by an amount that would easily match the last recession. It would be a bit better if they were to work to age 75, but are there the jobs or the desire and/or capability to support that?

Alternatively, and more likely, if workers continue to spend and save as they have, their retirement income will meet a fraction of their goals, reducing future income. Spendable income ultimately falls in this case, and again, with recessionary consequences. And, of course, as people live longer, the societal cost goes on for longer.

Regulatory machinery is part of the problem, and not yet part of the solution in this regard. For pensions to play the significant part they can in addressing the demographic challenges, pension policy needs to take a big step toward creating the conditions in which they can succeed.

There are some examples of countries doing good things—the best example is probably Australia. Every national pension system has its own unique context, but the design of DC plans has many universal features. Pensions regulators would do well to follow the principle of global best practices when possible and local practices when necessary.

The new order and disorder in pension winners and losers will generate societal anger and produce public policy dilemmas and the desire for populist fixes. With too much left to chance, large gaps in pension coverage and many longevity issues are prime conditions for pension poverty to emerge. The only apparent offset is later retirement.

Although the cloudier picture is in private pensions, the brighter part of the picture is that with a larger global middle-class, lifetime savings should be expected to grow in the wealthier segments. The lifetime saving and wealth model will increasingly be a case of individual choice. The key issue is how effective this system can be. This effectiveness will be critically determined by how much trust is produced, which is our third game changer.

Summary: New Pensions and Lifetime Savings Models

- Experiences with pensions are widely dispersed among countries that have sizable private pension assets and those that do not. The track records of governments developing effective pension policy have been mixed. Much smarter policies are necessary.
- Best practices are usually found where there is a win-win between employers and pension funds, and where trust and strong institutional governance are in place.
- Pension engagement and advice are ripe for disruption—it has an outdated business model that workers do not trust. The private pension system can rebuild itself, but it must pay attention to new models that use technology more efficiently.
- Increasingly, private pensions will follow the defined contribution model, in which the flexibility of the investment platform and the behavioral facets of investment design are critical drivers of success.
- Low levels of contribution and low returns produce inadequate retirement income, requiring longer working lives.
- Investment organizations of other types of savings and wealth become more prominent to fill any pension fund gaps. Whatever model of lifetime wealth is used, trust is critical to the model.

Pensions regulators would do well to follow the principle of global best practices when possible and local practices when necessary.

Game Changer 3: Evolving States of Trust

Establishing trust between end investors and their asset managers is a key part of putting investors first, an area of CFA Institute focus in its Future of Finance initiative.

A key trend in the investment industry is how investment clients and customers are increasingly looking for personalized, simple, and speedy products—consistent with their experiences with new technology. But this requires trust, which has to work effectively over prolonged periods.

In previous research, CFA Institute focused on how trust works in the investment industry by studying

- changing investor preferences and the implications for investment management.
- factors in investor trust levels in financial services relative to previous levels, and how these are changing over time in different geographies.
- how investment firms can differentiate themselves along dimensions of performance, costs, client service, firm operations, personalization, ethics, and reputation.

Trust in financial services remains low relative to other industries, ranking 9th out of 12 industries. The latest figures from Edelman confirm this weak relative state, but there is some recent encouragement. Since CFA Institute and Edelman conducted the Investor Trust Study in 2013, investors' trust in the financial services industry to do what is right has generally increased. In addition, investors have a slightly more favorable view of the industry (61% for retail investors, 57% for institutional investors⁶) versus the general public surveyed in the 2016 Edelman Trust Barometer (51%), but in both groups, financial services remains in the bottom tier of trust relative to other industries.

Globally, trust levels for the financial services industry are converging, possibly reflecting greater interconnectivity of the financial sector in global markets.

Edelman's analysis suggested that industry providers should recognize new avenues for developing organizational trust. The ideas relevant for the investment industry include the following:

- Increasing the societal impact of the organization's activities
- Expressing the organization's values more actively
- Igniting the natural advocates of all organizations: their employees
- Engaging stakeholders on their concerns and interests

It is a relatively new idea that to build trust, investment organizations should demonstrate increased societal responsibility. Values are particularly important in forming trust, with 79% of respondents in the 2016 Edelman Trust Barometer survey saying that a CEO's personal values are important in building trust. In addition, a majority of respondents believe companies focus too much on short-term results and too little on positive long-term impact.

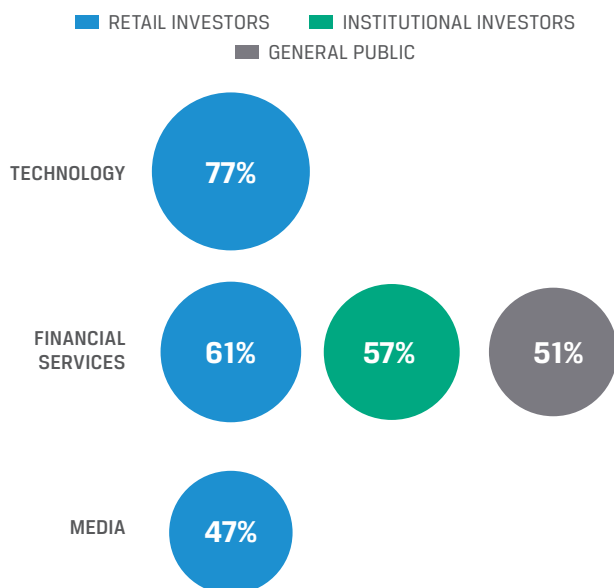
There are particular opportunities for organizations to differentiate themselves by being more purpose driven, which is increasingly something that CEOs are being asked to do. Trust depends on areas in which leaders' presence is key, including alignment of interests between the organization and its clients; strong organizational values, particularly excellence and integrity; and support for communications and transparency.

Trust is helped by the application of fiduciary duty in which agents act to prioritize the interests of their clients by upholding ethical codes or regulatory standards. The strength of fiduciary duty remains inconsistent across geographies and customer segments, but over time it appears that more investment activities will be held to this standard. Building a professional organization goes hand-in-hand with a fiduciary mindset.

To help develop a client-serving culture where the organization's professionals "do things right and do the right things," it is essential that leaders instill and champion a professionalism framework and fiduciary mindset. The CFA Institute *From Trust to Loyalty* study found that in the top attributes in working with an investment firm, many are connected to that fiduciary mindset, as shown in the following graph.

TRUST LEVELS BY INDUSTRY

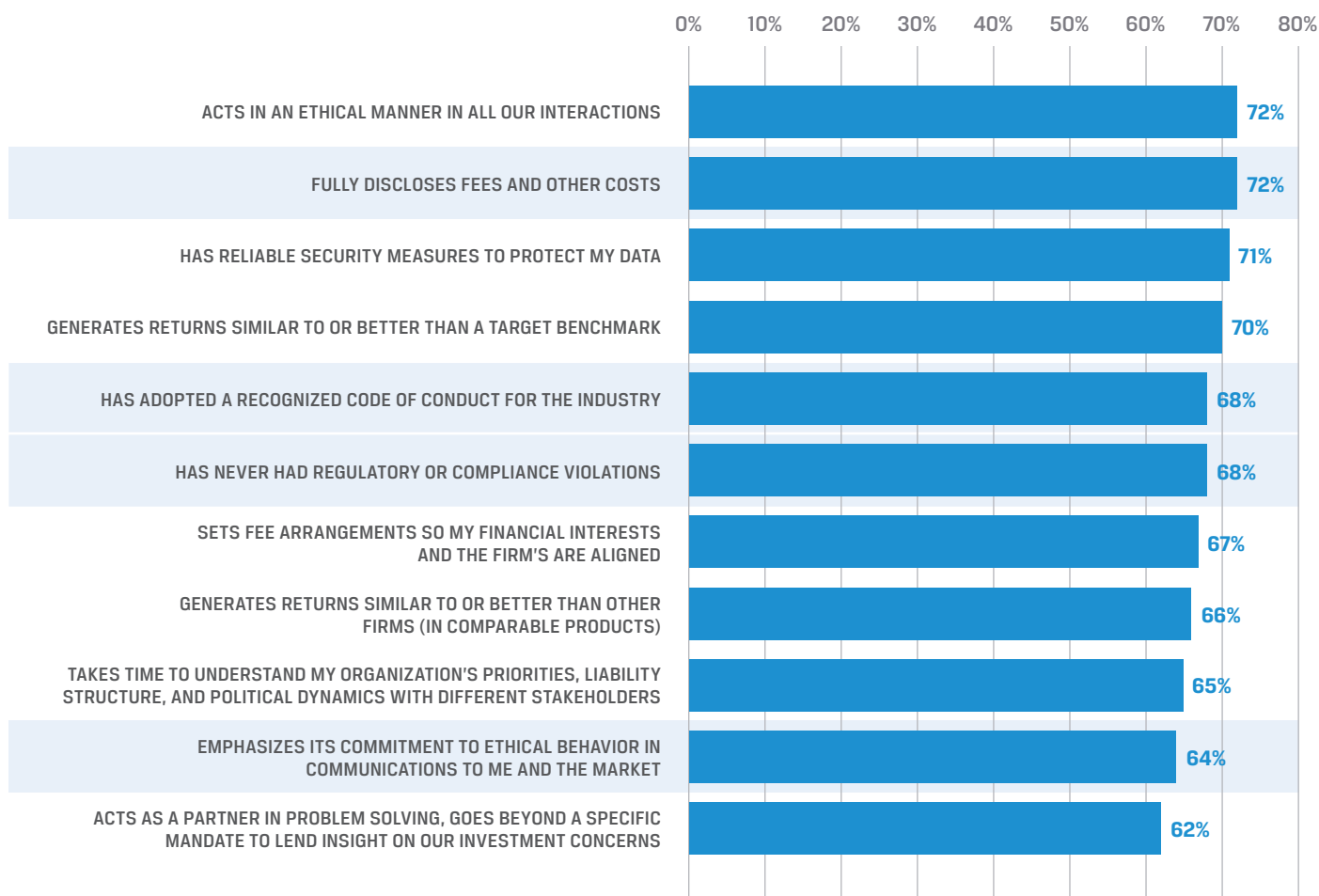
QUESTION: HOW MUCH DO YOU TRUST BUSINESSES IN EACH OF THE FOLLOWING INDUSTRIES TO DO WHAT'S RIGHT?



Sources: CFA Institute, *From Trust to Loyalty: A Global Survey of What Investors Want* (2016) and 2016 Edelman Trust Barometer.

HOW IMPORTANT ARE THE FOLLOWING ATTRIBUTES WHEN IT COMES TO WORKING WITH AN INVESTMENT FIRM?

RESPONSES BY INSTITUTIONAL INVESTORS

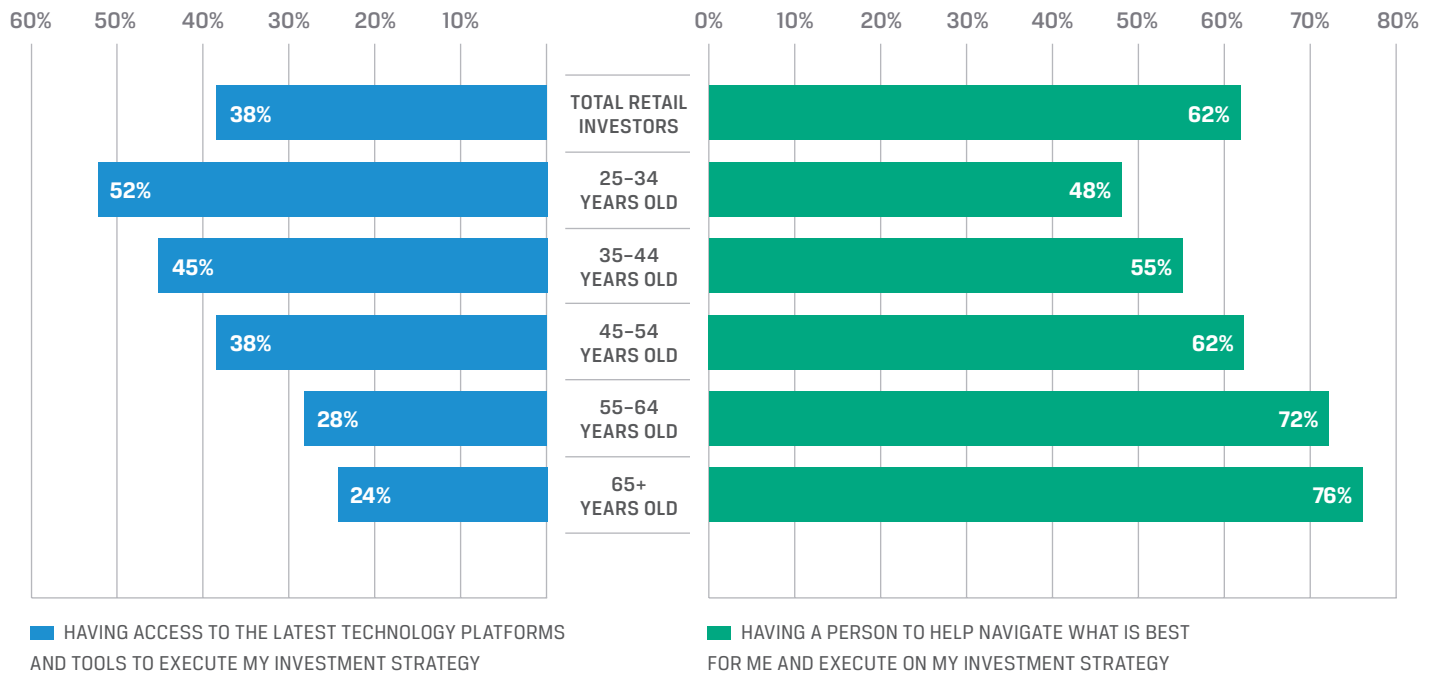


Source: CFA Institute, *From Trust to Loyalty: A Global Survey of What Investors Want* (February 2016).

The impact of technology on trust needs to be considered as well. Although many older buyers of investment services will only give their trust to people, an increasing demographic segment views this differently. Their trust in technology can be extended into their purchase of investment services. The data in the *From Trust to Loyalty* study show that more than half of those 25–34 years old are more positive about technological methods of receiving advice relative to the personal approach. Their experiences over time will matter in how well this trust model develops.

The use of new technologies, such as blockchain, applies in the intermediation of trust in various facets of the financial services spectrum. Blockchain removes the need for any kind of third party to facilitate an exchange in a transaction. The trust must exist in the idea, and people must trust the platform, the spreadsheets, and the time stamps, but trust in another person is not necessary in the traditional sense. *The Economist* described blockchain as the "great chain of being sure about things."⁷ The implications are massive, and the place of technology in trust is very clearly a new paradigm for the future.

IN THREE YEARS' TIME, WHICH OF THE FOLLOWING DO YOU THINK WILL BE MORE IMPORTANT TO YOU?

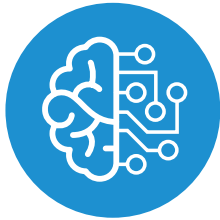


Source: CFA Institute, *From Trust to Loyalty: A Global Survey of What Investors Want* (February 2016).

Summary: Evolving States of Trust

- Trust is mediated by the values, competencies, and transparency of investment organizations.
- Better levels of trust reflect a particular type of communication model: communicate early, fully, and often and communicate to fill gaps in understanding. Disclosure is not enough.
- To build trust, show societal responsibility. Deliver to expectations in competency and ethical practice, and add consistent value in clients' savings and wealth.
- Trust will reflect the trustworthiness of investment industry professionals, and trust will rise in the industry if it makes its selection of future talent based on professional values.
- Trust will be influenced in the future by innovation in technology, such as blockchain.

INVESTMENT ORGANIZATIONS UNDER EACH SCENARIO



Fintech Disruption

New technologies promote new business models; disruption and creative destruction are endemic; challengers do better than incumbents; major disruptions to the world of work.

New technologies allow new business models and new businesses into the investment industry. The success of these new models and new players determines the level of disruption and disintermediation. There is much potential for innovation and disruption, creation and destruction.

Nearly half of the respondents to our survey to inform this report believe that new information technologies provide an opportunity for their organizations.

We apply again one of the key principles of the ecosystem and we should consider the impact in the segments. Of course, asset owner organizations are not overly affected, asset manager organizations are most affected, and other organizations that play the supporting roles must adapt.

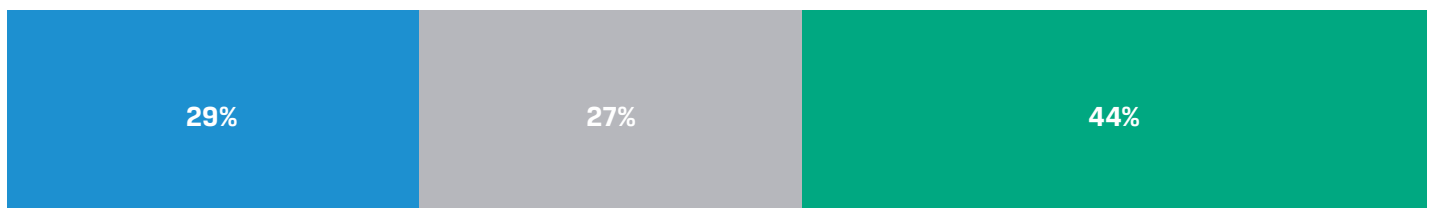
For all companies, the rise of fintech means lower cost of capital. This holds true wherever information is digitized, large, and easily assessed. However, providers of capital face classic challenges, such as credit and liquidity risk, where there is poor digitization and dissemination of data.

Investment banks and commercial banks are severely threatened by fintech because their "spread" business models look increasingly less like agency and brokering and more like rent extraction. Put another way, if algorithms can identify possible fundamental transactions, analyze fundamental transactions, and create fundamental transactions at scales much larger and done much faster than 20th-century finance, then who needs a bloated intermediary?

The world of work has some of the greatest adaptations to make. Algorithms can very often substitute for cognitive tasks in an era of thinking about the world in computational, programmable, designable terms. The collection of enormous quantities of data will enable modeling of social systems at extreme scales and help uncover new patterns of relevance in both idea generation and client service. One key human value task, however, that of making sense of things, remains sticky.

IN THE NEXT 5-10 YEARS, NEW INFORMATION TECHNOLOGY IN THE INVESTMENT MANAGEMENT INDUSTRY WILL...

■ POSE A STRATEGIC THREAT TO ORGANIZATIONS LIKE MINE ■ NEUTRAL ■ OFFER STRATEGIC OPPORTUNITIES TO ORGANIZATIONS LIKE MINE



DC funds will find fintech useful in putting more computerized content into delivery models, notably the significant use of big data with members, and the redesign of DC user interfaces recognizing the power of behavioral economics to influence better decisions.

The new work model is essentially cyborg in nature (person plus machine), with human skills being critical in soft skill areas. Humans will remain in demand for their situational fluency, social intelligence, innovation, creativity, and social media savvy. Roles in information technology remain a growth area for specialists, as will interdisciplinary, cross-cultural, statistical, and creative design areas.

"The most successful firms will figure out how to make fintech work to their advantage and not see it as a threat," says a research director and consultant focused on investment advisers. "They will use it to combine what they are doing on the relationship side and leverage it to make for a higher-quality client experience overall. They will also get more mileage out of the scarce labor resources that they have to draw on within their own firms."

As fintech firms enter the marketplace, traditional firms will need to adapt, so leaders will need a clear vision to determine a way forward. Financial advice is at obvious risk from algorithmic processes, as robo-advice has shown. The CIO of an asset management firm says, "[Wealth managers] will just have to change the way they do business and explain their value proposition to end clients." One key to thriving amid disruption is an awareness of the shifts in professional capabilities required to prevail and to lead in the future.

Those firms that decide to purchase fintech firms or otherwise expand their technology platforms will need to hire experts with

knowledge of science, engineering, math, and information technology. Even though the role of CEO will not likely require hands-on technical work, leaders with technical backgrounds in this area will have an edge. CIOs may find a greater need to learn these skills directly to understand the models applied to their portfolios.

Algorithms can substitute for nonroutine cognitive tasks, but they have their limits. Portfolio management has a natural use for big data along with a high risk of substitution in terms of asset allocation tasks. In addition, human cognitive processes have behavioral biases that algorithmic processes do not, aside from any biases within models themselves.

Some skilled activities in the investment industry, however, remain at low risk for substitution:

- **Creative intelligence:** Developing unusual and innovative ways to see and solve problems, forward-thinking theories, and creative ways to respond to new situations
- **Social intelligence:** Being aware of others' reactions, gaining agreement, persuading others of a course of action, and providing emotional support

In terms of the 10 skills discussed earlier, we believe the most necessary ones for investment organization success in competing in the Fintech Disruption scenario are

- the ability to articulate a compelling vision for the institution,
- the ability to instill a culture of ethical decision-making,
- knowledge of science, engineering, and mathematics,
- sophisticated knowledge of IT (e.g., programming, artificial intelligence), and
- understanding of corporate governance/regulations.

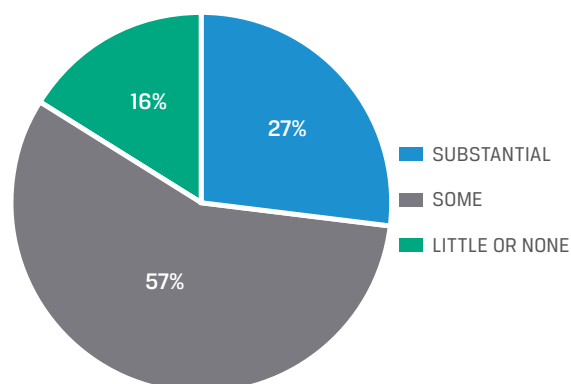
An equity portfolio manager at an insurance company notes, "The most important skill will always be critical thinking. Technical skills are not necessarily the most important. Increasingly, you can find them externally and use them to augment your own critical-thinking abilities."

RISK OF ROLE REPLACEMENT

ROLE	LIKELIHOOD OF REPLACEMENT (PERCENTILE)
CHIEF EXECUTIVES	10
ACTUARIES	30
FINANCIAL ANALYSTS	31
OTHER FINANCIAL SPECIALISTS	35
ECONOMISTS	40

SOURCE: FREY AND OSBORNE (2013).

EXPECTATIONS FOR CONSOLIDATION OF PEERS AND COMPETITORS IN THE NEXT 5-10 YEARS



An equity portfolio manager at an insurance company notes, "The most important skill will always be critical thinking. Technical skills are not necessarily the most important. Increasingly, you can find them externally and use them to augment your own critical-thinking abilities."

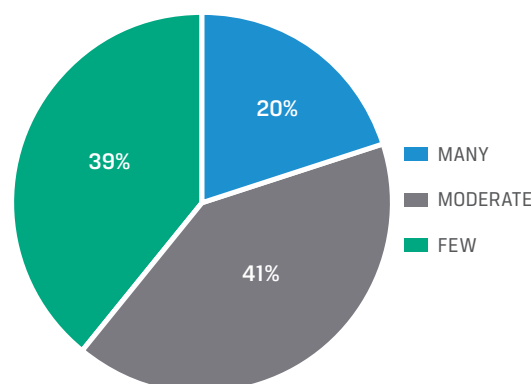
Overall, research conclusions place investment management in a relatively low-risk category for susceptibility to computerization impact among 702 occupations.⁹ The CEO and CIO need particular skills to be persuasive with others in collective settings, such as with boards and investment committees. The skills are consistent with the soft power that politicians use to channel others' thinking in directions that seem positive to both.

Although some will desire low-cost, tech-centric advice, many clients have more complicated situations and need real guidance. They may pay more, but they will get more. "So instead of everybody just charging one percent, it is going to become more complicated—more like menu pricing," says a portfolio manager at a regional registered investment adviser firm, noting that squeezing the costs out of managing smaller accounts will become an absolute necessity. "You need to have the technology to be able to manage money efficiently so that you can focus that valuable human time—those highly educated, credentialed people who don't come cheap—on the more custom situations, the highest and best use."

Regulatory and corporate governance matters are also important in the Fintech Disruption scenario because regulators are keenly interested in these new tech-driven products. Regulatory scrutiny and cybersecurity risks pose obstacles to wider adoption.

Traditional asset manager organizations may respond to the multiple pressures by surrendering old business models. At first, this response looks like cutting expense ratios, navigating to the less disintermediated places, and consolidating to preserve financial viability. Most respondents in our survey believe that consolidation will be a big factor in the future, with 88% believing there will be some or substantial consolidation.

EXPECTATIONS FOR NEW COMPETITORS AND MARKET ENTRANTS IN THE NEXT 5-10 YEARS



"Fees have to come down, obviously, because of the discrediting of active management. But with more robust technology, we will not need to hire as many people to pick stocks actively," says a CEO of an asset management firm. He notes that lower fees will weed out those managers that do not have a global platform and will force them to find solutions through mergers and acquisitions. "When this process is over, in a couple of decades, we will be left with only one or two dozen players that will probably be able to dictate the terms," he says. Few respondents—just 16%—foresee little or no consolidation. Similarly, 59% of respondents expect many or a moderate number of new competitors to enter the industry in the next 5-10 years.

As time goes by, though, the old business models wither and die, and there is a growing switch to automated products. This move should involve more surface simplicity, but not at the expense of less sophistication. Higher levels of artificial intelligence coupled with big data, and large asset scale, lead to new and very sophisticated product innovation. Two thought experiment examples may help to explain this possible new reality.

Annaka engages a robo-adviser and begins the relationship by answering a highly sophisticated personality questionnaire, or through a headset brain scan. Preferred time horizons are a portion of this information, along with risk intelligence. This trove of excavated data is then used to construct financial products that are unique to Annaka: Hyper-focused and beta-type strategies that deliver capital returns in service to those carefully delineated goals.

William is a DC participant who uses his pension fund platform based on similar excavated data methods to track his journey toward a planned retirement income. He gets his progress report through his personal device and periodically adjusts his contributions to keep on track.

Here investment—returns relative to risks—become unique, like an investing fingerprint. As goals are achieved, shocks occur, and adjustments are made through modern engagement with biofeedback devices, such as smart watches. Updates to the profile can be made routine to adapt to clients as their lives and consequent preferences change.

The service checks the new boxes: personalized, simple, speedy, and trustworthy.

Other fintech technologies related to intermediaries become commonplace to deliver that trust, such as trade settlement, real estate, credit card purchases, and so forth, and are handled by a handful of blockchain networks with vast acceptance among regulators, governments, and transnational authorities (e.g., the International Monetary Fund, World Bank, and OECD).

Technology allows for customized approaches akin to an "investment fingerprint."



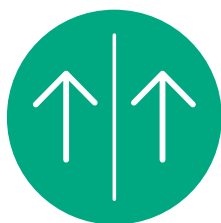
This story is about investment delivery organizations—those that assemble and distribute. When it comes to traditional investment management organizations that are component providers to the assembly organizations, where do they come in given the natural move toward betas, both bulk and smart? There is still active management that survives in this scenario as a boutique luxury product. In particular, in the developing world, large opportunities remain for active managers where there is poor digitization of data and lack of market structures to provide liquidity. In other words, active management does what it has done well since the earliest days of capitalism—provide intelligence and wisdom in emerging situations.

How do organizations deal with capital formation? It is decentralized in networks based on technology rather than traditional investment banking relationships, with a decline in the high-margin middleman. Analysts are still charged with evaluating the quality of deals, but they are also robo, as techniques of financial statement analysis, valuation, and even evaluating executives' qualities are largely automated. Software currently exists to evaluate the candor and veracity of statements issued by management, both in text and live. Troves of data are likely to be created to help support traditionally difficult-to-evaluate businesses, such as distressed and illiquid assets, and early-stage firms with angel investors, seed funding, or venture capital backing. Traditionally, analysis has relied on benchmarks and experience, but with big data and artificial intelligence, it becomes easier to ascribe value to these situations.

Lastly, an important issue for consideration when much of fiduciary responsibility is built into sophisticated information technology architectures and products is who is responsible when things go wrong? In other words, an exploration of ethics and governance nuances is likely to be needed in this scenario.

Impact on Investment Organizations in the Fintech Disruption Scenario

- Technology provides many opportunities for more efficient practice in the industry. But although costs can be contained, margins are significantly reduced for traditional portfolio management as pricing pressures develop. Value add and margins are created by hypercustomized and personalized client products.
- Traditional mutual fund products are offered as loss-leaders within these products.
- Active management becomes a boutique offering and succeeds where digitization of information and liquidity is poor.
- Financial services is set for declines in the size of its workforce, with an impending moment of peak employment. The number of investment professionals within the industry reaches that moment probably a few years later, given its greater reliance on soft skills.



Parallel Worlds

Different segments—by geography, generation, and values—engage in society differently; a higher baseline for financial services participation, but with wide dispersion; product preferences for personalization, simplicity, and speed.

Broader Involvement in Markets, But Differing Opinions Are Magnified

In this scenario, actors that are currently not fully included in capitalism see increasing equality. Examples include women, minorities within countries with clear majorities, and less-developed regions, both politically and economically.

In our survey results, we found a mix of views between those who agree with this statement on equality (50%) and those who are uncertain (32%). A minority of 18% disagree. What would the implications of these results be?

The driver for this change is the universal dispersion of social media and other nontraditional media, such as texting. These technologies allow huge numbers of the disenfranchised to peer into the lives of others and to see how they live, including their economic opportunities and benefits, as well as their moral values. It offers some hope of a better life to those with fewer resources, but also creates resentment as issues of fairness arise. Fundamentally, people can view fairness as either equality, or as earning equal rewards for the same effort.⁹ The role of circumstance—for example the location of

one's birth and family wealth—becomes more evident as the world becomes more interconnected.

As previously mentioned, and particularly relevant to investment organizations, a quality of life parity emerges globally as the difference in access to necessities blurs between economic classes. Significantly, younger generations place a higher premium on customization than expense when defining luxury. Investment organizations should thus strive to facilitate customized financial products.

Innovation and Product Development

Meanwhile, if more of the world's people become better educated, it is likely that increased levels of innovation will follow. Thus, accelerated global economic growth is a possibility. A very positive result for finance then is the emergence of a global middle class with these new economic entrants needing their large savings to be invested.

The Parallel Worlds scenario recognizes the benefits of customization and personalization across segments, starting with gender, age, and geography, but with the potential to reflect more of the investor's personal value system in investment products and services.

This change requires investment firms to structure their organizations to offer personal, simple, speedy, and trusted engagement in investment products, which is enabled by the use of big data. The

ECONOMIC ACTORS WHO ARE NOT FULLY INCLUDED IN CAPITALISM TODAY WILL SEE AN INCREASING EQUALITY OVER THE NEXT 5-10 YEARS

■ STRONGLY AGREE ■ AGREE ■ NEUTRAL/NO OPINION ■ DISAGREE ■ STRONGLY DISAGREE



IN THE NEXT 5-10 YEARS, GLOBALIZATION IN THE INVESTMENT MANAGEMENT INDUSTRY WILL ...

■ POSE A STRATEGIC THREAT TO ORGANIZATIONS LIKE MINE ■ NEUTRAL ■ OFFER STRATEGIC OPPORTUNITIES TO ORGANIZATIONS LIKE MINE



possible efficiency is unprecedented but also allows for manipulation of personal feelings by companies and political factions.

Developed world economies also benefit in this scenario because large-scale infrastructure rebuilding projects are undertaken, which is done to not only preserve and grow economies but also to provide opportunities for people.

Global Opportunities and Risks

The emergence of a global middle class, particularly in Asia, provides opportunity. Furthermore, these new economic entrants need their lifetime savings to be managed both in an accumulation phase and then in a drawdown phase along with needs for longevity protection.

Investment management firms bring sophisticated qualitative and quantitative analysis to bear on the discovery of information where there is poor transparency. Analysts return to the roots of investment management by pulling out their analytical magnifying glasses to evaluate investment opportunities far flung from the busy rush of London, Hong Kong, Tokyo, and New York.

Just more than half of our survey respondents believe that globalization is an opportunity for their firms, and only 18% view it as a threat.

Given the potential for globalization to benefit investment organizations, the Parallel Worlds scenario is a particularly important one. Additional value add for the investment industry in this scenario is in helping to form secondary markets in nations and regions that are lacking them. These markets lead to better price discovery and liquidity, and, in turn, to accelerated capital formation for the benefit of the previously disenfranchised. Customers for these services exist at the level of nations, such as sovereign wealth funds, but also among an emerging middle class that seeks traditional financial services, too.

The Parallel Worlds of Retirement

In the retirement space, a Parallel World environment has existed for many years, as some enjoy generous benefits and many have no coverage. This subject varies greatly across countries. In China and India, for example, the family structure has to date been set up to provide for intergenerational support. The concept of retirement in the West has been a relatively recent construct. The challenges with defined benefit promises has meant that most of the younger generation does not have this benefit or does not put much faith in receiving it in its entirety.

Asset owners will need to adapt how they work with beneficiaries, and on the defined contribution side they need to use more tactical encouragement to attract contributions, such as auto-enrollment and auto-escalation, trends that are already underway.

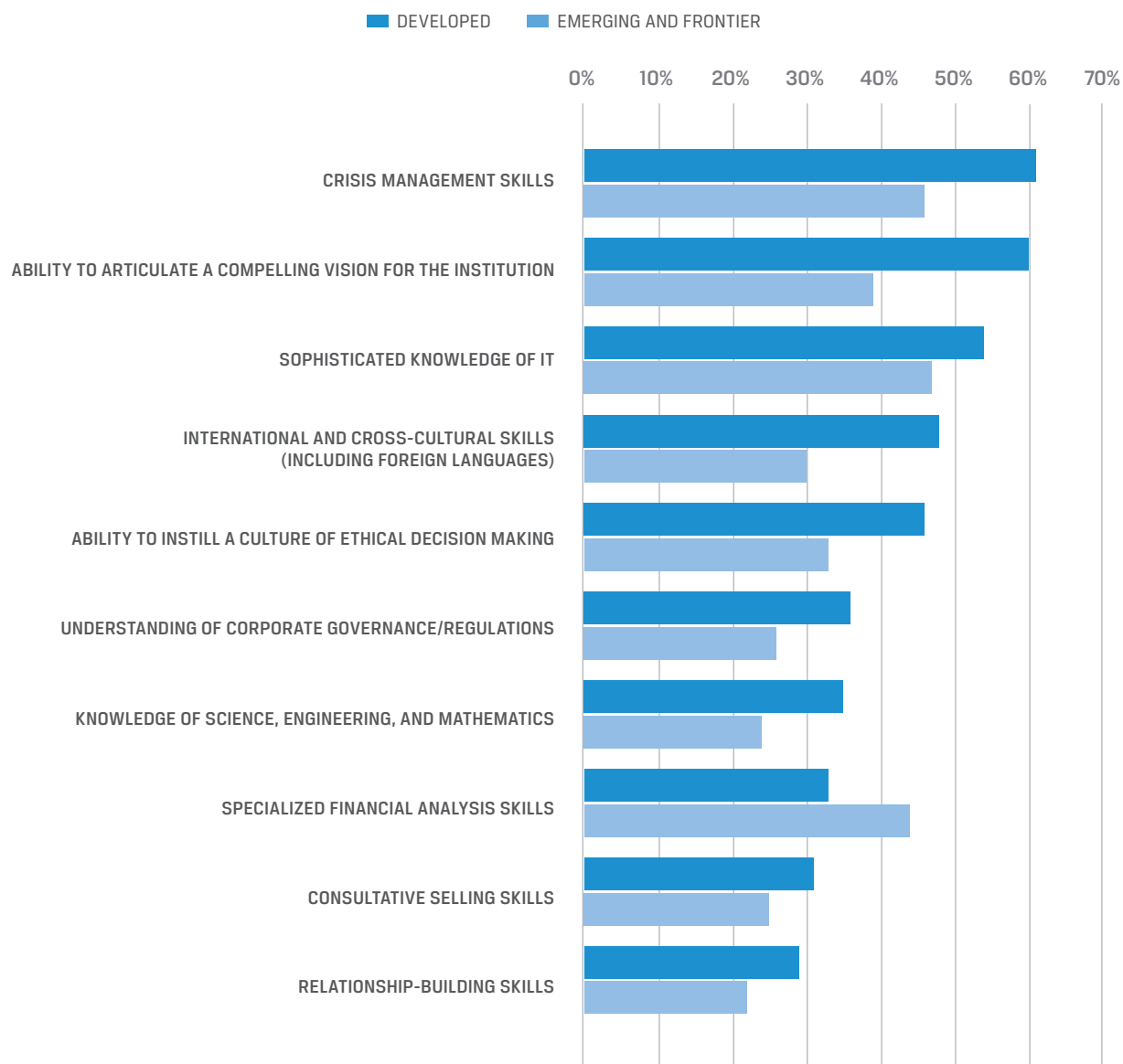
We see the developments occurring in various new models: fiduciary management and the outsourced CIO model, pension fund zombies, defined contribution platforms, and defined benefit/defined contribution hybrid organizations, among others.

Skills Needed for Success

There may be big opportunities for asset managers and private wealth firms that discover how to be large-scale international organizations and human at the same time; with less human interaction overall, it becomes more critical to do it well.

In the Parallel Worlds scenario, all organizations become more socially aware and consider new ways of managing their stakeholder responsibilities, but with quite wide dispersion and differentiation in missions and business models. At one end are B corporations and other organizations that passionately pursue a greater pro-social orientation, and at the other end are firms looking to these broader issues for preservation of stock price and reputation.

HARD-TO-FIND SKILLS: RESPONDENTS FROM DEVELOPED VS. EMERGING/FRONTIER MARKETS



In terms of the 10 skills discussed earlier for future investment professionals, we believe the most necessary for investment organization success in competing in the Parallel Worlds scenario include the following:

- Ability to articulate a compelling vision for the institution
- Consultative selling skills
- International and cross-cultural skills (including foreign languages)
- Relationship-building skills
- Sophisticated knowledge of IT (e.g., programming, artificial intelligence)

Because this scenario envisions an industry that creates customized products and services for various segments of the population, the consultative selling skills and knowledge of IT go hand-in-hand. The use of big data to assess client needs is a necessary input, and from that a sales force can describe the value proposition more clearly for potential clients.

The ability to articulate a compelling vision is important because in this scenario, the investment industry is likely to face more resistance from populist sentiment, and it is necessary for leaders to explain the good the firm is doing and how it benefits its clients and society.

"The future lies in people crossing the traditional boundaries of what they have been trained and educated in. There is more to success than just being an expert on your own turf."

International and cross-cultural skills are very important as well, and we see interesting differences in the value of various skills and availability of them by region. Several criteria for success emerge as especially important among respondents in developed markets and emerging/frontier markets. The ability to build relationships and to manage crises are among the top three skills for CIO/portfolio manager success among respondents from emerging and frontier markets. In addition, 42% of respondents from emerging and frontier markets chose relationship building as a top skill that will be more important in the next 5–10 years, whereas only 32% of their peers in developed markets hold this view. Similarly, the potential volatility of emerging/frontier markets drove 32% of respondents from these regions to see crisis-management skills as increasingly central to success—far more than the 18% of respondents from developed markets who selected crisis management.

A majority of developed market respondents (56%) selected the ability to articulate a compelling vision as increasingly central to asset manager CEO success, compared with only 34% of respondents from emerging/frontier markets. Further illustrating the nascent state of the investment management business in less developed markets, respondents from emerging/frontier markets are substantially more likely to identify crisis management and specialized financial analysis as increasingly important skills for CEOs of asset managers and asset owners compared with their peers from developed markets. Thus, the ability to develop and articulate a strategic vision is especially important for leaders in the mature markets of the most developed economies. The investment management business in emerging/frontier markets is less mature and less structured, but poised for growth amid the volatility inherent in such markets.

Respondents from emerging/frontier markets placed more weight on sophisticated financial analysis skills as increasingly important—by 10 percentage points or more—for senior positions, such as CIOs and CEOs at asset managers and asset-owning institutions. For example, 34% of emerging/frontier market respondents see financial analysis skills as increasingly important for the success of an asset manager's CEO; far fewer respondents from developed economies (14%) see that skill as central to CEO success. Accordingly, it is these financial skills that are in short supply in emerging/frontier markets, and they are less worried about the other skills in comparison. Among respondents from emerging/frontier markets, 44% say specialized financial analysis skills are very or somewhat hard to find.

The best investment analysts actually can help to bridge parallel worlds by understanding how things are connected. "For example, if we are thinking through the impact of tax reform, you have to think through how the effects on the US economy will ultimately have a global impact" says an investment analyst for an insurance company. "I do not think everyone who works in investment management, or even in research, can connect local factors to global factors and have a good grasp of the big picture."

"The future lies in people crossing the traditional boundaries of what they have been trained and educated in," says a regulatory consultant and former accountant. "There is more to success than just being an expert on your own turf." An accountant by training, he found that his colleagues in the public accounting profession needed a better understanding of financial analysis and investment management. Conversely, he found that financial analysts tend to have an insufficient knowledge of reporting. The issue is particularly important to alternative investments and other financial instruments that are hard to value, such as real estate and commodities.

Impact on Investment Organizations in the Parallel Worlds Scenario

- An increased middle class in need of financial services.
- Millennials and Generation Z create a growing new marketplace for financial services that is considerably more at ease with trust in technology than prior generations.
- Product utility favors personalization, simplicity, and speed.
- Trust and brand are critical organizational assets. Media transmits content on moment-specific interests and memes; corporations need to be proactive to address reputational issues.
- The importance of large corporations grows in relative terms in societal contexts; the impact of investment industry organizations also grows.



Lower for Longer

New normal low interest rates and returns become embedded for the foreseeable future (5–10 years), accentuated by lower levels of global growth and higher levels of political instability.

Among the scenarios in our survey, support for the Lower for Longer scenario is quite strong at the 61% level.

Whatever the precise outcomes on market returns, more investment control is likely to be committed to asset owner internalization of activities; and increased control of costs will develop through increased passive allocations.

The Lower for Longer scenario is bad for virtually all business models in the investment industry. In particular, asset owner organizations are left without the returns that they need to meet liabilities and other targets. Asset management organizations cannot rely on portfolio growth to produce increases in assets under management, and their clients are increasingly resistant to paying previous era fee levels because they represent too dear a cost against lower gross returns.

There is a strong belief among our respondents that these factors will affect margins of asset management firms in the future, especially among more experienced and credentialed respondents. The most senior survey respondents—those with 20 years or more experience—are more than four times as likely to expect contracting profit margins rather than growth in profitability. In addition, the majority of CFA charterholder respondents (52%) expect contracting margins, versus just 22% of other respondents.

Although fee pressure has been coming from asset owners, the majority of asset owner respondents (53%) say they still expect growth in asset manager margins, whereas only 36% of asset managers are that optimistic. The smallest asset managers (less than \$100 million assets under management, or AUM) are the most concerned, with only 14% expecting growth in margins.

Margin contraction could strike hardest among firms in developed markets. Respondents from developed markets in North America, Europe, and Asia are far more likely (43%) to anticipate contracting margins compared with their peers in the world's emerging and frontier markets (26%). Of those from emerging/frontier markets, 54% expect moderate or substantial growth in asset manager profitability, using segmentation based on the MSCI market classification index.

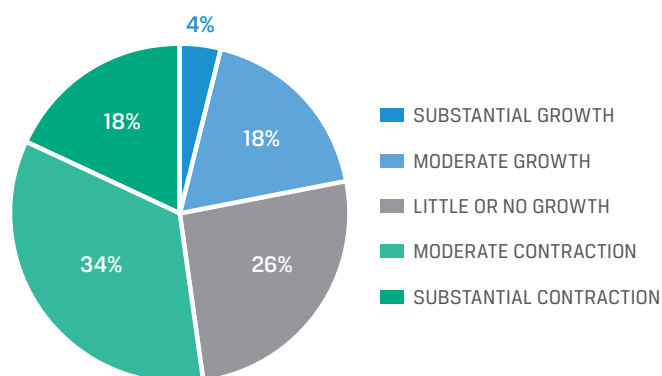
Asset management margins have been relatively resilient in previous times of adverse economics, but it is hard to make an optimistic case

given low growth in new money, lower returns, and reducing fee rates. Some costs may be contained better through technology, but other costs, including those related to compliance, appear set to rise.

Lower for Longer also likely results in various pension fund difficulties because of a combination of lower numbers of young people to support the pensions of older generations and lower returns on capital. Although many are forecasting such an outcome, various factors can be applied to manage the worst effects, including lengthening the retirement age and a reduction of benefits where this can be achieved. These scenarios are opportunities for innovative investment organizations to begin selling something other than the promise of retirement. Deferred promises, which have gone unfulfilled for many who planned to retire in the last decade, have contributed to the industry's poor reputation. Notably, firms could reorient themselves to providing fulfillment during all ages of a person's life, rather than delayed fulfillment toward the end of life; and the solutions could increasingly blend the investment and insurance components needed in later life.

With this change in orientation comes the expansion of asset managers' role in clients' lives from a passive product provider to an essential adviser on many important life events, not just retirement. Value-add products might include monthly budgeting, credit card arbitrage, asset disposal, and goal fulfillment at the short- and medium-term time horizons (e.g., vacations, auto purchases, continuing education).

ASSET MANAGER PROFIT MARGINS IN THE NEXT FIVE YEARS (CFA CHARTER HOLDER RESPONDENTS)



In terms of the 10 skills future investment professionals need, we believe the most necessary for investment organization success in competing in the Lower for Longer scenario are the following:

- Ability to articulate a compelling vision for the institution
- Crisis management skills
- Relationship-building skills
- Specialized financial analysis skills
- Understanding of corporate governance/regulations

In this scenario, investment returns are exceedingly difficult to generate consistently, which leaves investment firms in an existential crisis of sorts. A strong leader with a clear vision can help to guide the firm through these times. In particular, asset owners will find that their targets are difficult to meet and beneficiaries will be troubled; this may actually require crisis management skills at the extreme.

These scenarios are opportunities for innovative investment organizations to begin selling something other than the promise of retirement. Notably, firms could reorient themselves to providing fulfillment during all ages of a person's life, rather than delayed fulfillment toward the end of life.

In this scenario, the quality of communications to clients and stakeholders becomes much more significant. Relationship-building skills are important to manage client relationships during a low-return environment, and this environment is one in which excellent customer service can be a differentiator.

Along these lines, because the economic pie is not growing, it will put pressure on regulators to challenge firms, so leaders must know how to navigate regulatory rules and apply high standards of corporate governance to avoid punitive outcomes. There is a natural likelihood that weak investment returns will map to increases in regulation and even regulatory overshoot.

If investment results turn out particularly low, this outcome will likely map to shrinkage in the investment industry workforce. Most leaders have built their experience in tailwind conditions. Managing through headwinds calls for a different set of skills.

Impact on Investment Organizations of the Lower for Longer Scenario

- Too much supply of capital (caused by too low interest rates) combines with slowing demand for capital because of aging demographics in the developed world, resulting in prolonged and slow economic growth.
- When the pie is not growing, the whole finance sector struggles; institutional flows into pension funds are curtailed as pension savers recognize the deterioration in outcomes that are likely in a condition of financial repression.
- Leadership is critical in adverse circumstances; strife around global entitlements, including pensions, is likely, so asset owners will need to renegotiate terms with beneficiaries, and set proper expectations for the future.
- Success for investment organizations means getting more intimately involved with clients and their many daily financial decisions.



Purposeful Capitalism

Capitalism's way of working evolves; the investment industry works to raise its game with more professional, ethical, and client-centric organizations acting in aligned-to-purpose, lower-cost, and efficient ways.

Investment organizations finding themselves amid conditions calling for more purposeful capitalism are likely experiencing a fast-moving, vastly disintermediated and networked, and poor-governance world. They are also likely experiencing difficulties communicating their sanguine intentions to regulators, their clients, and the general public, especially younger customers. In this scenario, complexity and the limitations of top-down management reign.

These factors challenge the industry's value add. The survey results show that only half of respondents agree that asset management fees generally reflect the value provided to clients, although the results are better in emerging/frontier markets, with 62% believing fees reflect the value provided. "Ultimately the narrative needs to be about value," says the head of global equity at a US mutual fund provider. "If you generate excess performance, how much does the manager deserve to capture? There are very clear pressures on fees relative to passive and relative to value." Only 39% of CFA charterholder respondents agree that fees reflect value provided, versus 69% from all other respondents.

One possible response to the megatrends and forces likely to affect investment organizations is to adapt the model of capitalism itself. In this scenario, investment organizations have the choice to seek

alignment with the complex, interconnected, super-distributed world rather than operate against it. This approach requires organizations to change their mindset from a hierarchical, cause-and-effect structure to one that emphasizes hiring purpose-driven, ethical, highly educated talent. The benefit is an ability to push decision making to the edges of the network in shorter decision-making cycles. This situation is also aided by sophisticated information technology infrastructures that increase support for decision making and personalization and transparency for customers.

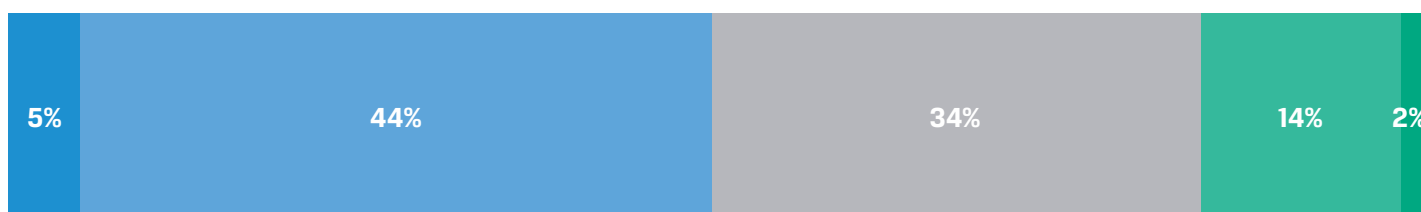
Also important to increasing alignment of investment organizations with their operating environment is managing each of the relationships and the capital for production implied by their income statements. The relationships for investment organizations are with

- investee enterprises,
- customers (revenues),
- suppliers (cost of goods sold),
- employees (general and administrative),
- debt holders (interest expense),
- the public (tax expense), and
- shareholders.

In the context of the organization's use of capital, its aim should be to integrate development and future path. Communication about risk with external stakeholders should attract significant attention. This may be joined with ideas coming from the Integrated Reporting (<IR>)

ASSET MANAGEMENT FEES GENERALLY REFLECT THE VALUE PROVIDED TO CLIENTS

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initiative, which aims to help key stakeholders form a holistic view of the organization and the risks that it faces and targets to exploit.

Integrated reporting is explained through integrated thinking that investment organizations' decisions have spillover effects, including on natural capital. How do the resources and inputs (land, labor, and capital) used by a business (investment) affect outputs and outcomes? This view requires a change in mindset in which systems thinking and transparency can improve capital allocation, with long-term sustainability paramount.

Success in this environment also demands investment organizations recognize that disclosure and transparency are not the same thing. Transparency is ensuring that stakeholders are aware of the ramifications of decisions and share contexts with investment organizations. Otherwise, the moral hazards are likely to persist.

Success also demands that organizations recognize that having a code of ethics, and ethics training, is not the same thing as operating ethically and professionally.

It is the asset owners that most need fair and efficient markets and who have the most to gain or lose. They have the opportunity to do much to address this challenge through the influence of the huge sums they oversee. We might focus particularly on the 50% of global institutional invested capital drawn from around 300 well-resourced (mostly pension) funds, with assets of more than \$15 billion. Asset managers will also play a part in this evolution, particularly the large ones, where 30 organizations have about 50% of the global AUM. In this scenario, however, we draw out the influencing power of asset owners acting like principals as being greater than asset managers acting as agents.

Another possible response is for investment organizations to address the frictions between themselves and global regulators.

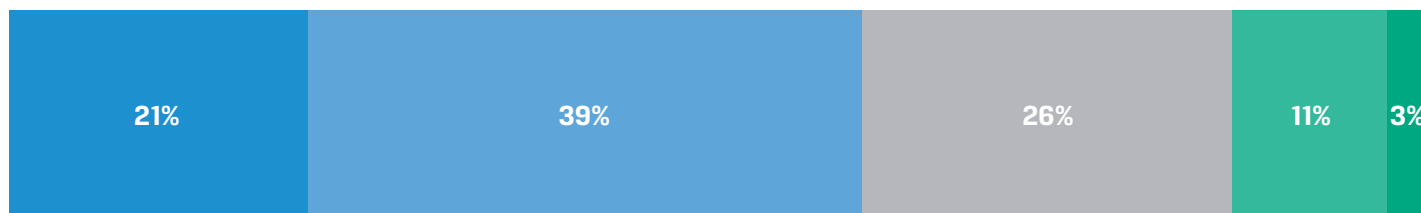
The place of regulation in a more societally inclusive capitalist system is seen equivocally. Regulation may be able to guide some of the practices in good directions, but the perils of unintended consequences in complex situations are always lurking. Regulation may be able to help with forms of mis-selling, which are present in current conditions.

In this scenario, regulators and financial institutions work to jointly address the low levels of trust in the industry and put in place practices and communications that produce improved levels of trust. If there is success in these respects, we should witness increases in the connections of all financial institutions to their fundamental purpose. Investment organizations that demonstrate their value will be trusted more. This achievement is both a private good to the asset owner and asset manager organizations and a public good to society as their reach draws in more beneficiaries.

A majority of respondents (56%) agree that clients are often sold inappropriate financial products. "I still see a lot of products that are what I call 'sold and not bought,' and this is where I have an ethical issue," says a CIO of a wealth management firm who had a client come to his office with two versions of the same annuity sold by two different people. "The client says, 'We thought this was a good investment because it guarantees an 8% return,'" he says describing the scene. "I said, 'Well, that is not possible,' and we went through a huge prospectus that detailed caps and floors, and it was really complicated." What struck him, he says, was that the client not only heard what he wanted to hear, but he heard the same thing from two different people. "It was a high-commission product, one of those with five, six, seven percent commission upfront," he notes. "So there is still stuff like that going on—even with all of the transparency now. People are selling the product that is the most beneficial to them instead of what is beneficial to the client." Furthermore, we find that despite the increase in regulations in developed markets, a core issue remains: 63% of respondents from developed economies agree on the prevalence of mis-selling, versus just 40% in emerging/frontier markets.

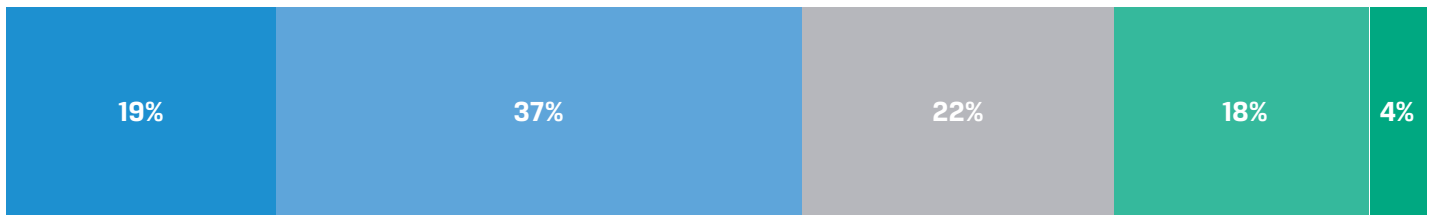
FINANCIAL MARKETS/INVESTMENT MANAGEMENT ARE TOO COMPLEX AND DYNAMIC TO REGULATE EFFECTIVELY

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CLIENTS ARE OFTEN SOLD INAPPROPRIATE FINANCIAL PRODUCTS

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For firms to be leaders, it requires following the spirit as well as the letter of the law. It requires a focus on fiduciary responsibility as a critical success factor. However, it does not call for naïveté about the complexities of the system, such as sloganeering ("The client is always right!"). Instead, it calls for firms to anticipate the collision of their interests, their employees' interests, their clients' interests, and the interests of the public as represented by regulators.

Purposeful capitalism also calls on investment organizations to be proactive, rather than reactive, in helping solve the world's problems, but to remain grounded in good sense on materiality. To do so likely includes product innovations, collaboration with competitors, and possibly new constituents, such as local governments. It also requires focus on total systemwide returns on capital rather than just a localized focus. For example, in traditional capitalism, if sea levels rise, there is money to be made by investing in the engineering firm that builds resilient sea walls. But in purposeful capitalism, it is recognized that this a destruction of capital rather than the creation of capital. After all, if you want to drive up the profits of your publicly traded hospital, just shoot yourself in the foot, literally.

The survey data affirms the growth in ESG attention that will build on a steady incremental profile over the next two decades. This is consistent with a CFA Institute member survey done in 2015 on ESG that showed 73% of investment professionals use some ESG factors.¹⁰

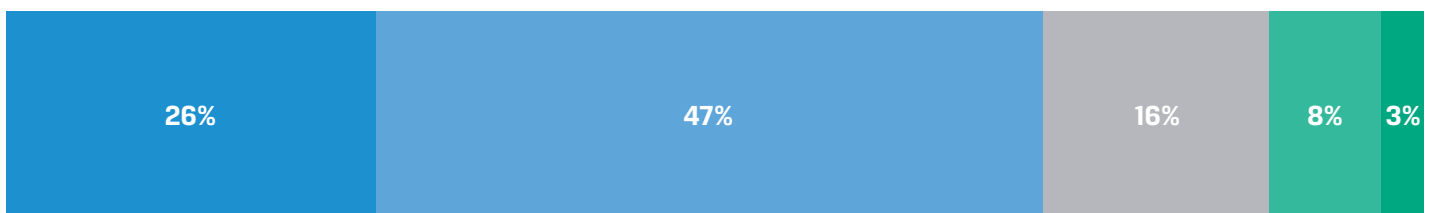
In terms of the 10 skills for future investment professionals, we believe the most necessary ones for investment organization success in competing in the Purposeful Capitalism scenario are the following:

- Ability to articulate a compelling vision for the institution
- Ability to instill a culture of ethical decision making
- Knowledge of science, engineering, and mathematics
- Relationship-building skills
- Specialized financial analysis skills

This scenario envisions the strongest leadership of the industry and a proactive approach to engaging with markets, so in it there will be fierce competition for professional talent among investment organizations, particularly on the leadership level. In addition, diversity and culture are big factors in attracting and retaining employees. This

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE FACTORS WILL BECOME INCREASINGLY IMPORTANT TO INVESTMENT DECISION MAKERS IN THE NEXT 5-10 YEARS

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means leaders in this scenario must be able to articulate a compelling vision, and this ability is closely tied to ethics, professionalism, and the ability to build relationships.

Leaders who are comfortable with diversity will surely be required in this scenario. Natural ecosystems survive and thrive best where there is greater diversity. The reason is because diversity has been demonstrated to lead to faster and greater adaptability. Firms interested in the positive benefits look to diversify along multiple dimensions, including ideas, gender, ethnicity, national origin, knowledge, and educational institution among others. The challenges with diversity are difficult to address because they represent biases that have often been institutionalized and reflect conscious and unconscious thinking. Leaders that find their way with diversity have to be very surefooted with respect to the values and beliefs that drive the case. There are various organizational constraints that arise in which inflexibilities with work practice and long-hours culture are dominant as they often are in the investment industry.

As organizations seek to demonstrate their purpose, many firms will face pressure to demonstrate empathy and value and to work to ESG principles. Incorporating these principles is not a simple task; it means making judgments about risk, which is a specialized financial analysis skill. At the same time, science can be useful to understand investment implications in the physical world.

These skills require wider application of many other disciplines. We call out the applications of how systems and complexity theory can provide a better interpretation and understanding of the behavior of financial markets. A high-level formulation has the flexibility to draw on other theory and research disciplines, notably management science, including game theory and network theory; evolutionary biology and neuroscience; and anthropology and behavioral economics.

Making ESG principles a factor in investing is a new and necessary technology in the investment process, with new methods and tools to be applied. As we gradually get the fuller data on companies in this regard, it enables ESG factors to be integrated effectively. This application will need more "human bits" of the ESG challenge, which involves courage and leadership, some imagination and vision, and some quality in organizational culture.

The principal nature of the purposeful capitalism journey in our analysis relies on strengthening the professionalism of the investment industry, which requires devoting more intensity to trust and value.

Impact on Investment Organizations in the Purposeful Capitalism Scenario

- Firms must align themselves with a rapidly changing, disintermediated and networked world, where governance issues are challenges—often weakly understood and hard to fix.
- Organizational diversity is recognized as a key ingredient for surviving and thriving in an increasingly complex operating environment.
- Asset owner institutions adopt a more influential role in the investment ecosystem through greater collaboration; they focus more on longer-term value creation and give greater attention to sustainability.
- There is fierce competition for talent among investment organizations, particularly at the leadership level; diversity and culture are big factors in attracting employees.
- Firms focus on stakeholders and incorporate systems thinking to better understand the ways that they affect the environments in which they operate. Investment organizations manage themselves to improve the quality of value and overall trust in the investment ecosystem and are increasingly transparent in these parameters through integrated reporting.
- Identifying preventable surprises and managing to avoid them is given increasing attention, reflecting greater hazards in the complexity and interconnectedness of managing investment organizations.

SUMMARY AND WAY FORWARD

Key components of this section are applying the four scenarios to the understanding of the investment organizations and investment professionals that are critical to the future state of the investment profession.

We discuss the 10 core skills that will need to be harvested by the investment organization of the future.

We also discuss three game changers in the context of the future organizational landscape:

1. The evolved skills organizations will require
2. The future state of the private pension and lifetime savings management model
3. The evolving state of prevailing trust between providers and end clients

This chapter links to the final chapter, "Benefits to Society," in which we explore the actions of the investment industry and CFA Institute to shape and create the best possible outcomes for the end investor and society.

ENDNOTES

¹ John Kay, "The Benefits of a Liberal Education Do Not Go Out of Date," *Financial Times* (25 August 2015).

² Thomson Reuters, Cost of Compliance 2016.

³ See www.cfainstitute.org/WIM for more research in this area.

⁴ A.W. Woolley, C.F. Chabris, A. Pentland, N. Hashmi, and T.W. Malone, "Evidence for a Collective Intelligence Factor in the Performance of Human Groups," *Science*, vol. 330, no. 6004 (29 October 2010): 686–688.

⁵ Rebecca Fender, Renée Adams, Brad Barber, and Terrance Odean, *Gender Diversity in Investment Management: New Research for Practitioners on How to Close the Gender Gap* (Charlottesville, VA: CFA Institute Research Foundation, 2016).

⁶ 2016 Edelman Trust Barometer (17 January 2016).

⁷ "The Great Chain of Being Sure About Things," *Economist* (31 October 2015).

⁸ Carl Benedikt Frey and Michael A. Osborne, "The Future of Employment: How Susceptible Are Jobs to Computerisation?" (Oxford Martin School, September 2013).

⁹ Jonathan Haidt, *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (New York: Vintage Books, 2012).

¹⁰ Rebecca Fender, Usman Hayat, and Matt Orsagh, "ESG Issues in Investing: Investors Debunk the Myths" (CFA Institute 2015).

CFA Institute

CFA Institute is the global association of investment professionals that sets the standard for professional excellence and credentials.

The organization is a champion for ethical behavior in investment markets and a respected source of knowledge in the global financial community. The end goal: to create an environment where investors' interests come first, markets function at their best, and economies grow.

CFA Institute has more than 146,000 members in 160 countries and territories, including 140,000 CFA charterholders and 147 member societies.

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