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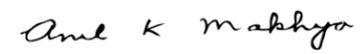
This third annual survey conducted by The Risk Institute at The Ohio State University Fisher College of Business is a comprehensive research initiative designed to better understand how U.S. companies structure their risk management functions and how they integrate risk management into business decisions. Firms are facing increasing and ever-evolving risk, thus the conversation about risk and risk management also must be ongoing. This survey is one of the ways The Risk Institute is creating a dialogue with those on the frontlines of risk management.

Focusing on three pillars — research, outreach and education — The Risk Institute operates at the intersection of academia and industry. The Institute, which became operational in 2013, seeks to advance the field of risk management by generating new insights through scholarly research and by influencing the adoption of leading risk management strategies. The Risk Institute also seeks to inform and shape the future by cultivating the next generation of risk-aware business professionals who are equipped to face the challenges of an evolving world.

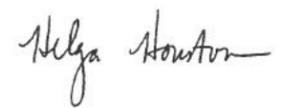
To highlight the collaborative mission of the Institute, this survey was created by academic scholars associated with The Risk Institute and Advisory Board Members who represent the Institute’s founding partners — Aon, Battelle, EY, Huntington, Nationwide and The Ohio State University. They have partnered to create a survey, and the findings add depth to last year’s results and explore new insights into how senior executives consider disruption and its potential to create positive or negative impact.

We hope the results of The Risk Institute’s survey provide you and your colleagues with new insights on how to structure risk management function/framework and how to integrate risk management in business strategies, so you can better leverage risk, meet corporate objectives and create value. We invite you to read, discuss, and share the following insights with colleagues throughout your organization. To continue the conversation about risk management, or to explore ways to engage with us on our mission, please feel free to contact us.

Sincerely,



Anil K. Makhija
Dean and John W. Berry, Sr. Chair in Business
The Max M. Fisher College of Business
The Ohio State University



Helga Houston
Chief Risk Officer
Huntington National Bank
Advisory Board Chair, The Risk Institute

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The Evolution of Risk Management into Corporate Structure

The Risk Institute Third Annual Survey on Integrated Risk Management highlights results proving that risk management efforts over the last year in U.S. firms continue to evolve. More firms are centralizing their risk management functions. This work needs to continue in order to help firms recognize risk management as a tool to create value.



ORGANIZATIONAL STRUCTURE AND TONE AT THE TOP

Financial firms are more likely than nonfinancial firms to recognize risk management as a tool to create value across the firm, mostly in a fully integrated approach.



INTEGRATION OF RISK MANAGEMENT INTO DECISION MAKING

Firms indicated that integrating risk management into business processes allowed them to improve corporate objectives.



SCOPE OF RISK MANAGEMENT

Legal/Compliance is the business unit with the highest involvement in identification, qualitative or quantitative measurement, and management of major risks impacting the firm.



RISK MANAGEMENT PROCESS

A large percentage of firms not only maintain minimum cash holdings as a precautionary measure, but also take extensive steps to limit sales-at-risk or restrict product/geographic expansion to limit their risk.



GOVERNANCE AND CULTURE

Sixty-one percent of firms have a clear vision or strategy in terms of their risk management.

About The Research

The third annual survey* by The Risk Institute at The Ohio State University Fisher College of Business was conducted to further our understanding of how U.S. companies view the role of risk management in their firms, how they structure their risk management functions and how they integrate risk management in business decisions. Additionally, this year we sought to understand how governance and culture influence the firm's risk management.

► *The survey is comprised of 18 questions (some with multiple parts) that focus on five key areas:*

- PART A** Organizational Structure and Tone at the Top
- PART B** Integration of Risk Management into Decision Making
- PART C** Scope of Risk Management
- PART D** Risk Management Process
- PART E** Governance and Culture

*This survey was administered by RTI Research and was conducted during Q3 and Q4 of 2016.

There are many nuanced interpretations of the terms risk management and risk integration. Therefore, we asked participants to keep the following definitions in mind while completing the survey.

Risk management

In this survey, risk management is a broadly defined concept that deals with the management of various risks to the firm. Considerations include, but are not necessarily limited to, risks entailed in strategy, quality, compliance, regulatory requirements, financial, logistics/supply chain and legal aspects.

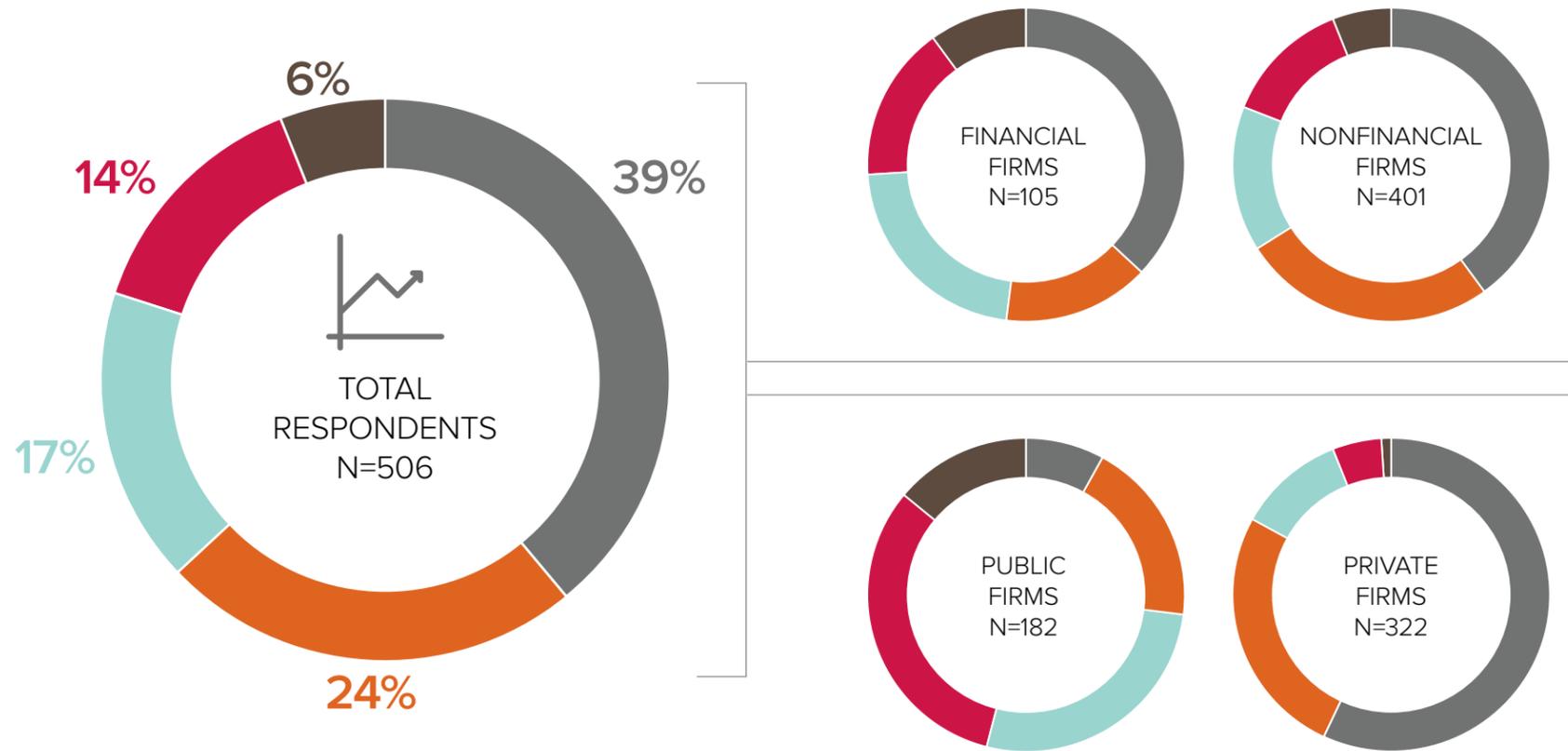
Risk integration

Risk integration is the firm's recognition of risks faced by the firm and how they are incorporated into the decision-making process at the functional level.

This report is based on survey responses from 506 senior executives from U.S. firms. Figure 1 reports the industry distribution for the responding firms.

FIG. 1 The final sample of respondents by total revenue

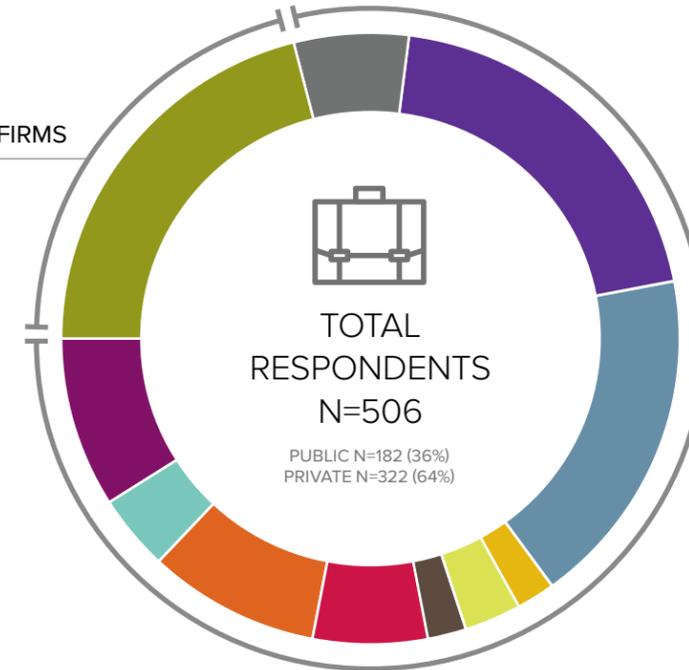
● \$10 MILLION TO LESS THAN \$99.99 MILLION
 ● \$1 BILLION TO LESS THAN \$10 BILLION
 ● \$50 BILLION OR MORE
● \$100 MILLION TO LESS THAN \$1 BILLION
 ● \$10 BILLION TO LESS THAN \$50 BILLION



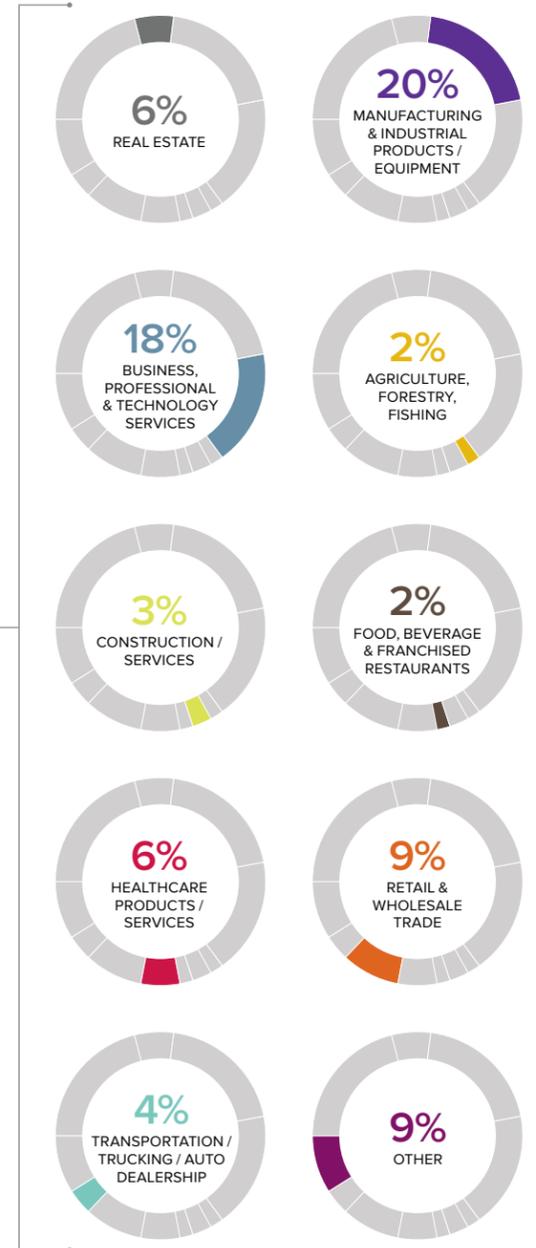
NOTE: Two respondents did not indicate public/private status of their firms. Throughout this report, this has been taken into account.

FIG. 2 The final sample of respondents by industry

21%
 FINANCIAL FIRMS
 57% PUBLIC
 43% PRIVATE



79%
 NONFINANCIAL
 BY INDUSTRY
 29% PUBLIC
 71% PRIVATE



Executive Summary

Risk management policies and their supporting infrastructure play an increasingly integral role in a firm's ability to remain competitive and create value. Volatility in the current economic and political environment leads to a more vulnerable business environment making the role of risk management more integral. Over the past few years, firms have been discovering that using a comprehensive and integrated risk management approach, which leverages collaboration across business functions, increases their ability to achieve corporate objectives and enhance shareholder value.

One of the key objectives of The Risk Institute is to create a greater understanding of how organizations can proactively leverage risk management to create shareholder value. Given the varied roles that risk management plays in different organizations, the objective in our third annual survey on integrated risk management was to gather opinions of leadership from financial and nonfinancial industries as well as public and private firms about:

- **How risk management's role is viewed in their organization;**
- **How, if at all, risk management is integrated into business decisions;**
- **How risk management as a function is organized in the firm; and**
- **What the role of risk management is in the overall culture and governance of the firm.**

We surveyed risk executives from 506 firms, out of which 39 percent have total revenue less than 100 million and 20 percent have total revenue more than 10 billion, spanning a wide range of firms in terms of size and revenue. Out of these surveyed firms, 21 percent are financial firms and 36 percent are public firms. Industries that are represented the most among nonfinancial firms are Manufacturing and Industrial Products/Equipment (20 percent), and Business, Professional and Technology Services (18 percent). Responses led to some interesting findings.

How is risk management evolving and being integrated in business decision making?

The structure of the risk management function continues to evolve. Almost all public firms (91 percent) allocate a corporate function to risk management practices. However, just over half (51 percent) of private firms dedicate a corporate function to risk management. This statistics reflects a decline in the percentage of firms having a unit responsible for risk management over the past year. Also, compared with past responses, we see that firms' plans for increasing the size of their risk management departments has slowed down, with only 25 percent planning for an increase in the next 12 months (compared with 40 percent from last year). While the Chief Risk Officer (CRO) was most often the executive in charge of risk management (21 percent overall) in 2015, this year the Chief Executive Officer (CEO) holds the most

responsibility for risk management in 28 percent of firms overall, followed by Chief Financial Officer (CFO) in 20 percent of firms overall. This shift could be evidence that firms are centralizing their risk management function and possibly further integrating risk management with financial decisions.

The "Tone at the Top" also reflects this evolution of risk management.

Most firms still utilize risk management to protect their firms against negative outcomes with only some recognizing it as a tool that can also create value. Compared to nonfinancial firms, financial firms are far more likely (40 percent) to recognize risk management as a tool to create value across the firm, mostly in a fully integrated approach. Consistent with these views, a greater number of firms are moving towards a more centralized approach to risk management. The evaluation of the impacts of risks is done in aggregate across the firm and managed by, or under the direction of the C-suite.

About half of the reporting firms have increased their risk management support and focus over the last year by allocating additional funds to both external and internal resources. This ratio is larger for financial firms (64 percent) than for nonfinancial firms; and also larger for public firms (58 percent) than for private firms. Interestingly, no firm has decreased their dollar resources this year. The most

important catalysts for their increased efforts have been external factors such as regulatory requirements and/or a perceived increase in the general volatility of the business environment. The most important internal factor is the recognition of risk management as a tool for growth and value.

Do firms integrate risk management into decision making?

Firms are selectively integrating risk management in business decision making and are experiencing improved business outcomes as a result. Firms indicate that their risk management functions recognize almost all key business processes in the firm, but to varying degrees. The three leading business processes influenced by risk management functions are compliance, strategic planning, and operations.

Incorporation of risks in the analysis of the business processes also changes risk management of the firm itself. In financial firms, about 50 percent identified compliance and strategic planning as the top practices where this feedback happens. When survey participants were asked if integration of risk management into business process improved results, about 19 percent and 18 percent of the executives in financial firms noted that they experienced exceptional improvement in the areas of portfolio management and compliance, respectively. Within nonfinancial firms, over 30 percent of the respondents identified compliance as the top practice, where incorporation of risks in the analysis of the

business processes changes risk management of the firm itself. When study participants were asked if integration of risk management into business process improved results, more than 20 percent of reporting executives in nonfinancial firms noted that they experienced exceptional improvement in compliance, quality control, and audit planning. Both financial firms and nonfinancial firms indicated that when they integrate risk management into business processes they are able to improve corporate objectives.

How do firms set the scope of risk?

Next we asked risk executives how involved various business functions are in risk identification, qualitative or quantitative measurement, and management of major risks impacting their firms. Legal/Compliance function was the top answer for each process.

When participants are asked to think about each of their firm's culture and senior management's attitude towards risk, both financial firms and nonfinancial firms emphasized minimum cash holdings as a precautionary measure. A large fraction of firms are also known to take extensive steps to limit sales-at-risk (or, similarly, cash-flow-at-risk) or restrict product/geographic expansion to limit risk. Almost half (44 percent) of all firms disagree that senior management ignores sales at risk. Over 30 percent of respondents also disagree that senior management sets a generous size for investment projects permissible without authorization or restrict product/geographic expansion to limit risk.

What is the company culture and governance in relation to risk management?

Finally in the last part of the survey, we asked participants to consider their corporate risk culture in general. Firms, whether financial or nonfinancial, public or private, split in terms of seeing their overall risk culture being innovative/creative vs. conservative. Overall, 61 percent of firms indicated that their company has a clear vision or strategy in terms of risk. This percentage increases to 75 percent in financial firms and 79 percent in public firms. It is impressive that only less than or equal to 10 percent of financial or public firms specified no vision or strategy in terms of risk for their firms. This finding is a result of increased focus on risk management and enhanced disclosure in public and financial firms, especially after the crisis.

About 70 percent of overall respondents report that review of risk management policies are incorporated in employee trainings, more so for financial firms (75 percent) compared with nonfinancial firms and for public firms (83 percent) compared with private firms.

Participants indicate that, on average, over 50 percent of employees outside of the risk function somewhat understand the role of risk as it relates to their job function. By way of contrast, 37 percent claim that there is a complete understanding. The percentage increases to 42 percent for financial firms and 52 percent for public firms.

In our sample of surveyed firms, 80 percent overall (87 percent in financial firms) offer incentive compensation or bonuses to employees. The majority (62 percent) of those incentives are influenced in some way by how an employee manages risk. Again, not surprisingly, both granting incentive compensation and also incorporating risk management in these compensation packages are more common in financial firms and public firms.

When asked for steps firms are taking to enhance approaches to risk management, about 50 percent of the respondents specified an increased focus on risk management or integrating risk management more with operations and business strategy, both being substantially more significant for financial firms than for nonfinancial firms.

What do the results mean for The Risk Institute?

The Risk Institute is dedicated to bring together leading academic scholars and practitioners to advance the adoption of leading risk management strategies. With this goal in mind, the survey results, which yield insights about overall corporate culture, how firms structure their risk management functions, and how they integrate risk management in business processes, also raised a number of questions. Among those are:

1. Is there a real trend of centralization in risk management at the CEO level?

2. Some of our results are consistent with firms, especially private firms, outsourcing more of their risk management functions rather than having an in-house risk management unit. What are factors leading to these decisions?
3. We see an increased focus on risk management and enhanced disclosure in public and financial firms especially after the Great Recession. Do we expect this trend to continue?
4. How can we educate more firms to recognize risk management as a tool to create value?

We look forward to continuing our conversation about risk management with you in the future as we work to provide insights into these questions through new areas of research, translations of completed academic research for practical business applications and educational programs for business professionals, undergraduate and graduate level students. Through these dialogues, we can collectively advance our knowledge of risk management and influence adoption of leading risk management practices.

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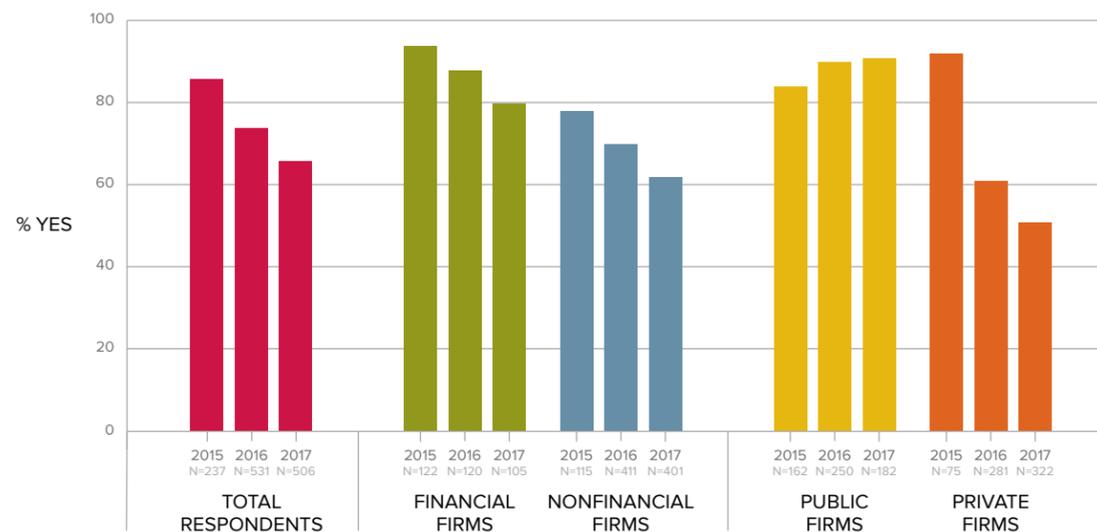
Fisher College of Business Distinguished Professor of Finance
Academic Director, The Risk Institute
The Max M. Fisher College of Business
The Ohio State University



PART A: Organizational Structure and Tone at the Top

The third iteration of our study has identified that a majority of firms sampled have a corporate unit that is primarily responsible for risk management. In financial firms, 80 percent of reporting firms have a function primarily responsible for risk management, compared to 62 percent in nonfinancial firms.

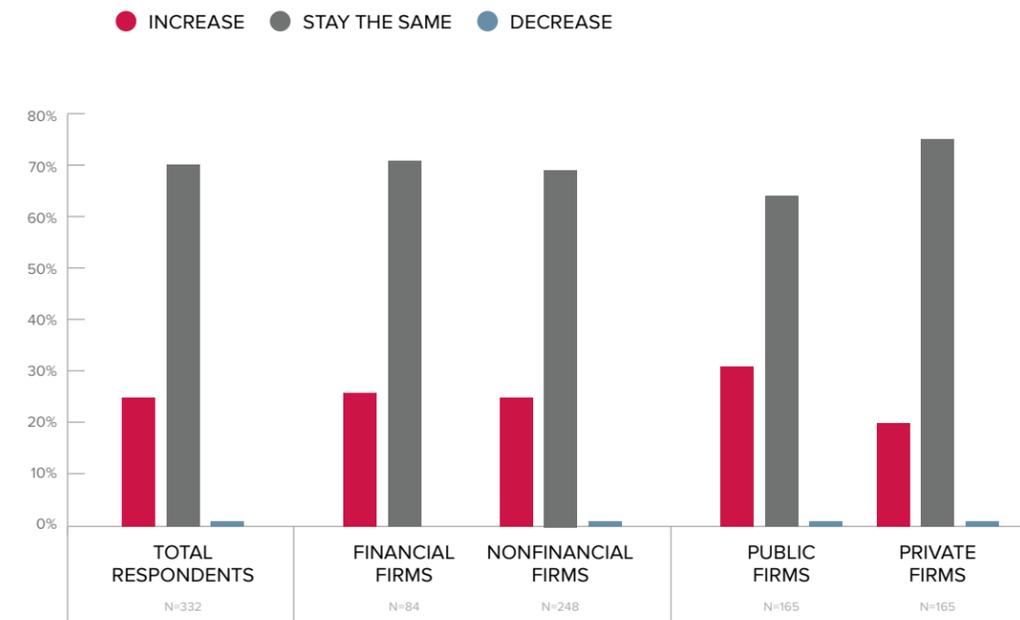
FIG. 3 Firm Has a Corporate Unit Primarily Responsible for Risk Management



Almost all public firms (91 percent), likely due to regulation and disclosure requirements, allocate a corporate function to risk management practices. However, only 51 percent of private firms dedicate a corporate function to risk management, likely due to size constraints.

In comparison to past statistics, we see a decline in the percentage of firms having a unit responsible for risk management. While these results are consistent with smaller firms outsourcing more of their risk management functions, changes across years are significant, (especially for private firms) and invite further research on the factors leading to these decisions.

FIG. 4 Change in Size of the Risk Department – Next 12 Months



Compared with past responses, we see that firms' plans for increasing the size of their risk management departments has slowed down, with only 25 percent planning for an increase (compared with 40 percent from last year) in the next 12 months. Even in the financial sector, firms may be getting closer to their target size for their risk management function after multiple years of expansion post crisis. With about 70 percent of respondents planning to keep the size of their risk department the same (compared to just under 50 percent last year) they might be outsourcing a portion of their risk management to third parties, as discussed on page 12.

1 *Leading Risk Management*

Variation has been reported in the level of senior leadership having responsibility for the risk management function. It should be noted that our 2017 findings differ from 2016, when the Chief Risk Officer (CRO) was most often the executive in charge of risk management (21 percent overall). This year, the Chief Executive Officer (CEO) holds the most responsibility for risk management in 28 percent of firms overall, followed by Chief Financial Officer (CFO) in 20 percent of firms overall. This shift from 2016 could be evidence of centralizing the risk management function, and is also consistent with possible further integration with financial decisions. In about 30 percent of nonfinancial firms or private firms, the CEO is in charge of the risk management function. In financial firms, the CEO is in charge in 20 percent of firms while the CRO has primary responsibility in 23 percent of the firms. Chief Operating Officer (COO) and Board of Directors are also represented as having leadership responsibility for the risk management function in about 15 percent of firms.

FIG. 5 Executives in Charge of Risk Management



NOTE: Other includes division/business unit leaders and "other" category

2 *Tone at the Top*

When asked what best describes the ‘Tone at the Top’ regarding risk management at their company, 23 percent of overall respondents report a **reactive strategy**, defined as “reflecting a necessity for meeting mandated requirements.” Most firms report a **defensive strategy**, defined as “being used to protect against negative outcomes,” with some also recognizing it as a tool to create value. Breaking nonfinancial firms out of the total, it’s interesting to note that nearly 70 percent report viewing risk management only as a reactive or defensive strategy. In comparison, only 52 percent of reporting financial firms state this view, meaning **financial firms are far more likely (40 percent) to recognize risk management as a tool to create value across the firm, mostly in a fully integrated approach.** Given the heavily regulated aspect of financial firms, it is interesting, but not surprising, to see the difference in responses between financial and nonfinancial firms. Differences between respondents in public and private firms are not that significant.

Reactive strategy

Reflecting a necessity for meeting mandated requirements.

Defensive strategy

Being used to protect against negative outcomes; a tool to create value.

FIG. 6 ‘Tone at the Top’ and Risk Management



3 *Risk Management Efforts*

Approximately 45 percent of reporting firms have increased their risk management support and focus over the last year by allocating additional funds to both external and internal resources. This ratio is larger for financial firms (64%) than for nonfinancial firms; and also larger for public firms (58%) than for private firms. The remaining firms kept their risk management efforts constant, rather than decreasing them.

The most important catalysts for their increased efforts have been **external factors** such as regulatory requirements and/or a perceived increase in the general volatility of the business environment. **The most important internal factor is the recognition of risk management as a tool for growth and value.** Regulatory requirements are significantly important for financial firms, with 51 percent ranking it as the most important factor. This finding is expected given the extensive focus on regulatory requirements within the financial sector. For nonfinancial firms and private firms, perceived increase in volatility and seeing risk management as a value and growth tool play a more important role.

FIG. 7 How Risk Management Efforts Have Changed Over the Last Year

	TOTAL RESPONDENTS N=332	FINANCIAL FIRMS N=84	NONFINANCIAL FIRMS N=248	PUBLIC FIRMS N=165	PRIVATE FIRMS N=165
INCREASED	46%	64%	41%	58%	39%

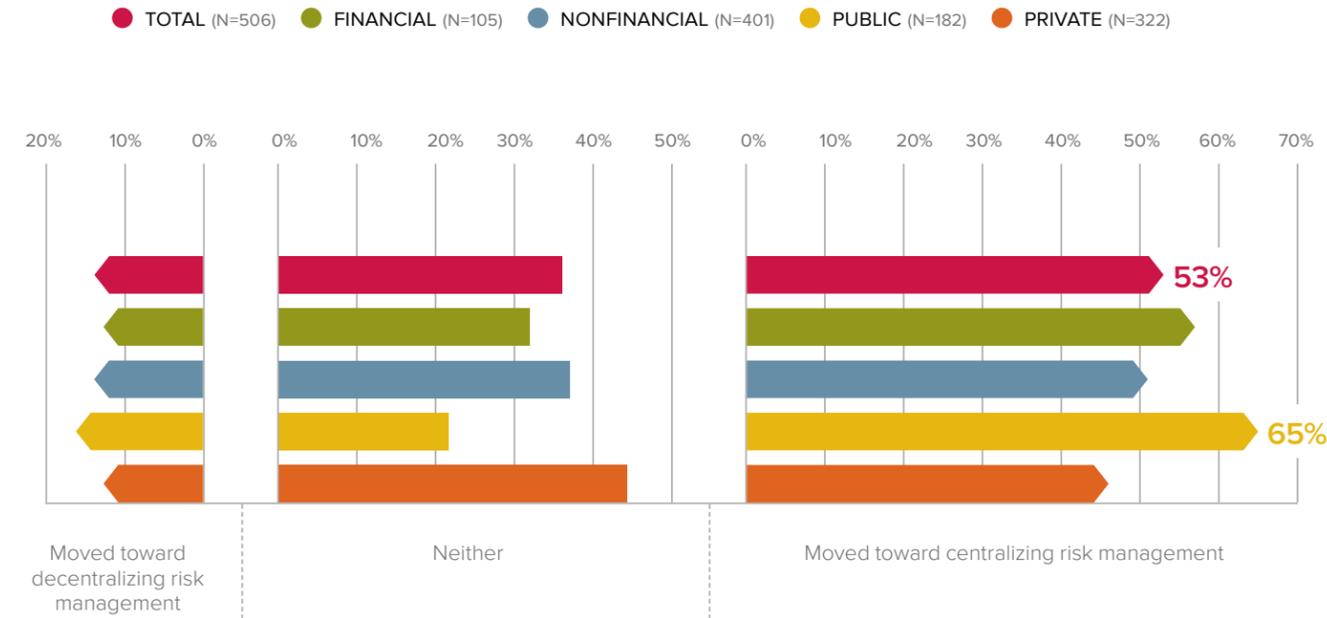
FIG. 8 Catalysts Ranked 1st for Increased Emphasis on Risk Management

	TOTAL RESPONDENTS N=332	FINANCIAL FIRMS N=84	NONFINANCIAL FIRMS N=248	PUBLIC FIRMS N=165	PRIVATE FIRMS N=165
EXTERNAL FACTORS (NET)	65%	69%	64%	66%	65%
A catastrophic incident	9	6	10	10	7
The general increase in volatility of business environment	17	10	19	14	19
Shareholder pressures	7	1	9	10	4
Regulatory requirements	28	51	19	27	29
Customer pressure	5	–	7	4	6
INTERNAL FACTORS (NET)	34%	31%	35%	33%	34%
Change in leadership	5	1	6	8	2
Recognition of risk management as a tool for growth and/or to create value	20	24	18	15	24
Availability of better risk management tools	9	6	11	10	8
Other	1	–	1	1	1

4 Organizing Risk Management

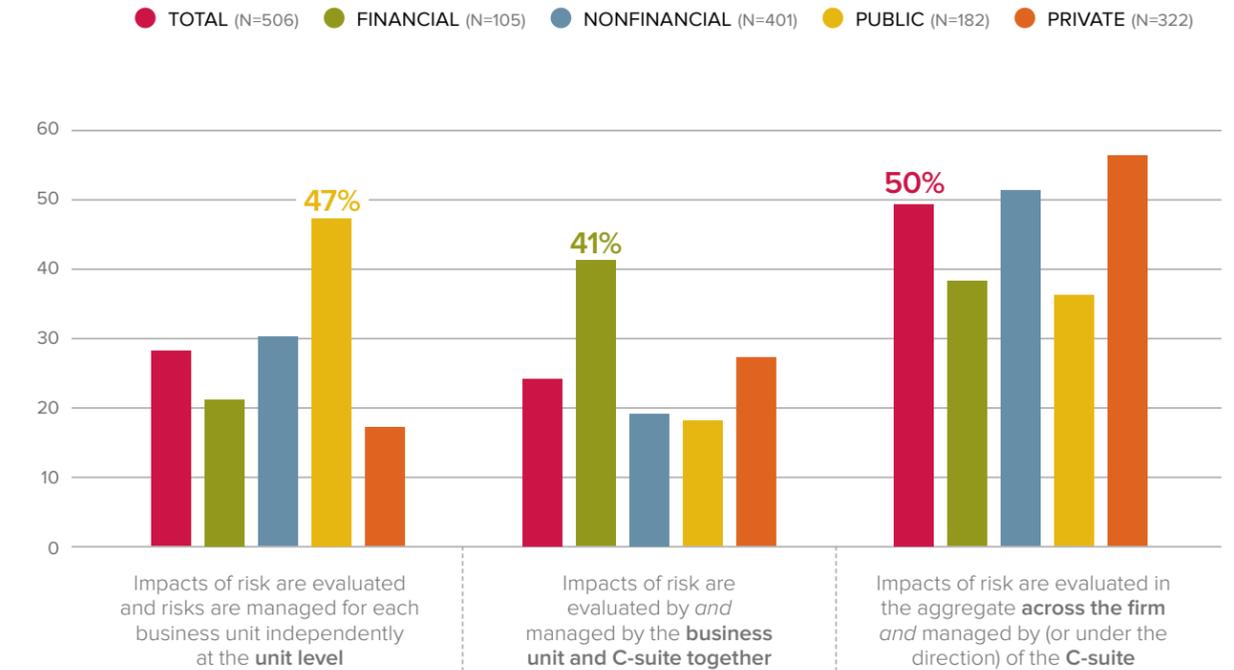
Overall, more than 50 percent of firms moved towards centralizing their risk management in 2016. Similar to last year's results, participants this year reported that 65 percent of public companies have made a decision to move toward centralization of their risk management function. Given the increasing complexity of the risks that both financial and nonfinancial firms are facing, a move toward centralization makes strategic sense.

FIG. 9 Firms Centralizing / Decentralizing Risk Management



Responses indicate that in about 50 percent of firms, the evaluation of the impacts of risks are done in the aggregate across the firm *and* managed by (or under the direction of) the C-suite, especially in private firms and nonfinancial firms. On the other hand, the impact of risk tends to be evaluated by and managed by the business unit in public firms (47 percent) and by the business unit and C-suite together in financial firms (41 percent).

FIG. 10 How Risks in Different Units are Evaluated and Managed





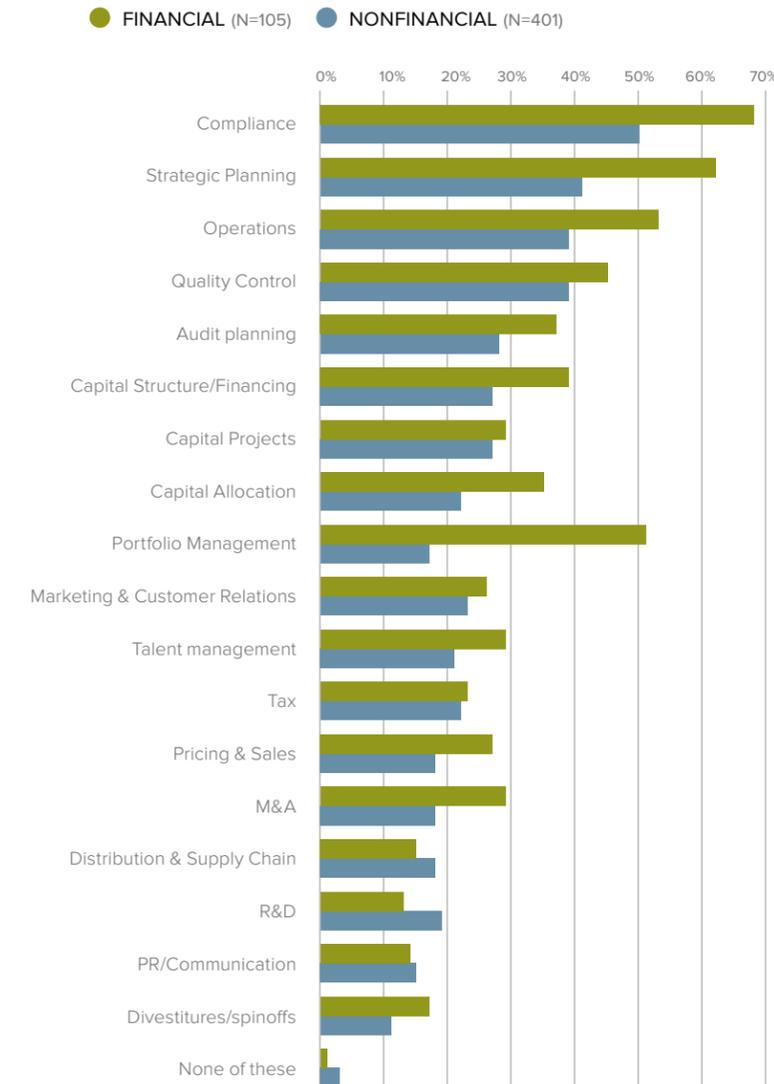
PART B:
Integration of Risk Management into Decision-Making

Survey participants were asked how risk management was integrated into various business processes.



1. Risk management influences process
2. Risk management of firm is changed by process
3. Risk management improves business process

FIG. 11 Business Processes Influenced by Firm's Risk Management

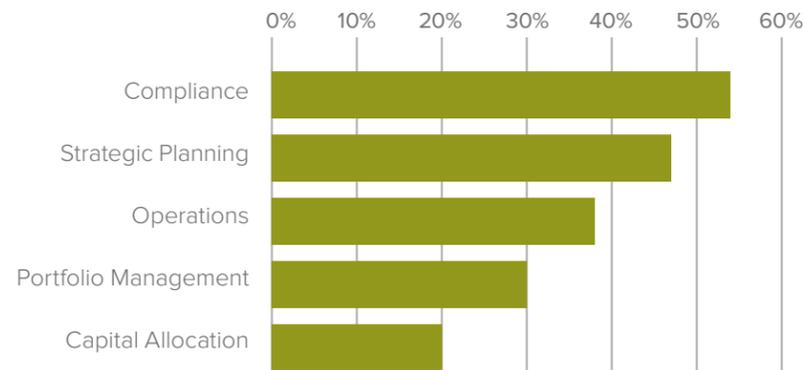


Most firms reported that the leading three business processes influenced by risk management functions are compliance, strategic planning, and operations. Also playing a prominent role were quality control and audit planning. Portfolio management has much higher risk management recognition in financial firms than in nonfinancial firms. Second tier business processes recognizing risk management differ between financial and nonfinancial firms. For example, the marketing and customer relations unit has a higher ranking within nonfinancial firms while the M&A unit has a higher ranking in financial firms.

a *Financial Firms*

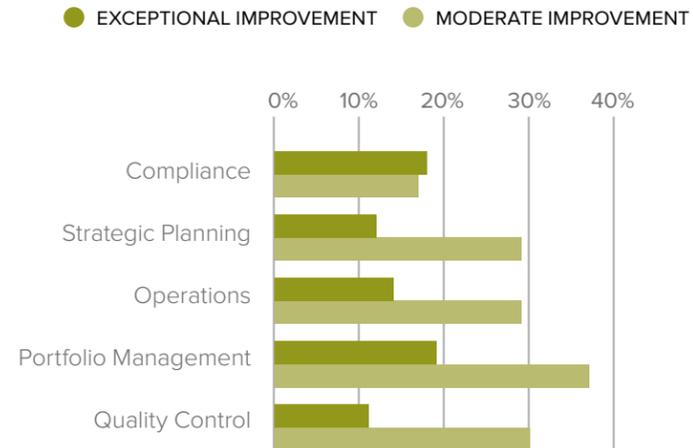
Incorporation of risks in the analysis of the business processes also changes risk management of the firm itself. In financial firms, about 50 percent identified compliance and strategic planning as the top practices where this feedback back to risk management function happens. Operations as well as portfolio management follow in effective feedback into risk management of the firm itself.

FIG. 12 Incorporation of Risks in the Analysis of the Business Process Changes Risk Management of the Firm



When survey participants were asked if integration of risk management into business process improved results, about 19 percent and 18 percent of the executives noted that they experienced exceptional improvement in the areas of portfolio management and compliance, respectively. For the top five business processes, where the risk management is integrated, as reported in Figure 11, respondents see the extent of improvement shown in Figure 13:

FIG. 13 Improvement for Functions/Processes for which Firm Integrates Risk Management



Firms also indicated that when they *integrate risk management* into business processes they are able to *improve corporate objectives*. As reported, 25 percent of financial firms saw exceptional improvement in their ability to meet regulatory, quality and compliance requirements when integrating risk management to achieving corporate objectives. **About 20 percent of the surveyed financial firms also reported exceptional improvement in avoiding operating losses or litigation; 18 percent in satisfying shareholder risk appetite; and 17 percent in protecting and enhancing the company's reputation.** Improving disclosure, which 23 percent of financial firms reported exceptional improvement in 2015, ended up dropping in ranking (to 7th place with 14 percent of respondents) this year.

FIG. 14 Impact of Integration of Risk Management on Business Processes



b Nonfinancial Firms

Within nonfinancial firms, over 30 percent of the respondents identified compliance as the top practice where incorporation of risks in the analysis of the business processes changes risk management of the firm itself. Strategic planning, operations as well as quality control follow in this feedback into risk management of the firm itself.

FIG. 15 Incorporation of Risks in the Analysis of the Business Process Change Risk Management of the Firm



Figure 16 reports the extent of improvement for these top five business processes where risk management is integrated (see Figure 11). When study participants were asked if integration of risk management into business process improved results, more than 20 percent of the executives noted that they experienced exceptional improvement in compliance, quality control, and audit planning. M&A, R&D, and marketing & customer relations are not among the top five business processes where the risk management is integrated.

FIG. 16 Improvement for Functions/Processes for which Firm Integrates Risk Management



Firms also indicated that when they *integrated risk management* into business processes they were able to *improve corporate objectives*. Similar to financial firms, nonfinancial firms reported avoiding litigation (18 percent) as having exceptional improvement. Results also indicate that an ability to meet regulatory/quality/compliance requirements, protecting and enhancing company's reputation, and avoiding operating losses stand out. **These results are consistent with most firms viewing risk management as a defensive strategy. However, these three functions have a direct impact on improving firm value, which has been shown to be of higher priority for nonfinancial firms than financial firms.**

FIG. 17 Impact of Integration of Risk Management on Business Processes





PART C: Scope of Risk Management

We asked how involved various business functions are in the following risk management processes:

- Risk Identification
- Qualitative or Quantitative Measurement
- Management of Major Risks Impacting the Firm

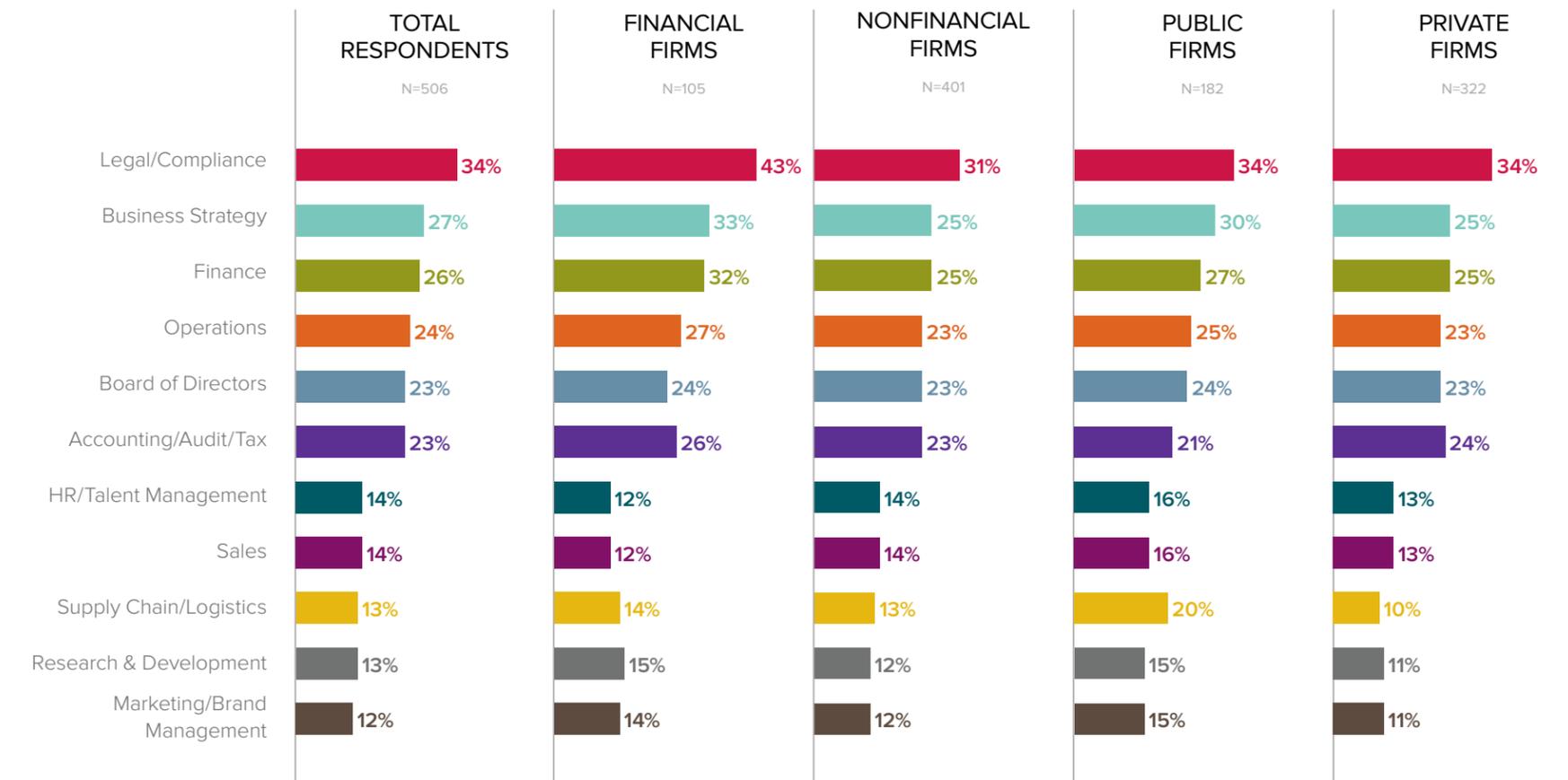
1 Risk Identification

Within Risk Identification, survey respondents reported highest involvement by the following units:

- Legal Compliance (34 percent)
- Business Strategy (27 percent)
- Finance (26 percent)
- Operations (24 percent)
- Accounting/Tax/Audit (23 percent)
- Board of Directors (23 percent)

Although percent of respondents indicating highest involvement differ for financial vs. nonfinancial firms or public vs. private firms, rankings of units in terms of being very involved in the identification of risk are similar.

FIG. 18 Functions/Units Very Involved in the Identification of Major Risks Impacting Firms



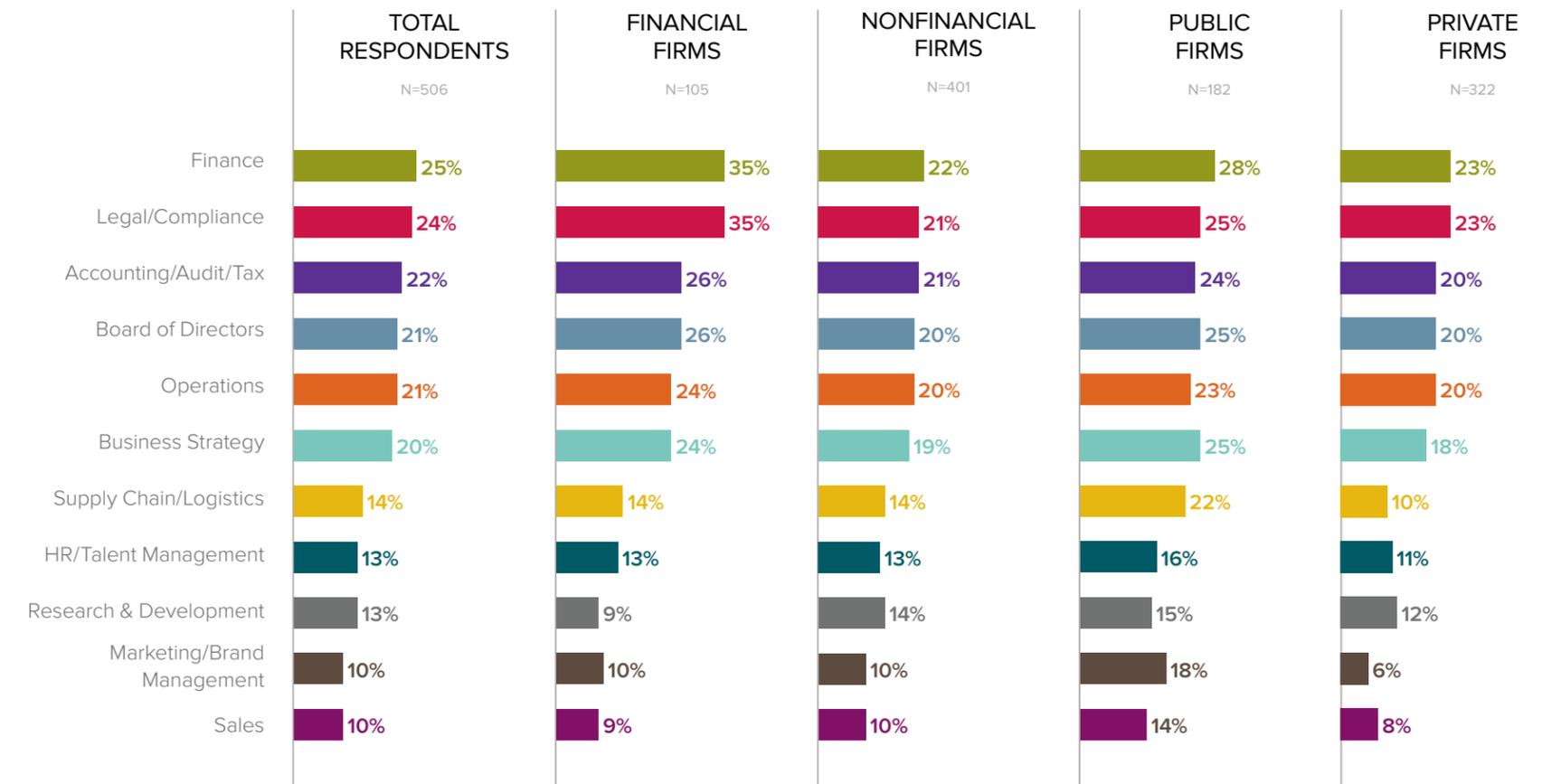
2 Qualitative or Quantitative Measurement of Risk

In both financial and nonfinancial firms as well as in both public and private firms, the following functional departments are very involved in qualitative or quantitative measurement of risk

- Finance (25 percent)
- Legal/Compliance (25 percent)
- Accounting/Audit/Tax (22 percent)
- Board of Directors and Operations (21 percent each)
- Business Strategy (20 percent)

Although percent of respondents indicating highest involvement differ for financial vs. nonfinancial firms or public vs. private firms, overall rankings of functions/units being very involved in the qualitative or quantitative measurement of risk are similar. Where we note significant response differences are in finance in financial firms compared with nonfinancial firms. Significant differences are also noted between public and private firms are noted in business strategy, supply chain/logistics, research & development, and marketing/brand management.

FIG. 19 Functions/Units Very Involved in Qualitatively and Quantitatively Measuring Major Risks Impacting Firms



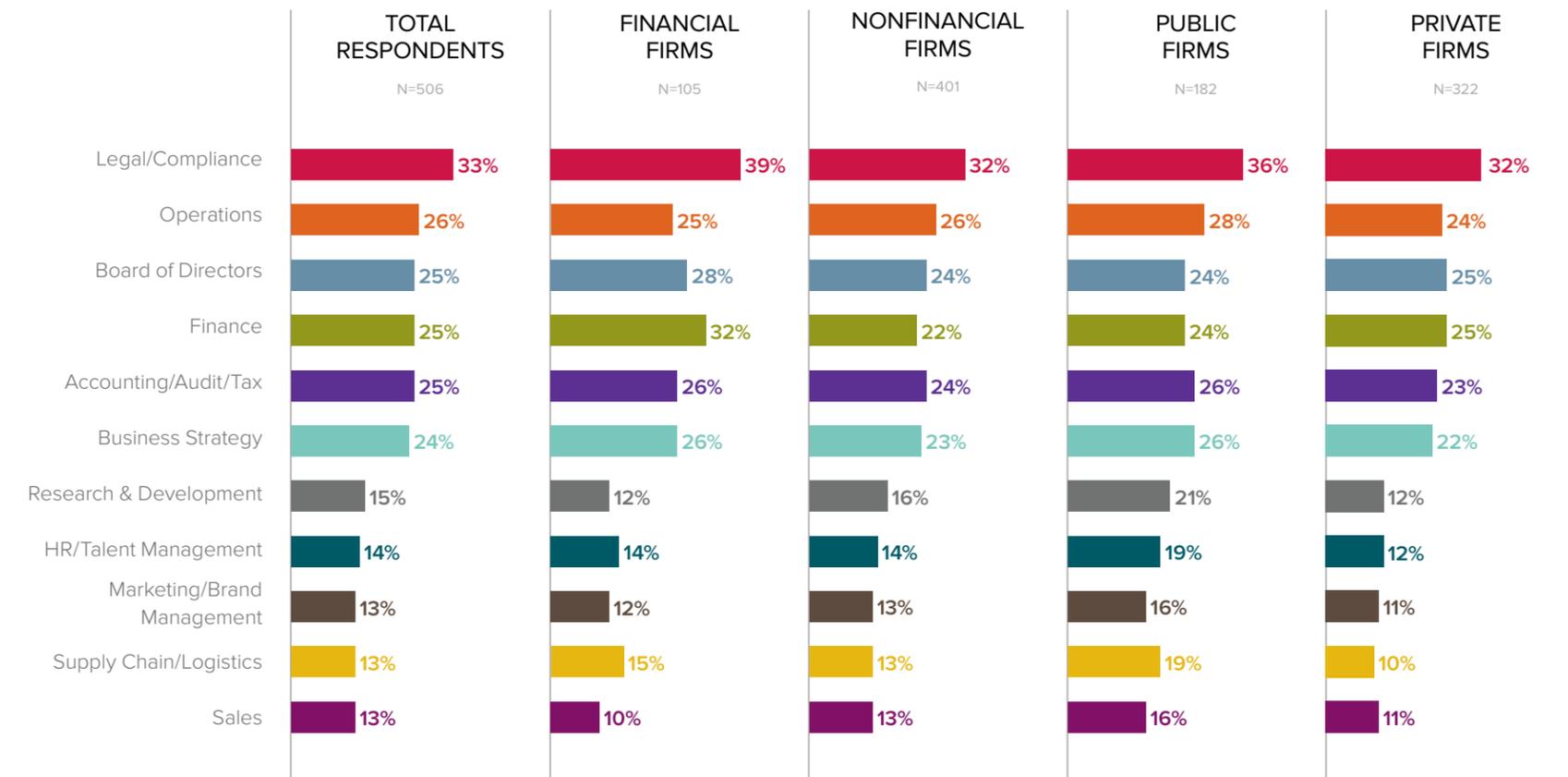
3 Management of Major Risks Impacting the Firm

All respondents reported the following key functions as being very involved in the management of the firm's major risks:

- Legal/Compliance (33 percent)
- Operations (26 percent)
- Accounting/Audit/Tax, Board of Directors, and Finance (25 percent each)
- Business Strategy (24 percent)

Although percentages of respondents indicating highest involvement differ for financial vs. nonfinancial firms or public vs. private firms, the manner in which rankings of "very involved" functional departments are similar, in terms of management of major risks impacting the firm. However, significant response differences are worth noting again for finance in financial firms compared with nonfinancial firms. Also, significant differences are noted for research & development, HR/talent management, supply chain/logistics, and sales units for public firms compared with private firms.

FIG. 20 Functions/Units Very Involved in Managing Major Risks Impacting Firms





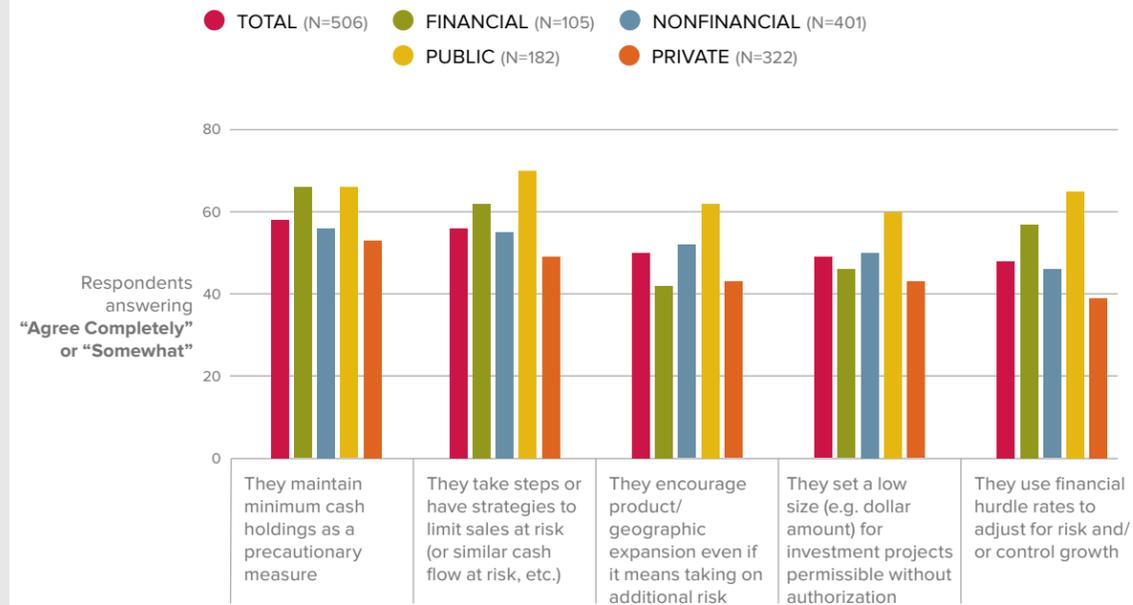
PART D: Risk Management Process

In this section, we asked the survey participants about the mechanisms in place to set the scope of risk taking within the firm.

We asked participants to think about their firm's culture and senior management's attitude towards risk and indicate how much they agree or disagree that each of the statements describing their firm's senior management.

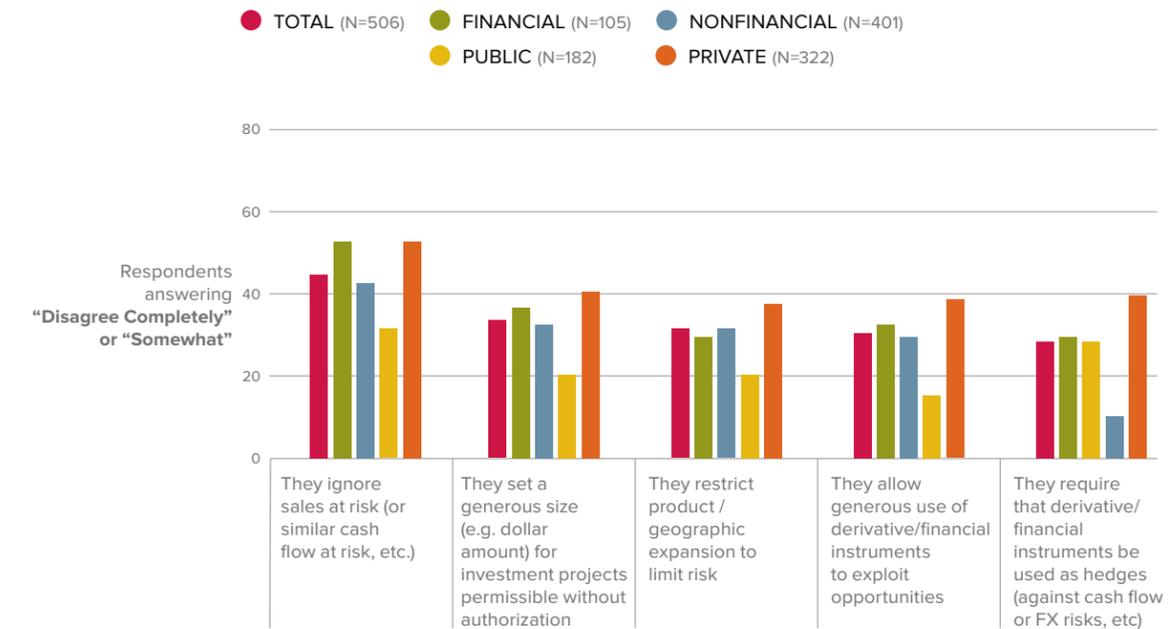
To limit risk taking by employees, management in both financial and nonfinancial firms maintain minimum cash holdings as a precautionary measure. However, it is not surprising to see that there is a significant difference between financial firms (66 percent of respondents agreeing completely) and nonfinancial firms (56 percent of respondents agreeing completely). A large fraction of firms also take extensive steps to limit sales-at-risk (or similarly cash-flow-at-risk) or restrict product/geographic expansion to limit risk. Half of all respondents agree that senior management encourages product/geographic expansion even if it means taking on additional risk. Senior management also often sets a low threshold (e.g. dollar amount) for investment projects permissible without authorization. Significantly more respondents in public firms agree with these statements than respondents in private firms.

FIG. 21 Senior Management's Attitude Towards Risk



Forty-four percent of all firms disagree that senior management ignores sales at risk. Over 30 percent of respondents also disagree that senior management sets a generous size for investment projects permissible without authorization or restrict product/geographic expansion to limit risk. Moreover, 30 percent of respondents do not agree that management allows generous use of derivative/financial instruments to exploit opportunities. These percentages are on average lower for public firms than private firms.

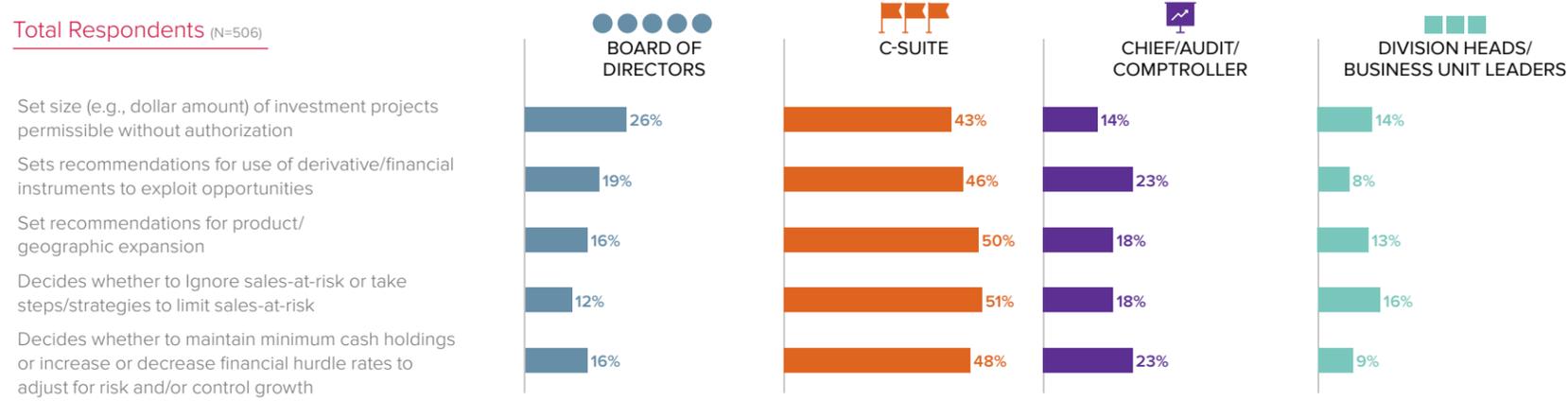
FIG. 22 Senior Management's Attitude Towards Risk



Related to firm culture and senior management's attitude towards risk, we asked participants who hold responsibility for reviewing mechanisms to set the scope of risk taking. We focused on five distinct areas for responsibility described in Figure 23:

FIG. 23 Division Responsible for Review Process

Total Respondents (N=506)



Results are similar for financial and nonfinancial firms, with the exception of nonfinancial firms having a larger board level of involvement with regards to decisions taken on strategies related to sales-at-risk and maintaining minimum cash holdings to affect financial hurdle rates.

FIG. 24 Division Responsible for Review Process

Financial Firms (N=105)

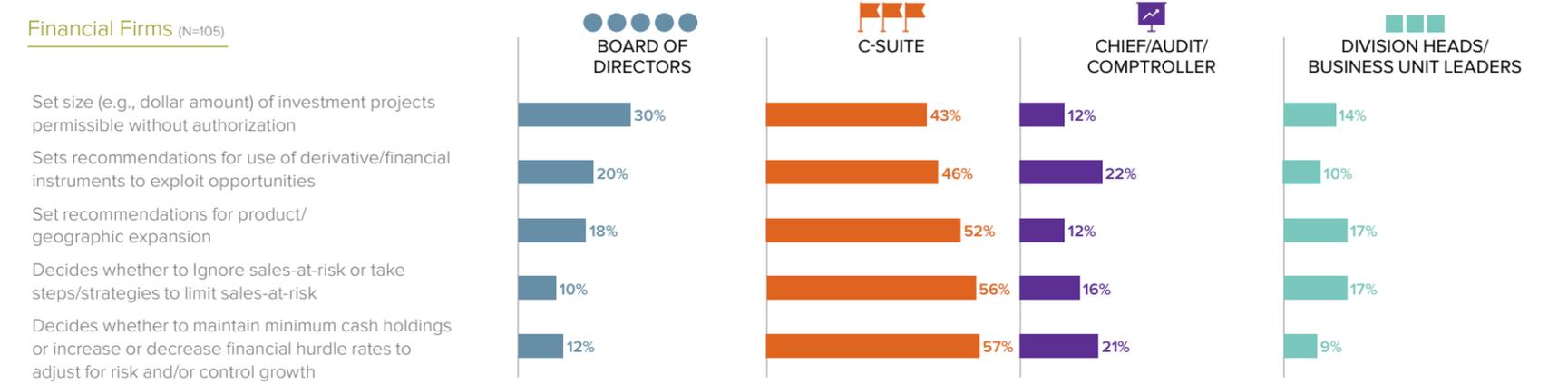
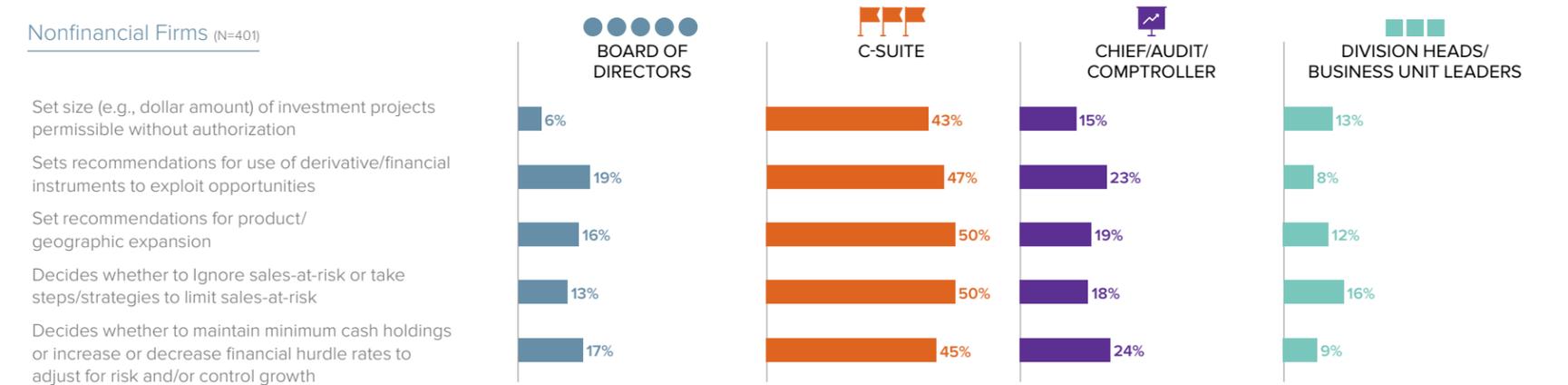


FIG. 25 Division Responsible for Review Process

Nonfinancial Firms (N=401)

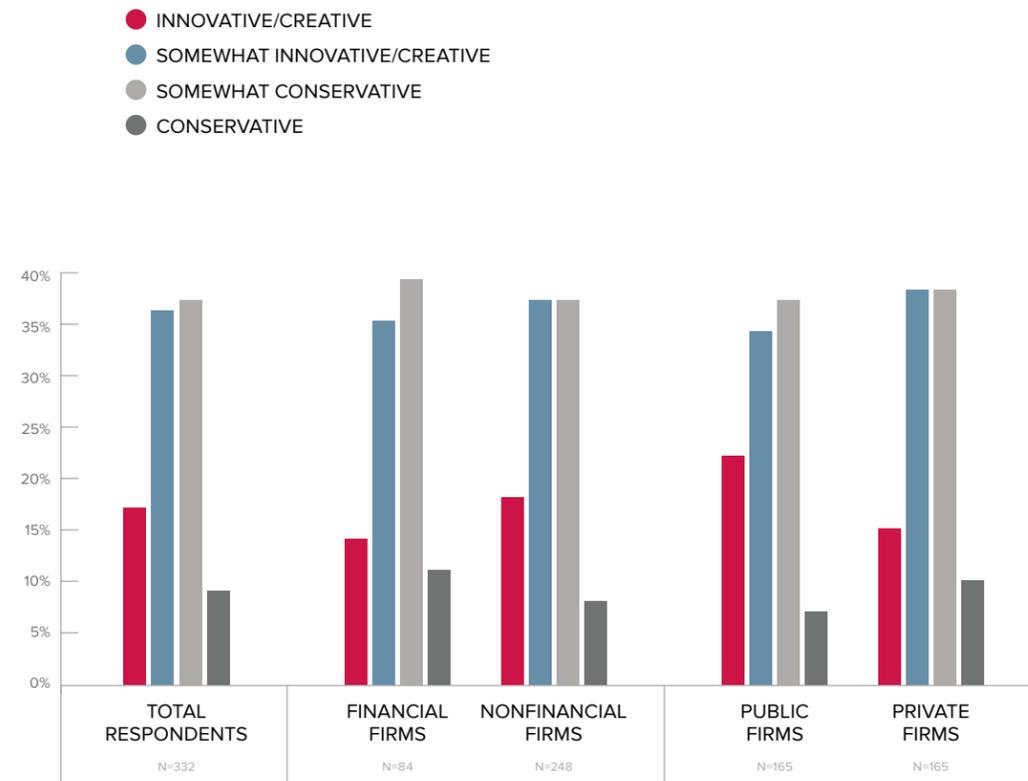




1 What Is The Company Corporate Culture?

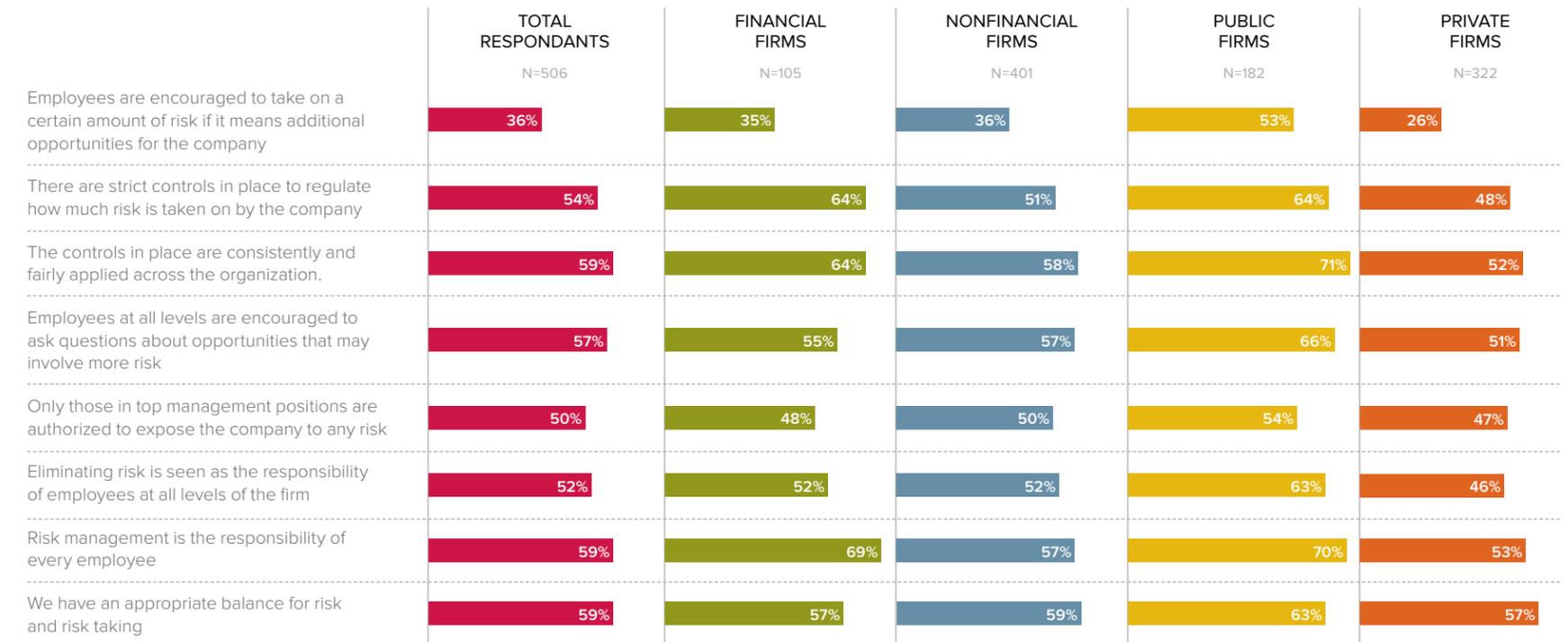
Firms, whether financial or nonfinancial, public or private, split in terms of seeing their overall risk culture being innovative/creative vs. conservative. However, it is worth noting that more than half of nonfinancial firms, public or private, see themselves as at least somewhat innovative/creative.

FIG. 26 The Company Corporate Culture



A large percentage of firms responded that the following statements describe their corporate culture completely or very well. Responses are considerably more significant for public firms than private firms likely because public firms have to disclose more to the public about their risk management culture.

FIG. 27 How Well Company Is Described By Statements – Completely or Very Well

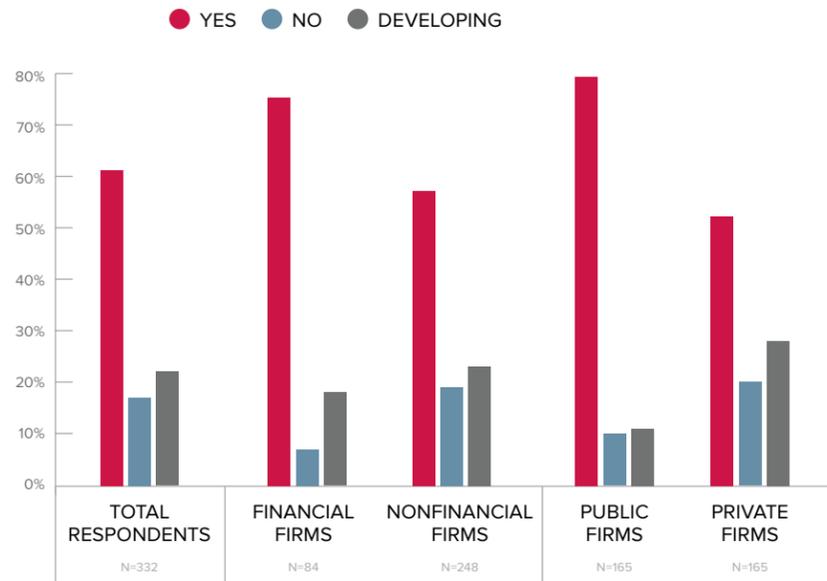


PART E: Governance and Culture

In this year's survey, we included a section on governance and culture, where we asked participants to think about the culture at their firm in general.

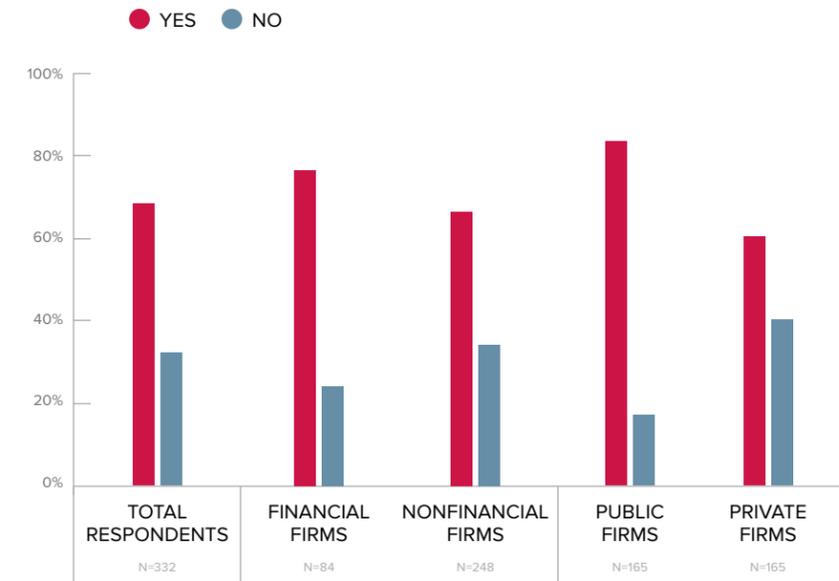
Overall, 61 percent of firms indicated that their company has a clear vision or strategy in terms of risk. This percentage increases to 75 percent in financial firms and 79 percent in public firms. It is impressive that 90-93 percent of financial or public firms have or are developing a clear vision or strategy in terms of risk for their firms.

FIG. 28 Whether Company Has Clear Vision or Strategy in Terms of Risk



About 70 percent of overall respondents report that review of risk management policies is incorporated in employee trainings, more so for financial firms (with 75 percent of participants responding yes) compared with nonfinancial firms and for public firms (with 83 percent of participants responding yes) compared with private firms.

FIG. 29 Company Incorporates Review of Risk Management Policies in Employee Trainings



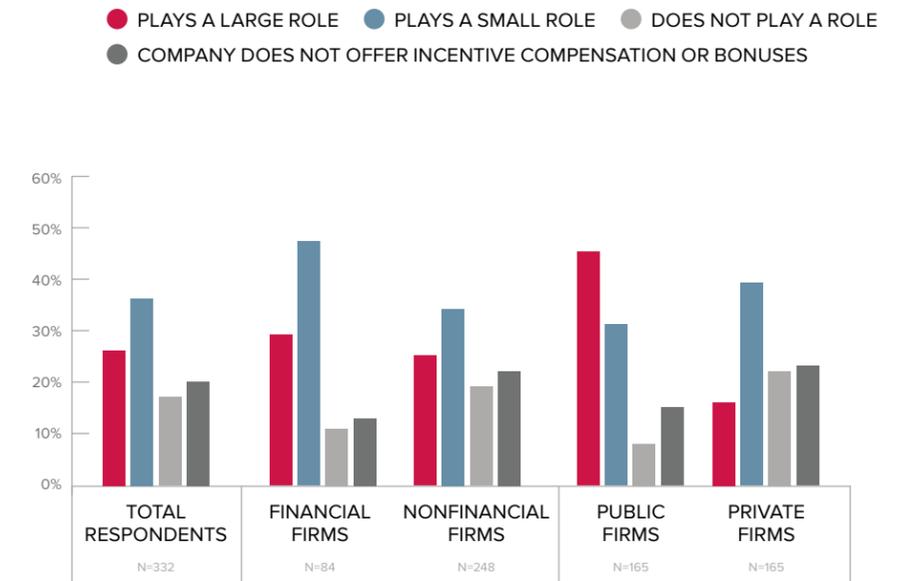
The survey indicates that, on average, over 50 percent of employees outside of the risk function *somewhat* understand the role of risk as it relates to their job function. By way of contrast, 37 percent claim that there is a complete understanding. The percentage increases to 42 percent for financial firms and 52 percent for public firms. Again, this finding could be a result of increased focus on enterprise-level risk management in financial and public firms post financial crisis.

FIG. 30 How Well Employees Understand Role of Risk as it Relates to Their Job Function



In our sample of surveyed firms, 80 percent overall (87 percent in financial firms) offer incentive compensation or bonuses to employees. The majority (62 percent) of those incentives are influenced in some way by how an employee manages risk. Again, not surprisingly, both granting incentive compensation and also incorporating risk management in these compensation packages are more common in financial firms and public firms.

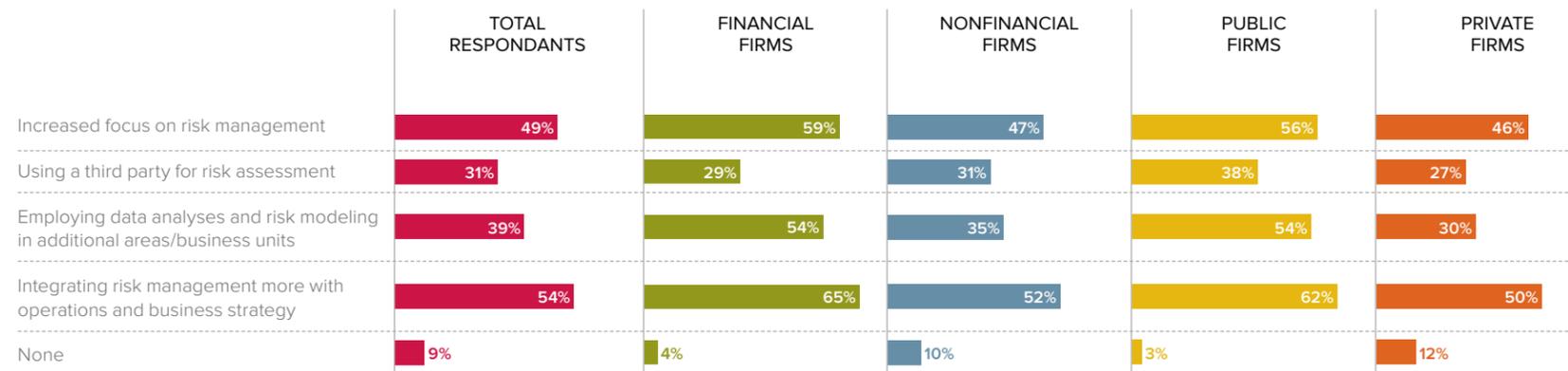
FIG. 31 Extent to which Handling of Risk Management Plays Role in Determining Incentive Compensation/Bonuses



2 Steps to Enhance Corporate Risk Culture

When asked for steps firms are taking to enhance approaches to risk management, about 50 percent of the respondents specified an **increased focus** on risk management or **integrating risk management more with operations and business strategy**, both being substantially more significant for financial firms than for nonfinancial firms.

FIG. 32 Steps Firms are Taking to Enhance Approach to Risk Management



Conclusion

The Third Annual Survey on Integrated Risk Management has continued to offer interesting observations. Given risk management’s maturation as a discipline for both financial and nonfinancial firms, 66 percent of total respondents reported having a corporate unit responsible for the function. This percentage shows a reduction from past surveys (down from 74 percent overall in 2016). Firms have also indicated a rather dramatic reduction in expected growth for the department size. In our 2016 report, 40percent of firms indicated that they expected to increase the size of the department. In 2017, only 25 percent of firms reported plans to increase the size of the department.

Uncertainty within the business community, particularly at the time the survey was completed, may have had an impact on the reported results. However, this trend is consistent with more firms (especially nonfinancial and private) outsourcing their risk management functions to independent firms. Depending upon the industry type and size of business, we have started to see a greater use of third party support within risk management functions. For example, when we look at the responses over three years to the fundamental

question, “Does the firm have a corporate unit responsible for risk management?”, public firms reported affirmative results of 84 percent (2015), 90 percent (2016) and 91 percent (2017). For private firms we see the declining trend with 92 percent, 61 percent, and 51 percent yearly from 2015 to 2017, respectively. Private firms may be exhibiting an inclination to either downsize departmental structure, or perhaps focus more attention on outsourcing the function, a topic we will examine in future surveys.

We have reported a shift in leadership responsibility for the risk management function. Our 2016 survey identified that in 21 percent of firms the Chief Risk Officer (CRO) had primary responsibility. 2017 results show a shift to the Chief Executive Officer (CEO) having responsibility in 28 percent of reporting firms. The Chief Financial Officer (CFO) and Chief Operations Officer (COO) have additionally taken leadership responsibility for the function. These results evidence further centralization of the risk management function as well as integration of financial decisions, leading to another topic of future research work.

In 2017, we asked participants to think about their individual firm's culture and leadership attitude toward risk. We developed a series of questions that sought to highlight firm culture toward risk. Overall, 61 percent of firms reporting indicated that their company had a clear vision and strategy for risk. In public and financial firms that percentage increased markedly to 79 percent and 75 percent respectively.

The role of awareness has become an area of concern and an opportunity for improvement within the risk management function. Our 2017 survey highlights that around 50 percent of a firm's employees are aware of the risk management role and how it relates to their job function. This is an area for growth and concentration within firms. Risk tends to be viewed as a reactionary and defensive strategy within firms. With proper awareness and functional education, and the continued focus on integration, risk can move from reaction and defense to a tool that creates value across the enterprise.

What is the next phase of enterprise risk management (ERM)? We have seen ERM emerge from its early stages of focus as a financial and operational approach, to a focus on compliance (likely due to the Great Recession and continued disruption). What is next for the discipline?

As presented by the Global Risk Reports 2016 and 2017*, the World Economic Forum identified five global risks with the greatest potential impact:

2016	2017
1. Failure of climate change mitigation and adaption	1. Weapons of mass destruction
2. Weapons of mass destruction	2. Extreme weather events
3. Water crises	3. Water crises
4. Large scale involuntary migration	4. Major natural disasters
5. Severe energy price shock	5. Failure of climate-change mitigation and adaptation

* <https://www.weforum.org/reports/the-global-risks-report-2017>

As firms become more global in scope and size, the common thread is that all industries are impacted by these risks. When we include the risk of cyber impact upon business and government, risk must emerge from a defensive, reactionary focus to a proactive approach that creates value for an organization. As our study indicates, risk is a continuous process, not an isolated, one-dimensional function. The ability to fully integrate risk into decision making is paramount. Likewise, the opportunity to improve awareness for employees outside of the immediate function is key to building risk management as a value proposition to an organization.

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