

Who gets the top job?

Changes in the attributes of human resource heads
and implications for the future

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is a crucial point of
intersection between
the broader society
and business.

Introduction

The human resource function matters more than its practitioners tend to think. While it lacks the glamour within the business community of fields like strategy, its actions have a profound effect on the lives of employees, who represent about one-quarter of the population. Human resources is a crucial point of intersection between the broader society and business. Trends in society, such as two-career families, play out here. Similarly, business practices that have the biggest effects on society, like downsizing, also take place through human resources. Understanding how the human resource function is changing is therefore important not only for those in the function but also for those with broader interests in business and society.

The above description suggests at the most basic level the factors that shape human resources. They obviously come from two sources: One is new developments in the way business works, which play out on employees and society through the practices of human resources. The other is developments in society, which include legislation, demographic changes, and attitudes to business, which affect business at least in part through human resources.

The 2000 decade in the US has arguably been especially volatile for human resources, beginning with the longest economic expansion in US history and ending with the worst financial downturn since the Great Depression, punctuated along the way by dramatic changes in international competition, unprecedented peacetime

security issues, concerns about pandemics, etc. Whether the recent decade has been the worst (as *Time* magazine recently proclaimed) or otherwise exceptional is for historians to debate. For our purposes, assessing it matters because it is the gateway to the future.

In the arguments that follow, we review the evidence as to how the human resources function is and will be changing in the near future. We also add to the body of evidence by documenting how the top executives in that function have been changing, an important indicator of the requirements of human resources per se and arguably the best predictor of future changes.

It goes without saying that predictions are difficult in any field. Some things about the future are easier to predict than others, of course. Predicting that the economy will eventually recover from recession, for example, is likely to be right because economies have always recovered before, and if we don't specify when it will recover or what "recovery" means, the forecast is vague enough to cover a wide range of alternatives. Forecasting phenomena where we already know the causes aren't very difficult, either. For example, knowing who will benefit from Federal economic stimulus legislation is easy to know once one sees the legislation. What is harder to do and therefore valuable is to forecast phenomena that have not been regular in the past and that are complex enough that understanding the causal relationships is not obvious. Finally, even highly accurate predictions may not be worth much for long because we adjust to them. There is an old saw in the investment world that if one had a perfect tool for forecasting future prices of stocks, it would soon fail because everyone would use it and then the future would change. In human resources, the best examples of this come in labor market forecasts. Evidence of tight labor markets in fields like IT and nursing and forecasts of future tight labor markets leads students to pour into those fields. Supply adjusts to demand, and the tight labor markets go away.

Given these caveats about forecasting, there are basically two ways to go about doing it. The first, which is the way academic-trained prognosticators do it, is to assume that the future will look a lot like the past. Statistical forecasts are in fact based on history, relations between previous outcomes and the factors that predicted them. For example, if we are trying to predict future unemployment rates, we look at the factors that we think should affect unemployment, such as the level of inventory

in the economy, and see how they relate to actual unemployment in previous periods. If the relationship is strong, we think we have a good model, and we plug in contemporary values into the relationship to see what it tells us the unemployment rate should then be.

The problem with this approach is that it is difficult to know when the structure of the underlying relationships in the model has changed. In the example above, the relationship between inventory and unemployment may be different now than in the past because of practices like "just-in-time" inventory. If so, the model that worked in the past will no longer work.

The second general approach is to rely on expert judgment. The idea here is that experts with superior knowledge about the circumstances under consideration can discern fundamental changes, or in the language of statistical models, "discontinuities" in relationships, that lead to predictions that the backward looking statistical models cannot foresee.

Within this category of expert judgment are two sub categories. The first, which is best-known, is simply to rely on professional prognosticators and their own insights to generate forecasts of the future. The second category begins by recognizing that forecasts are less than perfect and that it is important to have some sense of the range of possible outcomes. The idea here is known in statistics as "robustness," that even the best forecast may not be very accurate, so it is useful to know what the second and third best predictions are. The most common application of this approach is scenario planning, where experts identify the crucial uncertainties affecting their future and then what is likely to happen with different outcomes in those uncertainties.

There is an entire industry of “futurists,” individuals who attempt to look past the immediate future to see significant and long-term developments about business, the economy, and society more generally. Few people bother to check up on predictions after they are made and to assess the track record of futurists, so their incentives may be more to generate accounts that are interesting, possibly even dramatic, and hope that a few turn out to be shockingly correct: We remember those few and ignore the many that turned out to be wrong. In the few cases where researchers have followed up on the predictions of these experts, they turn out to be no more accurate than chance.¹

We were treated to a tsunami of dramatic predictions about the future workplace around 2000—work would disappear, everyone would become a contractor or entrepreneur, networks would replace firms, etc. But one reviewer of these predictions noted that the most reasonable and empirically-grounded predictions suggested that things in the workplace would continue more or less as they have been.²

This year the magazine *Futurist* saved readers a lot of time by assembling what they thought were the most reasonable and interesting predictions from across the prognosticating community.³ Those concerning the workplace and human resources are below:

- Wages will begin to equalize around the world, and employers will cast their nets wider, internationally, to get the best applicants. (This one is surely right because it has been underway for some time, and it is a standard implication of how markets work.)

- Older workers will delay retirement in part in response to the financial crisis. (This one has also begun to happen, although whether it will continue now that the stock market has recovered is not so obvious.)
- Professional work will become even more specialized. (This specialization phenomenon has to some extent already begun. It follows from having larger and more open markets, but it is more like a true prediction: Whether it will continue is not obvious and depends on what happens to those markets.)
- Talent shortages will hamper economic growth. (While talent shortages have never noticeably affected the economy in the US, it has happened in other countries. It is possible if job demands shift in rapid and unpredictable ways.)
- The workforce will expand in response to the recession. (This one is surely wrong as we know that all downturns—including this one—have actually reduced the workforce by discouraging marginal workers from seeking jobs.)

There are also predictions from HR practitioners about what the future will be like. At least one effort actually checked up to see how well one set of those predictions actually did. And the result was surprisingly well. The top five predictions in 1998 were:

- Collaboration will become the model for organizational culture
- HR will become more of creator of overall values and direction (overly optimistic)

¹ See, e.g., in the context of societal and political trends, Philip Tetlock. *Expert Political Judgment: How Good Is It? How Can We Know?* (Princeton University Press, 2005).

² Back to the future of work. *Stephen Overell, Personnel Today*, Sutton: Oct 4, 2005, pg. 13, 1 pgs

³ OUTLOOK 2010. *The Futurist*, Washington: Nov/Dec 2009, Vol. 43, Iss. 6; pg. S1, 9 pgs

- Family and life balance issues will become more important
- Lifelong learning will be a requirement (again optimistic)
- Pay will vary more based on the contributions of individuals rather than the job title⁴

Why did these predictions hold up well? Because they were already underway by 1998. They extrapolated developments that were already prominent when the forecasts were made. The 2008 version of the same study⁵ made predictions that again reflect trends already underway, albeit this time the focus was more on global businesses:

- Investments in social networks will expand
- Balancing local and corporate culture will be a bigger concern (presumably only for multi-national companies)
- Work will be recognized as central to social concerns (presumably especially in developing economies)
- Recruiting will have more of an optimization orientation
- Talent will be tied more closely to business strategy
- Benefits will be more tailored to individual needs

A survey of UK-based human resource practitioners made their own forecast of where the field will be in 2014, and their main conclusion is to see a diminution of “command and control” management style toward a more collaborative model with a greater emphasis on

knowledge sharing and speed.⁶ Again, this forecast is based on developments already happening and that are recognized increasingly as best practices.

A 2010 Society for Human Resources Management (SHRM) survey finds US HR executives saying that the most important competencies for their role now and in the future are 1st communication skills, 2nd strategic thinking, 3rd, HR-specific knowledge, and the last two are the personal qualities of ethics and integrity. Outside the US, strategic thinking comes first and leading change is always in them.⁷

4 Class of '98: hits and misses on HR's future *Ed.Frauenheim, Workforce Management*. Costa Mesa: Dec.15, 2008, Vol. 87, Iss. 20; pg. 22, 1 pgs

5 FUTURE VIEW. *Ed.Frauenheim, Workforce Management*. Costa Mesa: Dec.15, 2008, Vol. 87, Iss. 20; pg. 18, 4 pgs

6 Blue-sky vision? *Alison Clements, Human Resources*. London: Oct.2009. pg. 30, 3 pgs

7 What Senior HR Leaders Need to Know: Perspectives From the United States, Canada, India, the Middle East and North Africa. Alexandria, VA: SHRM. 2010

As described earlier, scenario planning is the best known approach for addressing uncertainty and more generally the accuracy around regular forecasts. It also relies on expert judgment, typically the “experts” who are actually executing the behavior that is being forecast (i.e., business leaders in generating scenarios of the future of business).

Two recent scenario planning exercises have addressed the future of human resources.

One of these, created at Oxford’s Said School of Business for PricewaterhouseCoopers (PwC), mapped out three possible scenarios for human resources in 2020 along based on two attributes: The extent to which work is organized around individuals or more collective entities and the extent to which organizations are fragmented vs. integrated.

- **An “orange world.”** Business in this scenario looks like prototypical Silicon Valley firms: Small and nimble, based on social networks across which employees move in and out. Collaboration among individuals and across organizations is common. The key responsibility for human resources in this model is to build and maintain social networks as a way to find skills and get work done.
- **A “green world.”** This is perhaps the most different vision, where capitalism is subjugated to broader social goals beyond just environmental sustainability, and employees are engaged with firms through their sense of mission. Human resources are not only sensitive to

the needs of their employees, reflected by innovative benefit programs and working arrangements, but to those of the broader society. Concerns about fairness in programs like compensation are paramount.

- **A “blue world.”** This view looks the most like contemporary business in the US. Large corporations thrive based on entrepreneurial cultures and incentives oriented to individual performance. Human resources in this model is ROI-driven, focusing on finding the best talent, getting rid of poor performers, and creating individual reward systems to drive motivation.

A second set of scenarios directed specifically at human resources was prepared for the SHRM by DSI corporation.⁸ They were generated from two similar dimensions, the first being whether talent will be scarce or abundant and the second whether businesses will continue to decentralize and fragment or recentralize their operations. While the PwC scenarios are driven by developments in business, the SHRM scenarios also incorporate what happens in the labor market. The four visions of the future they came up with are:

- **HR as casting director:** Scarce labor and decentralized firms means that the HR function is focused on finding talent, often through decentralized networks, and then bringing it to bear on projects. This is very much the way movies are made today, with virtual companies handling different aspects of production, and employees flowing back-and-forth across those companies, hence the casting director title.

⁸ 2015: Scenarios of the Future of Human Resource Management: Alexandria, VA: SHRM, 2006

- **HR as global dealmaker:** Here, the global economy is dominant, labor in the US is in surplus because of a weak domestic economy, and firms are decentralized. The main HR function in this vision is to handle challenges for multinational companies, mainly expatriate, multicultural, and distributed workforce concerns as work moves back and forth around the world.
- **HR as caregiver:** Talent is scarce in this model, and companies have moved back toward a centralized operation. In many ways, HR in this vision recreates some of the roles it held in an earlier generation, especially managing organizational culture and executing a more paternalistic relationship with employees to ensure an adequate supply of labor.
- **HR as system integrator:** Abundant talent but greater centralization of operations means that HR's attention is focused internally, on relationships with other functional areas, especially IT. The demand for HR is to help enhance productivity and performance.

structure and demands from business. A final benefit of scenarios is that they remind us about the need for responsiveness: If the future worlds are quite different and as yet unknown, it makes sense to avoid big investments in a particular path and to retain the resources to respond quickly to directions when they appear.

The most basic benefit of having scenarios is that they force us to acknowledge that we really are uncertain about what will happen in the future. More practically, when we see multiple visions of the future, we might recognize common themes among them. The scenarios above are designed in part to reflect quite different worlds, and common themes in this context are not so obvious. The focus on assessing and securing talent is a concern in many of them, however, although it is manifest in different ways based on the assumptions. All of the scenarios reflect the importance of adapting to innovations in the

What we learn from the above is that the most accurate forecasts of issues, developments, and priorities for human resources will be rooted in what is happening today. To predict changes, look at trends that are already in place and bet that they will continue. The most important trends, especially for US predictions, have to do with business requirements. Because the US has the most employer-friendly regulatory environment among developed countries and because the US workforce is both large and (compared to every other developed country) demographically balanced, pressures from government and from the labor market itself may be less important here than elsewhere.

Arguably the best way to get a sense of those pressures is to ask the players. In this case, the players would be those who give marching orders to the HR function: CEOs. The common issue in these surveys is talent management broadly defined, especially recruiting.

- A recent survey of 350 CEOs asked about the important strategic challenges they faced. The first two related to competitive threats in the marketplace, but number three was internal conflicts in their organizations around HR topics such as layoffs and pay.⁹
- A different survey of 270 CEOs in the engineering field saw their top concerns as being personnel issues in 2007 but falling to second place in 2008 behind the general economy.¹⁰
- A 2008 CEO survey by the Conference Board finds HR topics less crucial than do other surveys, but the top issues were recruiting (#6) and succession (#7).¹¹

- A survey of 500 technology company CEOs by Deloitte sees recruiting as their top concern.¹²
- PwC's most recent world-wide CEO survey finds that CEOs would change a number of people management practices and processes as a result of the economic crisis. The majority of companies surveyed (79%) are intending to increase their focus and investment on how they manage people through change, which includes redefining employees' roles in the organization. The same number (79%) want to change their strategy for managing talent. And 68% will increase their investment in leadership and talent development as a result of the crisis. The scale of these anticipated changes suggests that for whatever reason, existing people management practices did not support the business when the crisis hit.¹³
- We often hear CFOs described as being opposed to the interests of human resources, and they represent next the CEO the most influential functional area in the business world, at least in the US. An interesting survey of 1400 US-based CFO found that their number one concern for the organization was recruiting.¹⁴

⁹ Business leaders speak out: their real strategic problems. *H. Donald Hopkins, Tim Swift. The Journal of Business Strategy*. Boston: 2008. Vol. 29, Iss. 5; pg. 32.

¹⁰ Economy's Woes Are Chief Concern Among CEOs, According to New Survey. *Debra K Rubin. ENR*. New York: Nov 3-Nov 10, 2008. Vol. 261, Iss. 14; pg. 13.

¹¹ The Conference Board report is summarized in [TOP CEO CHALLENGES](#)

¹² *Anonymous*. *Electric Perspectives*. Washington: Jan/Feb 2008. Vol. 33, Iss. 1; p. 10 (2 pages)

¹³ PricewaterhouseCoopers 13th Annual Global CEO Survey 2010

¹⁴ Robert Half Management Resources; The Quest for Talent: Recruiting Remains Executives' Top Concern, Survey Shows. *Anonymous. Marketing Business Weekly*. Atlanta: Feb 11, 2008. pg. 154.

The lessons from previous predictions suggest looking at trends already underway to get the most accurate ideas about future requirements. The arguments above indicate that business demands are the most important area for trends. We suggest that the best way to learn about those demands is to look at actual behavior. The advantage of looking at what people actually do as opposed to their statements of intentions or assessments of future needs is that the latter has all the response bias problems of surveys (e.g., social desirability responses—reporting what sounds “smart” or acceptable—giving responses based on what you’ve heard from others rather than on one’s own information, etc.).

Which behavior to consider? We take a somewhat novel approach to forecasting what human resources will be like in the next decade by looking at the attributes of those individuals holding the top jobs in leading companies and how they have been changing in recent years. The idea is that attributes of individual incumbents are a very good way to look at the requirements of those jobs and how they have changed over time.¹⁵ And, as noted above, future requirements tend to reflect trends that are already well under way.

Another reason for looking at the top HR job is that it is the one over which the CEO has the most interest and is likely to reflect the CEO’s priorities and preferences for human resources. When a new person takes over that top role, the change in their attributes is quite likely to say something about the change in the priorities the CEO has for human resources going forward. Looking at how the backgrounds of these top executives have been changing

should tell us something very important about trends in how corporate leadership sees the HR function itself.

There are other interesting reasons for examining how the attributes of individuals holding the top HR position have changed, of course. The most obvious is to get some guidance about careers in that field. Several prior studies have looked at the attributes of HR executives (albeit not changes in them over time) to learn about career paths. Many of these studies are UK-based. Among the notable ones are:

A 1985 study of Fortune 500 HR heads provides some historical information as to what these positions required in the past. This study indicated that the important areas under the top HR executive were workforce planning, recruiting and selection, compensation and benefits, and training and development.¹⁶ Conclusions about getting to the top included the idea that it was important to build a record of accomplishment in the organization (as opposed to across many) and that it was useful to have direct experience in each of the functional HR areas although a planned rotational assignment in another function was also seen as useful.

A 2002 US study reported the trend that HR execs needing more business acumen, suggested that the future will require greater use of metrics (the equivalent of the CFO role for inside the HR function), greater emphasis on talent issues, and vendor management as more administrative issues are outsourced.¹⁷ A 2003 US survey noted the growing importance of field experience in HR for advancement within HR: It was more difficult

¹⁵ The alternative of looking at actual job requirements sounds good in theory, but job descriptions for these top executive jobs are rarely available in any detailed manner, and actual job duties for executive positions end up being negotiated in any case.

¹⁶ Wilhelm, W.R., Zaccaro, J. L., & Allen, S. M. 1985. Special Report: Top HR Executives Profiled. *The Personnel Administrator*, 30(12): 18.

¹⁷ Bates, S. 2002. Facing the future. *HR Magazine*, 47(7): 26.

to advance to the top jobs having only worked in the corporate HR department.¹⁸ Developing consulting skills and getting involved in projects outside the HR area was seen as the key to advancement in another report.¹⁹ The growing and wide range of legal requirements around employment was described in yet a different study as turning the HR function increasingly into a compliance role, requiring different competencies in the process.²⁰

In the UK, a 2000 study found two common paths to the top HR role, one was straight up the HR silo, and the other was to begin in HR, move to line management, and then return to headquarters to take the top HR job.²¹ A 2003 study found that the HR field was increasingly seen as a “female” area (arguably more accessible for women managers) and that women HR officials were more likely than their male counterparts to change companies as part of career advancement.²² A different survey of 1800 HR leaders found that being a generalist in the HR area was a key to advancement as was working for more different employers. General business acumen was perceived by the respondents as crucial for advancement.²³ A 2006 report based on interviews concluded that the view that HR should focus on being an “employee champion” had sharply declined, although the idea of operating at a strategic level conflicted with the demands of day-to-day employee issues. There was also a perception that the top HR executive was increasingly “parachuting” in from functions other than HR.²⁴

18 Wells, S.J. 2003. The path taken. *HR Magazine*, July 2003, 48(7): 50.

19 Stern, S. 2004. Stand out from the crowd. *Human Resources*, Mar. 2004, p. 13.

20 Salvatore, P., Weitzman, A., Halem, D. 2005. How the law changed HR. *HR Magazine*, 50(13): 47.

21 Kelly, J., & Gennard, J. 2000. Getting to the top: Career paths of personnel directors. *Human Resource Management Journal. Human Resource Management Journal*, 10 (3): 22-36.

22 Ackah, C., & Heaton, N. 2003. Human resource management careers: Different paths for men and women? *Career Management International*, 8(3), 134-142.

23 HR: Where is your career heading? Chartered Institute of Personnel and Development (CIPD) 2005 Survey report.

24 Francis, H., & Keegan, A. 2006. The changing face of HRM: in search of balance. *Human Resource Management Journal*, 16(3): 231-249.

Our own research looks at the top HR role in the 100 largest US companies in 1999, at the end of the previous decade, recording the attributes of the incumbents in those roles, and then comparing those attributes to the individuals who hold similar roles in the 100 largest companies at the end of the next decade in 2009. Limiting the study to the largest companies obviously makes generalization to smaller organizations difficult, but there are reasons for thinking that the biggest companies are disproportionately important. First, they employ more people and therefore matter more to the workforce. Second, these companies have disproportionate influence in part because they train many of the managers who go on to lead organizations elsewhere. Companies like GE, IBM, and Pepsi that serve as role models for so many other companies are all in this group. Vendors who produce the tools and techniques used by smaller companies often generate their models using large companies as their targets.

The largest companies in 1999 are not identical to the largest companies in 2009, and that provides the opportunity to make comparisons of two types of changes. The first is to see how much of the overall change in the nature of top HR executives is due to changes within the same companies—e.g, what does Pepsi appear to value now as opposed to 10 years ago? The second is to see how changes in the companies that make up the Fortune 100 impact the results: The attributes and apparent priorities associated with the top HR executive are different in growing companies that joined the top 100 in 2009 as compared to those declining companies that dropped out of the top 100.

The sample

The Fortune 100 are the 100 largest US-based companies in terms of revenues. We examine the membership of that list in two periods, 1999 and 2009. Sixty companies made the list in both periods. We refer to them as the traditional Fortune firms. The industries that gained membership were petroleum-based while those that lost members included financial services, public utilities, and airlines. The Fortune 100 were bigger in 2009 by a lot—more than twice as big in revenues and in assets, although only about 30 percent bigger in terms of the number of employees. The companies that made the list in both periods tended to be bigger, older, and more profitable than the average. (See Appendix for more details.)

As noted above, there are two sources of change in these top jobs. One is changes driven by new approaches taken in existing companies, when a company changes the nature of the person in the top job from one period to the next. The second is changes in the type of companies that are in the Fortune 100 in the two periods. Companies that became big in the 2000s were different than companies that were big in the 1990s.

When we compare the HR heads of the Fortune 100 across the decade, we capture both effects at once. When we look at only the 60 companies that were in the Fortune 100 in both periods, we see only the former effect. Comparing the two tells us something about the relative effect of having different companies in the mix: When the effects are bigger in the overall sample, then the two effects are pushing in the same direction. When the effects

in the overall sample are smaller, then the two effects are moving in opposite directions. For those interested in what individual companies will do in the future, the effects within the 60 companies may be more interesting as they reveal more about organizational change.

Data

Information about who the top HR executive is or was and about their background was obtained from a variety of sources. Company annual reports and other documents and industry indexes such as Hoovers often identify the person holding the top HR job, although in some cases we had to contact the company to find the information. Similarly, biographies of the individuals in these jobs are often publicly available. In other cases we contacted either the company or the individual to get that information.²⁵

²⁵ As one would expect in studies like these, information is less than complete about some of the more specific aspects of an individual's career. At least some of the 1999 executives are no longer alive, which makes it very difficult to collect information about them. Information is most likely to be incomplete about prior work experiences in HR and in other business areas. Conclusions about changes in those areas are therefore much more suspect. Demographic information and basic career information such as prior employers is more available and likely to offer more accurate comparisons.

Who are the HR heads?

The average head of human resources in the Fortune 100 is a 53 year old man with Bachelor's degree who spent 15 years with their current employer and about half their work life in HR roles. SVP is their title, had been VP immediately before. The most common HR experience to have had is time in the workforce development function. One in five had an overseas assignment, and almost a third had jobs that could be described as directly involved in international operations. Just under a third were hired into the top job from another company. And in 2009, the most common companies to have passed through, what we might call the "Academy" companies, were Citibank, Hallmark Dell, Pepsi and Pepsi Bottling Group, Morgan Stanley, and Verizon, in that order. GE, which is commonly thought to be the breeding ground for HR executives, had been the most common company in 2000. Thirty-six percent of the heads came to the top HR job from a different functional area, virtually always from within the same company.

What has changed over time?

Knowing who the HR heads are does not tell us anything about trends, however. Information about trends answers comes from changes in the attributes of the top HR executives over time. Those changes suggest developments trends that are likely to continue at least into the immediate future. Only four executives were in the top HR job in both periods, so there has been a great deal of change in HR leadership.

Gender

The biggest change in the make-up of the top HR officers has been in gender. Since 1999, the percentage of these top officials shifted from 27 percent women to 42 percent a decade later, an astonishing change in a corporate environment where concerns about glass ceilings that prohibit women from advancing are wide-spread.

Gender, age and degree of HR heads (Men=1; Women=0)

Year	Sample size: 100						
	Gender	Age	Degree (%)				
			Bachelor	Master	MBA	Law	Doctorate
1999	0.73	50	66.7	33.3	8.6	13.6	8.6
2009	0.58	53	77.2	39.1	17.4	6.5	7.6

Year	Sample size: 60						
	Gender	Age	Degree (%)				
			Bachelor	Master	MBA	Law	Doctorate
1999	0.70	51	57.4	29.8	6.4	10.6	10.6
2009	0.58	53	75	33.9	12.5	8.9	10.7

What we see from the decomposition in the chart is that within the 60 traditional Fortune 100 companies (those in it in 1999 and 2009), women were more likely to hold the top job in 1999 but no more so than for the population as a whole in 2009. While the proportion of women has greatly expanded, the idea that at least the top HR job has become a female occupation is at least premature as men still hold three out of every five of these jobs.

Age

What is interesting about the average age of the HR heads in 2009 is that they are actually older than in 1999. They are also older than the average top executive across all fields as observed in other studies. Further, while the average top executive has been getting younger over the past two decades, the average human resource head appears to be getting older.²⁶ Why that might be is a question we return to below. The average HR head in the traditional companies—the 60—was slightly older in 1999 and in 2009. The increase in age was about the same in both periods.

Education

Another surprising finding concerns education levels. While the percentage of top HR executives who have at least a Bachelor's degree rose as did the percentage with a Master's degree, the average years of education held by these executives actually declined somewhat because fewer Ph.Ds and lawyers held the top job, reflecting a decline of in the importance of specialist fields. The idea from previous studies that it is an advantage to have such backgrounds seems not to be reflected in these results.

²⁶ For comparisons with other executives, see Cappelli and Hamori (2005)

The changes are most interesting within the 60 traditional Fortune 100 companies and within the Bachelor's degree row. These figures represent the percentage of the top HR executives who hold a Bachelor's degree. With few exceptions, it is not possible to secure a graduate degree without a Bachelor's degree, so we can safely assume that those without a Bachelor's degree never attended or did not finish a four year college. The percentage of those individuals holding the top HR job was actually higher in 1999 in the traditional Fortune 100 companies—45.5 percent (100–54.5) as compared to 36.1 percent for the entire Fortune 100. This may reflect more promotion from within in these firms then and a greater ability to work one's way up from lower-level roles. By 2009, however, the figures were almost the same for both sets of companies.

What schools produced these top executives is also interesting. The percentage of HR heads with Ivy League undergraduate degrees declined sharply over this period, especially outside the traditional Fortune 100 companies. This is a trend we saw across all top executive jobs in earlier decades. Cornell, an Ivy-League school, has a well-known degree program in human resource-related fields. Its association with these top jobs is relatively unchanged over the period, which suggests that the decline in Ivy undergrads stems from other schools.

The institutions where degrees were earned

Institution	Sample size: 100								Sample size: 60							
	Bachelor (%)		Master (%)		Law (%)		Doctorate (%)		Bachelor (%)		Master (%)		Law (%)		Doctorate (%)	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
1	36.4	37.9	46.2	34.3	30	40	28.6	42.9	37	36.1	46.2	44.4	25	50	40	33.3
2	9.1	6.1	19.2	14.3	10	20	14.3	0	3.7	5.6	15.4	5.6	0	0	0	0
3	47.3	47	34.6	42.9	60	40	57.1	42.9	48.1	47.2	38.5	38.9	75	50	60	50
4	7.3	9.1	0	8.6	0	0	0	14.3	11.1	11.1	0	11.1	0	0	0	16.7
5	3.7	4.5	3.8	2.9	10	0	0	0	3.8	5.6	7.7	0	0	0	0	0

Note. 1. Private non-Ivy League; 2. Ivy league; 3. Public; 4. Foreign; 5. Degree from Cornell (Among available institutions in the sample)

Job title

The title that the top HR officer holds reflects something about the company’s organizational chart as well as about that executive’s position in it. There are few changes over this period, with the exception of a decline in EVP titles in the traditional Fortune 100 companies and the rise of the Chief Human Resource Officer title, which more than doubling its share of executive roles. Nothing in the titles suggests a significant change in the position or status of the HR job, however.

Top HR job titles

Sample size: 100						
Year	1	2	3	4	5	6
1999	6.4%	20.5	44.9	3.8	21.8	2.6
2009	4.4%	17.6	46.2	9.9	20.9	1.1

Sample size: 60						
Year	1	2	3	4	5	6
1999	11.1	17.8	42.2	2.2	24.4	2.2
2009	7.3	20	45.5	3.6	21.8	1.8

Note. 1: Director; Head of HR; Global Head of HR; 2. V.P.HR; Group V.P. HR; 3. S.V.P.HR; S.VP HR Worldwide; S.VP. HR Global; 4. Chief HR officer; Global HR Officer; Chief Personnel Officer; 5. E.V.P HR.; 6. S.E.V.P. HR

Work experience

Arguably the most important question about these HR leaders for the purposes of assessing the direction of the field in the future has to do with their skills and experiences and how they may be changing over time. The charts to the right find that the average years of work experience is roughly unchanged over the decade,

but the amount of that work experience that was in human resources actually rose somewhat. That increase was bigger in the broader sample than in the traditional Fortune 100 companies. The idea that corporations now want individuals in the top HR role to have broader business exposure does not appear to be borne out in this data. The fact that the proportion of HR jobs out of all jobs held is unchanged while the proportion of time in the career spent in HR has risen suggests that relative time in the non-HR roles has declined.

Years of work experience

Sample size: 100				
Year	Years of work experience	Years of HR experience	% HR experience in total work experience	% HR jobs in total jobs held
1999	27.98	14.11	0.52	0.64
2009	30.39	15.81	0.53	0.65

Sample size: 60				
Year	Years of work experience	Years of HR experience	% HR experience in total work experience	% HR jobs in total jobs held
1999	28.61	13.43	0.46	0.67
2009	30.69	13.64	0.47	0.67

Functional expertise

Another piece of information for gauging the future of the HR function is to look at the specific HR competencies and experiences these individuals had before taking on the top job. The idea here is that we might expect the

tasks that are most important to the organization—and indeed most important to the future of the organization—to become the spawning ground for new leaders.

The chart to the right describes the areas within HR where the heads of the function had worked during their careers. The big winner in 2009 is Talent management where 25 percent had experience followed closely by compensation and benefits and organizational culture. (In the traditional Fortune 100 companies, these latter two were reversed.) A broader definition of talent management that includes succession planning would put that figure much higher. The relative position of these functions was the same in both periods, however. These results reflect the arguments in the studies above that talent issues were now more important for the organization.

The biggest increases in experience were in employee surveys, arguably a proxy for “HR metrics,” which was not a widely-used term in 1999. The biggest fall-off was in the area of labor, reflecting a decline in the role of unions. The fact that the HR leaders report exposure to more areas in 2009 no doubt reflects at least in part the fact that not all organizations even had these specialty areas in earlier periods or at least identified the tasks as separate areas.

Percentage with experience in each HR area

Sample size: 100								
Year	Most important areas				Biggest change areas			
	1	2	3	4	1	2	3	4
1999	29.6	25.9	12.3	11.1	9.9	17.3	12.3	9.9
2009	42.4	33.7	23.9	7.6	23.9	12	19.6	14.1

Sample size: 60								
Year	Most important areas				Biggest change areas			
	1	2	3	4	1	2	3	4
1999	27.7	25.5	10.6	10.6	10.6	23.4	12.8	8.5
2009	41.1	28.6	26.8	7.1	21.4	16.1	17.9	19.6

Note: Most important areas: 1. Talent management (workforce, employee, and leadership development); 2. Compensation & benefits; 3. Organizational culture, organization effectiveness/Organizational development; 4. Personnel. Biggest change areas: 1. Employee survey/Employee relations; 2. Labor affairs/Labor policy/Employment law; 3. Recruiting & staffing; 4. Equal opportunity program/Global inclusion/Diversity management.

The changes within the 60 traditional Fortune 100 companies were actually greater than in the population as a whole, a surprise compared to earlier tables.

A second aspect of their work experience relates to jobs outside of HR. What were those other functions, and how have experiences in them changed over time? The most common experience area, and also one that experienced

a huge increase since 1999, was international and overseas assignments. We draw a distinction between overseas jobs, which require actually working and in most cases living in another country, and international or global business assignments, which may not. Most of the Fortune 100 companies have international operations that have expanded over this period, and it is encouraging that almost half the HR heads had either overseas or international business experience. Both rose substantially since 1999. Such experience was more common in the 60 traditional Fortune 100 companies, arguably because they may have more international operations. The other prominent experience area was in corporate affairs and communications, where almost 20 percent of the 2009 leaders spent time, again a big increase from 1999. This surely reflects the growing importance of that functional area. Nine percent had experience in production operations in 2009, which may not seem like a large figure except that none had such experience in 1999.

The fact that current HR heads seem to have experiences in more functional areas now as compared to the previous decade and, as we saw earlier, also spent a slightly greater percentage of their time in HR can be reconciled in part by the fact that they now have more total years of work experience. But as the analysis above indicates, the fact that they are spending more of their career in HR means that they moved across these non-HR roles faster in the later period. So their non-HR experience may be broader but shallower.

Experience outside HR

Year	Sample size: 100							
	Most important areas				Biggest change areas			
	1	2	3	4	1	2	3	4
1999	12.3	12.3	8.6	7.4	8.6	7.4	7.4	4.9
2009	14.1	9.8	9.8	18.5	27.2	19.6	9.8	16.3

Year	Sample size: 60							
	Most important areas				Biggest change areas			
	1	2	3	4	1	2	3	4
1999	14.9	17	8.5	6.4	10.6	10.6	2.1	6.4
2009	17.9	12.5	14.3	17.9	32.1	23.2	10.7	23.2

Note. Most important areas: 1. Customer service/Business service; 2. Marketing/Sales/Retailing; 3. Product management/Quality management; 4. Administration/Secretary/Office service. Biggest change areas: 1. International/Global business; 2. Overseas job; 3. Production/Business operation; 4. Corporate Affair; Internal communication.

Nature of the career path

Where did these HR heads come from? What was the career path that took them to these top jobs? In the charts following, the “vertical” category measures whether they came to their current role from within the HR “silo” or area while the “lateral” category captures whether they came to it from another functional area. The percentage that came from outside HR is quite low —about 20 percent— and much less than a decade

before. In other words, it used to be more common for executives to come into the top HR job from another function. The idea that companies are filling more of these positions from other functions, as some earlier reports suggest, turns out not to be true.

The attributes of these top HR jobs that arguably draws the most attention inside companies is whether they were promoted to the role from within the company or hired from outside. The data below suggest that a little more than one in three top HR executives came into their current role from another organization. That figure is about the same as a decade ago, however, so the concern that companies are more likely to go outside to fill their top HR job as some reports suggest also seems unfounded.

Coming into the top job from HR and from outside

Sample size: 100				
Year	Vertical	Lateral	External	Internal
1999	70.6%	29.4%	38.9%	61.1%
2009	78.2%	21.8%	41.1%	58.9%

Sample size: 60				
Year	Vertical	Lateral	External	Internal
1999	70%	30%	31.7%	68.3%
2009	81.8%	18.2%	30.4%	69.6%

While companies are only slightly more likely to hire the top HR executive from the outside as compared to the previous decade, they are much less likely than in the past to bring in someone from another functional area. This is a situation where the behaviors of the two types of firms in the Fortune 100 appear to be going in opposite directions: The 60 traditional Fortune 100 companies are now actually less likely to hire from the outside than a decade ago, which means that the 40 companies new to the Fortune 100 must have appointed their top HR executive disproportionately from the outside for the overall percentage across all firms to be up. But their move toward reducing lateral promotions from other functions is slightly greater than for the overall Fortune 100.

“Lifers” in the top HR job

Despite the fact that the percentage of top HR executives coming into that job from outside the company is up only slightly, the number of years in the company for the top HR executives on average is down by about two years. When we combine this finding with the earlier result that these executives are now on balance older than in 1999 and have more overall years of work experience, the explanation for declining tenure in their company cannot rest solely on this modest increase in outside hiring. At least part of the change is likely caused by hiring individuals into HR who were older and more experienced than in the previous decade and then promoting them to the top job. More of the career of the top HR leader is spent elsewhere as compared to a decade ago, which is another way of saying that when these top executives came into the company, they no doubt came in at a higher level.

Another aspect of career attachment is the percentage of these leaders who are “lifers,” having spent their entire career with their current company. That figure dropped precipitously over the decade, from 38 percent in 1999 to 28 percent in 2009.

In other words, while these companies may not be filling their top HR job from the outside at a much greater rate than a decade ago, they have been filling the pipeline that led to the top job more from the outside. Not surprisingly, the traditional Fortune 100 companies were more likely to have lifetime employees in their top HR job, but the percentage of lifers in that job has declined even faster over the decade than for the broader set of Fortune 100 firms. Similar results apply for tenure: more years in the company for the 60 traditional Fortune 100 companies but also a bigger decline over time.

More detail as to how the HR heads got into the HR field in the first place comes from the number of different positions the top HR executive held before taking their first job in the HR area. We can see from this that 45 percent of the HR heads in 2009 began their career in HR, up considerably from 1999.

How do these results square with the earlier findings that the HR heads had more experiences in other areas of business as compared to a decade ago? While they had broader experiences both in other areas of business and in HR than in the past and were more likely to change employers, the fact that these executives were more likely to begin their career in HR and then promoted to the top job within HR suggests something even more like a professional career path than we had seen a decade earlier.

“Lifers” in the top HR job

	Life-time employee	Years with the current employer	Having general manager experience	Number of other roles before entering HR										
				0	1	2	3	4	5	6	7	8	9	13
Sample: Fortune 100				0	1	2	3	4	5	6	7	8	9	13
1999	38.4	16.03	0.11	31.7	34.9	7.9	12.7	3.2	4.8	3.2	1.6	0	0	0
2009	27.8	13.61	0.13	44.2	27.9	8.1	3.5	4.7	0	5.8	2.3	1.2	1.2	1.2
Sample size: Fortune 60														
1999	48.8	18.05	0.13	33.3	38.5	10.3	5.1	5.1	5.1	2.1	0	0	0	0
2009	35.7	15.44	0.14	44.6	30.4	8.9	0	1.8	0	7.1	3.6	0	1.8	1.8

An earlier comparison

The period 1999-2009 is not very long, of course, and while those who lived through it may see it as particularly unusual, much could be said about earlier periods as well. How do the changes in the careers of the top HR executive in this period compare with earlier periods? Do they extend trends that were already under way or do they represent reversals of direction?

We can make inferences about that question by comparing these results to those from an earlier survey of top HR executives conducted in 1985. Our 2009 data came roughly two years after the worst recession since the Great Depression, but the 1985 data was taken roughly two years after what had been up until then the worst recession since the Great Depression, so there are some parallels in the business cycle context. The sampling frame in the 1985 survey was broader—the Fortune 500 companies—and the response rate was only 25 percent, raising questions of response bias in that survey. The range of attributes measured as well as the detail of the responses, particularly the distinctions within categories of experiences, is much less as well. Nevertheless, it is interesting to see how the attributes that we do have of those executives compares to the contemporary cohort.²⁷

The most obvious difference is the increase in women executives over the period: there was only one woman in the 1985 cohort. On other dimensions, the differences tend to be somewhat modest and often the opposite from what we might expect. The average top HR executive in the 1985, for example, was actually younger than in 2009—50 years—and also better educated: 19 percent

had law degrees, 13 percent Ph.D's, and 55 percent Master's degrees. That fact that these roles are now filled by older individuals during a time period when top executives across the board became about four years younger is quite striking. In terms of age and education, the 1985 cohort looks more like our 1999 executives than those from 2009.

In terms of tenure, the 1985 cohort had about 26 years of work experience and 15 years experience with their current employer. These figures are somewhat less than in 1999 but more than in 2009. We tend to think of factors that reduce tenure like job hopping and outside hiring as recent trends, but they apparently are on balance not much different in the more recent period than in 1985. The fact that tenure actually grew in these jobs between 1985 and 1999 runs counter to what we saw for executives in other fields.

More of the 1985 cohort began their career in HR—55 percent—which makes them much more like the 2009 than the 1999 cohort. To the extent that there appeared to be a trend from 1999 to 2009 toward a more “professional” career path that began in HR and led to the top job, that trend seems to represent not something new but a return to what we saw a generation ago.

In terms of experience outside HR in 1985, some of it looks similar to what we see now: Almost exactly the same percentage had experience in finance and marketing in 1985 as in 2009. One striking difference, however, is that almost a quarter reported having general management experience associated with line

²⁷ Warren H. Wilhelm, Joseph L. Zaccaro, and Susan M. Allen. 1985. Top HR Executives Profiled. *Personnel Administrator*: 18-20.

management in 1985. It was half that level by 1999 and then in 2009. Another big difference is that 72 percent in the 1985 group reported having experience in labor relations, down to just under nine percent in 2009 and a consistent trend over time that tracks the declining role of unions.

Overall, what most is surprising about the comparison from 1985 is first the fact that the HR executives from a generation ago do not look all that different from those in the roles today and more different from those in 1999. We might have expected more job hopping and outside hiring as well as more moves into the HR role from other fields over time, but the data do not support that view. The fact that the current cohort is actually older, especially when the trend for other executives is in the opposite direction, is hard to explain. One interpretation, which draws on the trend toward more internal HR careers since 1999, is that HR may have become more “siloesd” over time: Promotions come more from within the function, which has itself grown older. That can happen either because older employees stay around longer or because fewer young workers enter. The fact that contemporary HR executives have fewer graduate degrees seems to reflect the declining influence of specialist fields like labor and employment law and personnel psychology.

Overall conclusions

Perhaps the most general conclusion from the results above is that changes in the HR function have been much more modest than the observations from consultants and prognosticators suggest. Change in the gender composition of HR leaders has truly been dramatic as has the continued decline of lifetime careers with the same employer, both trends that have been underway for some time. The rise of international and global work experiences (growing international economy) and the shift to greater experience in topics like talent management (more open labor markets) are important developments, but they reflect changes that have been underway in the economy for some time.

Other changes, while modest, seem to run counter to popular views, especially the fact that HR executives are more likely to be promoted from within the HR silo and have narrower experience outside HR. The finding that HR career paths appear to have become more siloed may be the most unanticipated. The reason this is a surprise may have more to do with the hopes and expectations of HR observers, who on average want the function to play a more central role in overall business decisions and therefore expect that HR executives will need broader business exposure to do so. The perception that more HR leaders are coming from outside the function reflects this belief that HR jobs should require more business expertise.

A different interpretation, however, is that the demand for HR to play this bigger role is not there. CEOs either may not see the possibility for that role or may not want it in their operations. And the extent to which the HR community itself encourages the view of itself as a

“profession” governed by its own standards and rules, conflicts with the notion that HR should be a player in business decisions.

The fact that the 2000s were a decade of economic stagnation, bracketed by two recessions, may well have stalled change in the HR function as the comparisons with the 1985 study suggest. There appeared to be more change through the 1990s when the red-hot labor market brought strong HR challenges to business and demanded more change from HR and its leaders. In the stagnant 2000s, when the labor market presented fewer problems, HR fell back into a more traditional role, as did its leaders.

A more sanguine conclusion is that perhaps HR leaders do not need experience outside of HR to play an important role in business decisions because understanding of such decisions is now so much more widespread. Even a decade ago, the idea that one should consider operational decisions based on their return on investment was novel: Now it is commonplace. For better or worse, the top HR role appears to have become more of an internal affair.

Appendix

Comparison of industries of Fortune 100 companies in 1999 and 2009

	Industry	2009		1999	
		Frequency	%	Frequency	%
1	Petroleum Refining	9	9	5	5
2	Mining, Crude-Oil Production	1	1		
3	Pipelines	2	2		
4	Motor Vehicles and Parts	3	3	2	2
5	Metals	1	1	1	1
6	Aerospace and Defense	6	6	5	5
7	Chemicals	2	2	2	2
8	Tobacco	1	1	1	1
9	Miscellaneous (Mining and manufacturing)	1	1		
10	Forest and Paper Products	1	1	1	1
11	Computers, Office Equipment	3	3	5	5
12	Household and Personal Products	1	1	1	1
13	Food Production	2	2	2	2
14	Pharmaceuticals	3	3	3	3
15	Beverages	1	1	1	1
16	Food Consumer Products	2	2	3	3
17	Electronics, Electrical Equipment	1	1		
18	Network and Other Communications Equipment	2	2	1	1
19	Semiconductors and Other Electronic Components	1	1	1	1
20	Construction and Farm Machinery	2	2	1	1
21	Telecommunications	4	4	9	9
22	Mail, Package, and Freight Delivery	2	2	2	2
23	Information Technology Services	1	1	1	1
24	General Merchandisers	4	4	7	7
25	Specialty Retailers	4	4	2	2
26	Food and Drug Stores	6	6	6	6

Comparison of industries of Fortune 100 companies
in 1999 and 2009 (continued)

	Industry	2009		1999	
		Frequency	%	Frequency	%
27	Diversified Financials	1	1	3	3
28	Commercial Banks	8	8	9	9
29	Entertainment	3	3	1	1
30	Insurance: Property and Casualty (stock)	4	4	3	3
31	Insurance: Property and Casualty (mutual)	1	1	1	1
32	Insurance: Life, Health (stock)	2	2	2	2
33	Insurance: Life, Health (mutual)	2	2	2	2
34	Wholesalers: Health Care	3	3	2	2
35	Health Care: Insurance and Managed Care	4	4	3	3
36	Health Care: Pharmacy and Other Services	1	1	1	1
37	Health Care: Medical Facilities	1	1	1	1
38	Wholesalers: Food and Grocery	2	2	1	1
39	Wholesalers: Electronics and Office Equipment	1	1		
40	Computer Software	1	1		
41	Airlines			2	2
42	Automotive Retailing, Services			1	1
43	Securities			1	1
44	Utilities: Gas and Electric			3	3
45	Investment Brokerage - National			1	1
46	Oil and Gas Equipment, Services			1	1
Total		100	100	100	100

Comparison of characteristics of Fortune 100 companies in 1999 and 2009 (t-test)

	Year	N	Mean	Std. Deviation	t value	p
Revenues (in millions)	1999	100	31738.56	26083.09	-4.79	0.00
	2009	100	65842.18	66201.23		
Profits (in millions)	1999	100	1964.84	2819.34	-0.48	n.s
	2009	100	2385.72	8285.68		
Assets (in millions)	1999	100	86035.92	128357.64	-2.03	0.04
	2009	100	166445.54	374202.94		
Number of employees	1999	100	109547	121308.39	-1.15	n.s
	2009	100	138635	222924.82		
Company Age	1999	100	75.70	47.46	-1.26	n.s.
	2009	100	84.72	53.33		

Companies in both the 1999 and the 2009 Fortune 100 lists

Aetna	CVS	International Paper	Safeway
Alcoa	Dell	Intl. Business Machines	Sprint
Allstate	Dow Chemical	J.P. Morgan	State Farm Insurance Cos
American Express	DuPont	Johnson & Johnson	Supervalu
Archer Daniels Midland	Exxon Mobil	Kroger	Sysco
AT&T	Federated Dept. Stores	Lockheed Martin	Target
Bank of America Corp.	FedEx	Marathon Oil	TIAA-CREF
Boeing	Ford Motor	McKesson	United Parcel Service
Cardinal Health	General Electric	MetLife	United Technologies
Caterpillar	General Motors	Morgan Stanley	UnitedHealth Group
ChevronTexaco	Hewlett-Packard	Motorola	Verizon Communications
Citigroup	Home Depot	New York Life Insurance	Wal-Mart Stores
Coca-Cola	Honeywell Intl.	PepsiCo	Walgreen
Columbia/HCA Healthcare	Ingram Micro	Procter & Gamble	Walt Disney
Costco Wholesale	Intel	Prudential Ins. Co. of America	Wells Fargo

Characteristics of companies in both the 1999 and the 2009 Fortune 100 list

	N	Minimum	Maximum	Mean	Std. Deviation
Revenues (in millions)	60	24829.00	442851.00	79026.07	77774.26
Profits (in millions)	60	-30860.00	45220.00	2748.49	9840.83
Assets (in millions)	60	7083.50	2175052.00	228262.40	460260.90
Number of Employees	60	7500	2100000	182305.10	274134.90
Company Age (as of 2009)	60	2.00	210.00	95.15	53.10

Companies of changes between 1999 and 2009 (Paired t-test)

	Year	N	Mean	Std. Deviation	t value	p
Revenues (in millions)	1999	60	35976.27	32259.31	-5.45	0.00
	2009	60	79026.07	77774.26		
Profits (in millions)	1999	60	2327.72	3288.54	-0.32	n.s
	2009	60	2748.49	9840.83		
Assets (in millions)	1999	60	87947.20	137209.39	-3.07	0.003
	2009	60	228262.40	460260.87		
Number of employees	1999	60	121697	144201.78	-2.68	0.01
	2009	60	182305	274134.86		

Industries in which the companies are operating

	Industry	Frequency	Percent
1	Petroleum Refining	3	5.00
4	Motor Vehicles and Parts	2	3.33
5	Metals	1	1.67
6	Aerospace and Defense	4	6.67
7	Chemicals	2	3.33
10	Forest and Paper Products	1	1.67
11	Computers, Office Equipment	2	3.33
12	Household and Personal Products	1	1.67
13	Food Production	1	1.67
14	Pharmaceuticals	1	1.67
15	Beverages	1	1.67
16	Food Consumer Products	1	1.67
18	Network and Other Communications Equipment	1	1.67
19	Semiconductors and Other Electronic Components	1	1.67
20	Construction and Farm Machinery	1	1.67
21	Telecommunications	3	5.00
22	Mail, Package, and Freight Delivery	2	3.33
23	Information Technology Services	1	1.67
24	General Merchandisers	3	5.00
25	Specialty Retailers	2	3.33
26	Food and Drug Stores	5	8.33
27	Diversified Financials	1	1.67
28	Commercial Banks	6	10.00
29	Entertainment	1	1.67
30	Insurance: Property and Casualty (stock)	1	1.67
31	Insurance: Property and Casualty (mutual)	1	1.67
32	Insurance: Life, Health (stock)	2	3.33
33	Insurance: Life, Health (mutual)	2	3.33
34	Wholesalers: Health Care	2	3.33
35	Health Care: Insurance and Managed Care	2	3.33
37	Health Care: Medical Facilities	1	1.67
38	Wholesalers: Food and Grocery	1	1.67
39	Wholesalers: Electronics and Office Equipment	1	1.67
	Total	60	100

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