

Wharton

Financial
Institutions
Center

*Management Jobs in the Insurance
Industry: Organizational Deskilling
and Rising Pay Inequality*

by
Elizabeth D. Scott
K.C. O'Shaughnessy
Peter Cappelli

94-28

THE WHARTON FINANCIAL INSTITUTIONS CENTER

The Wharton Financial Institutions Center provides a multi-disciplinary research approach to the problems and opportunities facing the financial services industry in its search for competitive excellence. The Center's research focuses on the issues related to managing risk at the firm level as well as ways to improve productivity and performance.

The Center fosters the development of a community of faculty, visiting scholars and Ph.D. candidates whose research interests complement and support the mission of the Center. The Center works closely with industry executives and practitioners to ensure that its research is informed by the operating realities and competitive demands facing industry participants as they pursue competitive excellence.

Copies of the working papers summarized here are available from the Center. If you would like to learn more about the Center or become a member of our research community, please let us know of your interest.

Anthony M. Santomero
Director

*The Working Paper Series is made possible by a generous
grant from the Alfred P. Sloan Foundation*

Management Jobs in the Insurance Industry:
Organizational Deskilling and Rising Pay Inequality ¹

October 1994

forthcoming in

Paul Osterman (ed.). *White Collar Labor Markets*
(New York: Oxford University Press)

Abstract: The attention of both the research community and the popular press has begun to shift from a traditional focus on production jobs and toward management positions in part because of a perception that a fundamental change is underway in the management ranks. Unlike the temporary layoffs of production workers that were historically driven by business cycles, the changes in management job security seem to be permanent and, in large measure, driven by development inside the firm. The most important of these forces appear to be changes in the structure of management and in the organization of work processes.

The authors use a unique set of data to examine the structure of management jobs among a sample of companies and observe how those jobs have changed over time. They examine changes in the skill requirements of jobs by functional area and by level in the organization, changes in the "shape" of the organization chart - the distribution of employees across management job titles - and changes in compensation for these jobs. The data were obtained from Hay Associates, and it included the internal organization of management jobs for 11 life insurance companies. The authors see a sharp expansion in the proportion of line workers, absolute declines in the number of top management positions, and only modest growth in the number of middle managers and supervisors. As a result the organization chart has changed dramatically in these companies, becoming considerably flatter. The "span of control" has increased for every level of the organization and especially for first level management.

If the widening of the supervisory span of control resulted from taking decision making and responsibility from supervisors and pushing it down to line workers, it does not seem to have increased the average skill requirements of the exempt line workers. Skill requirements for the other levels rose over the period, especially for top management positions. Overall, the average level of skill in the sample fell substantially between 1986 and 1992 (even though skills rose in two of the four levels) because of a sharp shift in the distribution of employment away from management and toward line positions.

¹Elizabeth D. Scott, K.C. O'Shaughnessy and Peter Cappelli are Ph.D. candidates and Professor of Management, respectively, at the Wharton School of the University of Pennsylvania. This research is supported by a grant from the Alfred P. Sloan Foundation to the Financial Institutions Center at the Wharton School for a study of the financial services industry. Thanks to Steve Gross and Hay Associates for the use of the data analyzed in this study. Thanks also to Frank Levy and Richard J. Murnane for their comments on an earlier draft of this paper.

Introduction

The attention of both the research community and the popular press has begun to shift from a traditional focus on production jobs and toward management positions in part because of a perception that fundamental change is underway in the management ranks. Perhaps the most examined issue has been the reduction in job security experienced by managers (Cappelli, 1992). Unlike the temporary layoffs of production workers that were historically driven by business cycles, the changes in management job security seem to be permanent and, in large measure, driven by developments inside the firm (see Pfeffer and Baron, 1988). The most important of these forces appear to be changes in the structure of management and in the organization of work processes.

We use a unique set of data to examine the structure of management jobs among a sample of companies and observe how those jobs have changed over time. In particular, we examine changes in the skill requirements of jobs by functional area and by level in the organization, changes in the “shape” of the organizational chart -- the distribution of employees across management job titles -- and changes in compensation for these jobs. That is, are managers becoming more or less skilled, are hierarchies becoming steeper or flatter, and is compensation becoming more or less equal within companies? The results present one of the first systematic attempts to examine how management job structures are changing in the U.S. economy. They suggest growing inequality in skills and compensation and widening spans of control in the management ranks. A final question addressed is whether these changes have an effect on overall company performance.

The Insurance Industry

Studies of the structure of jobs in the U.S. have tended to focus on manufacturing, perhaps because it has historically been seen as central to the economy, especially its effects on business cycles, and because of the volatility of employment in it. The financial services industry represents the other end of the spectrum with respect to volatility, though it is also an important part of the U.S. economy.¹ One of the most important aspects of financial services for the purposes of this study, however, is that a disproportionate number of its jobs are white-collar. Nationally, 18.9 percent of all workers in the private sector held supervisory jobs while 27.5 percent of workers in the financial services sector fell in this category (U.S. Department of Labor, 1992). Employees in financial services, therefore, were more typically managers, were higher-paid, and had greater job security, typically in organizations with extensive management hierarchies and elaborate systems of progression.

¹It has traditionally been the highest-paid industry in the U.S. (current fourth highest; U.S. Department of Labor, 1992) and has seemed to be virtually recession-proof with respect to job security, at least when compared to other industries. For example, when national unemployment rates were 7.2% in 1985 and 7.4% in 1992, they were 3.5% and 4.5% respectively for the financial services industry, and 2.6% and 3.8% respectively for financial services managers (U.S. Department of Commerce, 1993). Employment has grown steadily over the past decades with only a slight drop between 1990 and 1992 (from 6,729,000 employees back to 6,672,000). About seven percent of the U.S. workforce is in financial services which includes finance, insurance, and real estate. Together these services account for about 17 percent of the gross national product in the U.S. (U. S. Department of Commerce, 1993; U.S. Department of Labor, 1992).

Within financial services, we are focusing on the life insurance industry which has been a very stable segment of financial services and has a higher proportion of supervisory employees. The percent of employees in supervisory positions in the life insurance industry is extraordinarily high and has declined only gradually since 1966 (from 42 percent to 40 percent over a 15 year period) (U.S. Department of Labor, 1992). This is slightly different from the financial industry which experienced an increase in percentage of supervisory employees over the same period, but the financial industry as a whole started out with a much smaller percentage of supervisory employees (20 percent in 1966) and ended twelve percentage points less than the life insurance segment of the industry (28 percent in 1989) (U.S. Department of Labor, 1990). What this suggests is that managers in the insurance industry have always had a smaller span of control than their counterparts in other areas of financial services such as banking. One reason why life insurance companies are an interesting industry in which to examine management jobs is because such an exceptionally large proportion of all its jobs are in management.

Another fact that makes the insurance industry interesting is that, unlike the savings and loan industry and, to a lesser extent, banking and investments, the life insurance industry has not been rocked by changes in regulation or by developments in foreign markets; nor has it experienced the boom and bust cycles that real estate has experienced. One reason to look at insurance for a study of management jobs, then, is because it has experienced relatively few unique shocks from the outside environment: The changes in management jobs here have therefore been driven largely by changes within the companies themselves. These developments are likely to translate well to other industries regardless of their market circumstances.

Managers in the insurance industry have been concerned with developments that also concern managers in other industries. Aging populations, increases in divorce rates, increases in dual income families, and other similar national phenomena have affected both the products and the employment practices of life insurance companies (*National Underwriter*, 1987). Changes in technology and its acceptance have seen an increase in Local Area Networks (LANs), voice-mail, imaging systems, and electronic data transfer in the insurance industry just as it has happened in other industries (*National Underwriter*, 1993). New theories about management have swept the insurance industry as broadly as they have other industries, with advice on Total Quality Management and reengineering being abundant in the industry publications (Hall, 1992; Knowles, 1990; Scites, 1993; Rohm, 1993; Bucker, 1992; Helldorfer and Daly, 1993).

As in the rest of the economy, managers in the insurance industry are facing an increase in competition, customers who are more sensitive to price and quality issues, shorter time horizons for investors, and market segmentation (Brooks, 1987; McClure, 1992; *National Underwriter*, 1987). As a result, managers who once had only a few products aimed at a mass market now have multiple products and multiple markets. Competition has increased to include banks and brokerage houses as people have come to view life insurance as just one of a broad spectrum of financial investments. This change affects not only the job of the marketing or sales manager; every aspect of the organization is affected. Underwriting managers must develop expertise in the new products and new markets; data processing managers must develop new systems to

provide comparisons of different packages; accounting managers must devise new billing and payment procedures, and so on.

The Changing Nature of Management Jobs

In the 1980s, the job of a life insurance manager was very much like that of a manager in any manufacturing organization with a production line, except that the production staff consisted of clerical workers processing reams of paper and producing insurance policies. Managers had to be sure that each functional unit completed its tasks effectively and efficiently and passed on the work to the next unit in a timely fashion. Managers could evaluate individual performance in terms of relatively equivalent inputs and outputs. Career ladders were defined hierarchically, and steep hierarchies were needed to ensure coordination among the various functional areas. As a manager in one of the companies we examined reported, “There was a lot of fat back in those days -- it was easy to make money then.”² The skills needed from managers were planning, delegation, motivation, evaluation, coordination, and control.

Now, insurance management jobs are more like those in lean production manufacturing organizations, where teams of workers are responsible for production and the manager is responsible for leadership. One human resources manager told us, “We reengineered the way we did the work. There is more accountability, consolidation. Instead of doing only one piece, you do the whole thing. For example, we used to have four people in accounts payable - accounting, operations, accounts payable and bookkeeping. Now it’s broken out by client area. We have billing and accounting teams - western, northern, southern - to respond to agencies. This gives each person a career path as their levels of experience increase.” Different skill sets are needed for managers to coordinate these independent teams. “We replaced our traditional supervisor with a team leader. This person does not do hiring or firing but coordinates workflow and motivates members. They may sit in on interviews and advise the manager of discipline problems as well.” One manager said “managers’ jobs are not as well-defined as they were.” Managers are having to demonstrate more “soft” skills. The skills required to motivate a team are different than those needed to motivate individuals in an authoritarian environment. In one company, for example, the managers are responsible for a program to teach the agents the values of the home office and ethical sales conduct.

One manager near retirement said, “If I were starting again as a manager, I would have a more intense, focused attitude toward the business-- more responsibility for trying to accomplish goals. I’m working harder now and sleeping less than ever in my life.” In particular, our interviews suggest that managers who were comfortable with only a few direct subordinates are now having to juggle the concerns of multiple staff members. In an era of downsizing and rightsizing, one manager who was responsible for cutting staff reported, “managers are having to deal with the emotional stuff that goes with laying off people.” Managers who used time at work or number of applications coded to evaluate individual performance are finding that teams

²Uncited quotations are from managers in the industry.

do not break work down into easily meterable jobs. One manager who had expected regular promotions reported that her career progression had slowed, saying, “there isn’t a whole lot of movement in managerial careers these days -- people move between product lines, these are the fast trackers they want to give exposure to, but people don’t move up so fast.” Another observed that “more people are making lateral moves, broadening experience, preparing themselves for the next step.” At least at the first level of supervision, managers are finding that the rules of the game with respect to compensation are changing. According to one of the compensation managers, “now technical people can be rated as high or higher than a manager, and receive the same or more pay.”

As in the rest of the economy, changes in technology affect how managers manage. One manager reported, “We are leveraging with systems. We use expert systems, electronic claims.... Human Resources has everything on systems now. We just put in an on-line salary increase system. It has a lot of built-in edits telling the manager what actions are outside of policy, cutting down on paperwork for the compensation staff.”

Managers all over the country are having to face these demographic, organizational, and technological changes in their workplaces. Our data allow us to see how the changes have played out in the insurance industry, and, because the insurance industry is so much more protected than the rest of the economy, we believe that our results provide a conservative assessment of how change is taking place elsewhere.

One characteristic of the insurance industry which differentiates it from other industries is its use of independent agents for its retail sales (see box). The numbers of employees reported in SIC code 64, “Insurance agents, brokers, and service,”³ is frequently greater than the reported employment of life insurance companies as a whole (U.S. Department of Commerce, 1992), which suggests that agents make up a large segment of the industry. The supervisory ratios reported above from the Bureau of Labor Statistics’ (BLS) data do not include independent agents or the work they perform. And because independent agents often sell more than one product, it is not possible to break down the numbers in these categories to determine the full-time equivalents of the number of subordinates for life insurance managers. When the agents, brokers, etc. are included along with the employees of insurance companies, however, 20.3 percent of all workers held jobs in the category of executives, administrators and managers in 1990 (U.S. Department of Labor, 1990). The trend is toward fewer independent agents (a 14 percent decrease from 1987-1992) and more career agents, further changing the jobs of managers from that of negotiating with independent contractors to developing long-term loyalty from employees (Dauer, 1992).

Bureau of Labor Statistics data suggest that over 50 percent of all insurance workers are in administrative support positions, 20 percent are in executive, administrative, and managerial

³Agents contract to sell insurance and provide service on policies. Brokers negotiate with carriers to write policies for specific organizations or individuals. Service organizations provide such services as data gathering, education, and consulting specifically for the insurance industry or a part thereof.

positions, 16 percent are in marketing and sales, and 7.5 percent hold professional or technical positions (Bureau of Labor Statistics, 1990). The BLS projects a change in the distribution of employees among these classes over the next 15 years with sharp increases in the professional (+46.3 percent) and technical (+44.6 percent) areas and decreases in the areas of typing (-18 percent), filing (-3.9 percent), and bookkeeping (-5 percent). Executive, administrative, and managerial jobs are projected to increase by 28.2 percent between 1990 and 2005, including a 26 percent increase in general managers and top executives, slightly greater than the 21.8 percent increase projected for overall industry employment (U. S. Department of Labor, 1990a). As the data in Appendix A suggest, there has been a general trend in the 1990s toward a smaller number of insurance companies with more employees per company.

These general trends in industry employment suggest a picture of reasonable stability: slow but steady growth in overall employment and only modest changes in the management ranks.

These projections are based on extrapolating industry employment trends, however, and will not foresee any radical change in the structure of employment. We need more detailed information about changes in the internal organization of companies in order to understand how management jobs may be evolving in the future.

INDEPENDENT INSURANCE AGENTS

An important characteristic of the insurance industry is that it has always made extensive use of contract sales managers -- general agents -- who are not employees of the company. This is known as the *agency* model of insurance human resource management where independent insurance agents handle many of the marketing and retail functions of the business. One reason why the supervisory ratio or span of control noted above is so small in this industry is because the retailing operation, which in most industries accounts for many low-level employees who need supervision, is handled outside of the company. Sales managers in insurance companies that use the agency model are not company employees, and neither are their sales agents. Under this model, the agents are under contract to the general agent, not the insurance carrier. The *branch* model, in contrast, uses company employees as sales managers. Under this model, the salespeople are under contract to the company, and in some companies, they are company employees. Some companies use both models, selling individual policies through agents and group policies through employees. See Lederer, (1971) for a more detailed explanation of these arrangements. For an interesting sociological account of the evolution of these models, see Zelizer (1978), who posits that the use of person-to-person contact was necessary to overcome the early view of life insurance as tempting fate or putting a price on human life. The current shift to more branch models may well be attributable to seeing life insurance as another investment.

The Hay Data

We obtained detailed data from Hay Associates on the internal organization of management jobs for eleven life insurance companies, and these data are used in the analyses that follow. Hay Associates is well-known for its system of job analysis and evaluation which begins with detailed and consistent measures of job requirements -- skills. The measure of skill used by Hay is similar to that used in the Dictionary of Occupational Titles and captures the autonomy and complexity of jobs which are issues central to academics. The submeasures of the Hay scale are grouped into three classifications: "Know How," which measures the capabilities, knowledge, and techniques needed to do the job ranked according to their complexity; "Problem-

Solving,” which measures how well defined and predictable job tasks are; and “Accountability,” which measures autonomy in decision making. These measures get at the autonomy-complexity dimension of skill that concerns fields such as psychology and sociology.⁴

There is considerable debate about the validity of any measure of skill (see Levin, Rumberger, and Finnan [1990] for a summary) but the Hay measure appears to be at least as valid a measure as any others proposed.⁵ Further, the Hay measures have wide-spread influence on how jobs are structured and evaluated in the economy as a whole and, in that sense, have good external validity. During the 1980s, for example, Hay claimed that 2 million employees were in jobs evaluated by its system, including those in most of the country’s largest corporations, and comparisons by non-Hay firms with these establishments extend the influence of the Hay system even further. The fact that much of Hay’s original work in developing the system was in financial services may make it especially appropriate for a study of the insurance industry (Henderson, 1985).

The most important point about the Hay measures for our purposes is that they are reliable and consistent over time. They have been constant at Hay for decades and, more important, are applied consistently across establishments. Hay staff receive considerable training in applying the measures, they visit the clients, conduct the job analysis on the jobs being examined, and the results are then checked for reliability by a central office. Indeed, the product that Hay ultimately sells its clients is the assurance that its information is comparable over time and across organizations.⁶ The various skill measures are then combined into a single measure, the job evaluation score, which represents an aggregate assessment of the demands associated with the job.⁷ Comparison of these scores over time makes it possible to estimate changes in skill. In addition to the skill measures, we also examine data on employment across job levels (i.e., position in the management hierarchy) and on compensation for each position.

⁴This description of the Hay system is based on materials provided by Hay and interviews with Hay consultants. Bellak (1984) provides a good summary of the Hay system.

⁵Other proxies for skill, such as education, suffer from lack of consistency and from contamination by other sociological factors. Measures that examine the characteristics of workers are in general a poor proxy for skill requirements as they may vary -- depending on labor market circumstances -- independent of any changes in the actual demand for skill. The Hay measures, by evaluating the job and not the person, avoid this problem. Hay analysts, carefully trained to ensure consistency, further enhance this measure.

⁶The reliability tests appear to be qualitative -- questioning “out-liers,” for example, or unusual patterns in the data. The incentives are clearly for Hay to be consistent over time in its methods. Long-term clients (the bulk of their business) know which of their jobs have remained constant, and it would be painfully obvious if Hay generated different job evaluations for those positions over time.

⁷The separate measures are combined through use of a constant algorithm that weights the various measures and creates an index from them. Unfortunately, only the final job evaluation total is available (measures of the separate components were not retained), and it is impossible to recreate the separate component scores from the aggregate score. While some might argue that this algorithm neglects shifts in importance of various skills over time, we maintain that this is still the best measure available to address this question (see below).

The Sample of Companies: The eleven firms used here can not be identified for reasons of confidentiality, but it is clearly a sample of convenience. Like all longitudinal samples, this one is censored in the technical sense in that companies that began business during the time period were excluded. (None of the companies originally in the data base failed during this period.) In practical terms, this censoring may not be much of an issue for external validity given that “start-up” insurance companies are virtually non-existent.

Three types of life insurance organizations are represented in our sample: mutual, stock, and fraternal. In 1991, mutual insurance companies represented only 5.6 percent of the companies in the life insurance industry, while they composed 55 percent of our sample. However, the mutuals, which are usually older and larger than stock companies, had 46.1 percent of the assets of all life insurance companies. The companies in our sample are therefore representative of the insurance industry, although not necessarily of the average company in that industry.

The companies in our sample are also disproportionately larger and older than the norm. The average life insurance company has around 250 employees (American Council of Life Insurance, 1993), while the average size of companies in our sample is around 2,000. Again, the larger companies have a disproportionate share of the market which again makes our sample more representative of the industry than of companies in that industry. Because our sample concentrates on mutual companies, it is also older than the industry average: Only four of the companies in this sample were founded in this century, and all of them before 1920. Forty-three percent of all mutuals were founded before 1926, as opposed to 6 percent of all insurance companies. Population ecology research has found insurance companies to experience competition as exhibiting an inverted-U shaped relationship between density and founding rates (Ranger-Moore, et al., 1991), perhaps explaining the age of companies in our sample. Haveman (1993) also finds that larger savings and loans are more capable of taking advantage of opportunities to enter new markets, a result that may well translate to the larger insurance companies in our sample.

Regionally, this sample also resembles the distribution of mutuals, having 45 percent in the midwest, 18 percent in the northeast, and 27 percent in the south, as compared to 51 percent in the midwest, 30 percent in the northeast, and 13 percent in the south for the entire population of mutuals. Stock companies are more common in the west (40 percent) and south (36 percent), with some representation in the midwest (16 percent) and northeast (8 percent) (American Council of Life Insurance, 1993; Lederer, 1971).

Life insurance is the predominant product for these firms, although some also have health or long-term care product lines, and all market annuities. They are mostly in Best’s financial size categories VII, VIII, or IX (Best’s 1992). Most follow the general agency model for sales, while a few use the branch model for at least some of their business. (Details of the firm characteristics are presented in Appendix B.) As discussed earlier, our data relate only to the employees of these firms and do not include sales agents who are not employees of the companies. All but three firms increased their numbers of employees over the six year period on average at about the same rate as the industry as a whole. One which did not was acquired by another firm in 1993. Data on their performance show that they are slightly more efficient than the average life insurance company, no doubt because no “failed” firms are in the sample. Appendix B provides additional details about the sample.

The eleven companies chosen here are all clients of Hay Associates, and it is worth considering whether there is anything about being a Hay client that would select in firms with particular characteristics. For example, there has recently been a move in many companies away from using detailed job descriptions in some firms. These descriptions and structures are a strength of the Hay system. Possibly firms that have these broader jobs might have other distinctive characteristics as well -- such as other innovations in work organization -- and would be less likely to use Hay’s services. The movement toward broader jobs was not underway in 1986, however, and no firms left the sample since then. The fact noted above that they are slightly more efficient than the industry average suggests that this may not a sample of firms that are lagging new developments.

We have data on all of the Hay-classified positions for each company in our sample (see box describing sample) at three points in time: 1986, 1989, and 1992. These positions include all but the lowest-level non-exempt jobs which are excluded from our calculations.⁸ Jobs are grouped according to four “Levels” with respect to the organizational chart or hierarchy: The first level is for top executives who manage policy (e.g., Group Vice-Presidents); the second level is for general managers who direct other managers or supervisors (e.g., heads of a division within a conglomerate); the third level is for supervisors who directly manage individual workers (e.g., head of a department like Accounts Receivable); the fourth level is for exempt, non-supervisory positions (e.g., accountant jobs). Again, non-exempt jobs are excluded from the data. We know the Hay points and the total employment for each job in the sample as well as the base and total compensation and functional skill (e.g., underwriting, data processing, accounting, sales) used in that job. These data give us a rich picture of the internal labor market in these organizations. Since we also know the identities of the companies, we have supplemented this picture with additional data about each firm’s performance.

Analyses with the Hay Data

Structure: Perhaps the most important use of these data is to see whether and how the size and shape of the organizational chart is changing. Are we in fact seeing a “flattening” of the organizational structure in companies like these -- is the proportion of lower-level employees rising as responsibility is pushed from higher to lower levels of the organization? Further, is there a change in the distribution of employment by functional area that reflects new developments in the power and importance of different fields?

The practitioner journals report some changes in organizational structure in insurance companies such as centralization of field activities to central or regional offices (King, 1991 on sales expertise; Hoyt, 1992 on customer service; Dauer, 1991 on adjustment activities). They also suggest a stronger emphasis on certain functional areas, such as customer service (McGrath, 1992). There is similar evidence of change for the banking industry’s line workers, suggesting that changes in management levels and functional areas are important in both segments of the financial services industry (see, e.g., Bird, 1991 on flatter organizational structures; Violano, 1990 and Klein, 1992 on reduction of tellers; and Lunt, 1992 on increased customer service). A study of insurance industry adjusters shows that changes in the span of control associated with the decision to delegate work were driven solely by the work load of the manager. [The decision to delegate, however, was associated with improved job performance (Leana, 1986)]. The picture for the 1980s is one of geographically dispersed staff, with much of the responsibility for sales, claims adjustment, and customer service performed by agents of the company at remote locations. We see a steep hierarchy, with experts in various specialties assigned to each of the geographic locations. The picture for the 1990s is very different. Hierarchy is flattening. More of the functions have been brought in house and centralized.

⁸As with most organizations, the non-exempt staff represent more than 50 percent of the employees of these companies, so we should be careful not to conclude anything about the whole companies based on these data. However, since our focus here is on management jobs, the lack of data on non-exempt employees is not critical.

Technology (800-numbers, laptops, modems) is being used to bring expertise close to the customer without having to move the experts.

Skill: A second and closely related issue is how skill requirements might be changing for jobs. Whether jobs are being upskilled or deskilled is a central issue both for academic research and for policy. The Hay data are uniquely suited for addressing whether skill requirements are changing and have been used for this purpose with other jobs (Cappelli, 1993). The deskilling of one job, for example, may come about because of a transfer of requirements to other jobs, so it is important to examine the entire job structure within firms in order to identify such transfers.

Most analyses of changing skill requirements in companies and in the economy as a whole rely simply on changes in the distribution of employees across jobs. With these data, in contrast, we can examine how skill requirements are changing for individual jobs and then add data on changes in employment across occupations to see how they are changing for the organization as a whole. It is also possible, for example, that each job may see a rise in requirements and yet changes in the distribution of employment across jobs -- for example, reducing the proportion of high-skill jobs -- may help produce an overall reduction in skill levels. It is important to include measures of skill changes for jobs along with changes in the distribution of employees across job in order to make that analysis.

The studies of skill in financial service industries have centered on the introduction of new technologies. The results suggest that new technologies do not necessarily deskill jobs (Adler, 1986, Attewell, 1987), although examples in the practitioner press do find examples of deskilling operations at local offices (King, 1991, Dauer, 1991).⁹ This suggests the importance of disaggregating the analysis to functional levels where specific technologies might be examined.

There are many different ways to assess changes in the distribution of skill requirements across jobs. Perhaps the simplest comparison is whether the means are different -- in this case, whether the average job in a job family or level has a higher or lower evaluation score than in the past.

Compensation: Finally, we examine changes in compensation across jobs in order to see first how the income distribution is changing within internal labor markets and second how compensation changes relate to changes in employment and in skills. There is a general interest in whether income inequality is changing in the U.S. (Levy and Murnane, 1992), and those changes are driven at least in part by developments in compensation within firms.

There is a certain amount of determinism in the relationships with pay that are built into the data. One reason firms have Hay consultants construct these skill measurements for each job is to relate pay to job requirements. Changes in points should, within the system, lead to

⁹For additional studies of the effects of technological change on specific jobs in this industry, see Chamot, 1987, Feldberg and Glenn, 1987, Hartmann, et al., 1986, and U.S. Department of Labor, 1990.

changes in pay. On the other hand, skill requirements and pay should be related in any rational organization, other things equal, and the Hay system in fact allows the relationship between skill requirements and pay to vary by company and by job. So examining changes in compensation with these data will not be identical to examining changes in skill, as the data below will reveal.

Results: Table 1 presents changes in employment, skills, and compensation for each of the four organizational levels in our sample of firms from 1986 to 1992. With respect to employment, we see a sharp expansion in the proportion of line workers, absolute declines in the number of top management positions, and only modest growth in the number of middle managers and supervisors. As a result, the shape of the organizational chart in these companies has changed dramatically, becoming considerably flatter. While this result clearly corresponds to descriptions in the popular press, there have been few analyses before that have documented it. The “span of control” has increased for every level of the organization and especially for the first level of management (supervisors). When we asked people in these companies how the span of control had changed, we were told, “Before, a manager might have 60 subordinates under her, with two layers of supervision. Now, the manager manages 30 to 40 people directly.” Having two additional layers of supervision would have reduced the manager’s span of control to three or four direct reports -- a drastic difference from 30-40 direct reports. This is certainly what the numbers show.

The results for skill changes are somewhat different from what descriptions in the popular press would suggest. If the widening of the supervisory span of control resulted from taking decision making and responsibility from supervisors and pushing it down to line workers, it does not seem to have increased the average skill requirements of the exempt line workers. It could be, for example, that the skill requirements of individual job titles within the “Line” level were rising as a result of empowerment efforts but that the huge number of new jobs added to the line category over this period had lower than average skill levels, depressing the average. This dataset enables us to examine this question more closely, as we can look at the numbers of jobs added in each functional area and at the average skill levels in those areas. This is discussed in more detail below when we look at changes by functional area. It could also be that the skill requirements that are rising from empowerment efforts are for non-exempt workers who are not included in the sample. Applebaum (cited in Hartmann, et al., 1986), for example, found a change in one company’s customer service function in the 1980’s that indicated upskilling of non-exempt workers:

“By 1983, a new, highly skilled clerical position had been designed. Customer service representatives handle sales, have access to the computer program that assesses risks and to the rating program, explain rating procedures to customers, answer customer questions, and respond to complaints by telephone or mail.”

Skill requirements for the other levels rose over this period, especially for top management positions. Overall, however, the average level of skill in this sample of firms fell substantially between 1986 and 1992 -- even though skills were rising in two of the four levels -- because of a sharp shift in the distribution of employment away from management and toward line positions. Overall, the average skill requirements for the average job dropped by 17 Hay points

from 1986 to 1992. A decline of this size is of practical significance. It is the equivalent, for example, of moving from the top of the range of clerical jobs by skill to the midpoint of that range. When breaking down the overall change, we find that the change in the distribution of jobs across levels accounted for a 19 point reduction in average skills, but upskilling of jobs within levels accounted for a two point increase in skill.

It may be reasonable to wonder how to characterize a situation where the skills of most job levels are rising even though the average level of skill in the organization is falling; is this an example of deskilling or upskilling? Perhaps the best description is that it represents upskilling of individual jobs and deskilling of organizations.

The changes in compensation do not map neatly onto changes in points. None of the levels experienced increases in skill that were statistically significant, but top managers received a huge (28 percent) increase in pay, middle managers received a modest (10 percent) increase, and the lower two levels received virtually no increases. One conclusion from this chart is that earnings inequality is increasing substantially inside these firms in a manner that is not attributable to any increases in skill, and the dividing line for that growth in inequality is no longer exempt/non-exempt but supervisor/manager.¹⁰

One possible explanation for the rising inequality in compensation is that it helps offset changes in the probability of promotion. Both simple expectancy and tournament models suggest that the possibility of a promotion to a position with considerably higher pay is an important source of motivation to employees inside an internal labor market. The fact that the span of control is increasing and the organizational chart flattening means that the probability of the average worker being promoted is declining. Other things equal, the decline in the probability of promotion might reduce the incentives to work hard. Increases in the compensation of top jobs, in contrast, increase the return to securing a promotion and may offset some of the effect produced by the decline in the probability of promotion.

There is another explanation: that top managers are in “better positions to legislate their own pay increases.”¹¹ If true, this sample of companies may actually underrepresent the true extent of income inequality in the economy, because it consists of companies using an external consultant to help set compensation where internal consistency is an important characteristic of the pay system. Presumably, these companies have a greater interest in the fairness of their compensation system than do those that do not seek independent advice.

¹⁰One must be careful in making attributions of income inequality based simply on differences in group means. The dispersion in salary about the mean must also be considered to complete the picture. We calculated gini and thiel coefficients for the dispersion of salaries over the six-year period and found that the distributions did not change substantially (1986 Gini: 0.255, Thiel: 0.058; 1992 Gini: 0.243, Thiel: 0.055). Within the management levels, the story was much the same.

¹¹We thank Frank Levy and Dick Murnane for this observation.

Conversations with these companies suggest that they may be adapting their compensation practices to the reduced promotion opportunities associated with flatter organizational structures. Pay levels may now be somewhat more removed from organizational level. One company gave the example of two employees who were being considered for promotion, one who had good people skills and good technical skills, and the other who had good technical skills only. The one with both sets of skills was promoted to a supervisory position; the other was kept in the non-supervisor level but given supervisory-level pay and more technical responsibilities. Developments like these may explain some of the decrease in the gap between the pay of non-supervisory and supervisory employees.

Changes by Functional Area: Table 2 outlines the change in the distribution of employment across functional areas. We see a relative shift away from some of the “core” insurance functions, especially underwriting and actuarial work, in part because of the rise of expert systems in these areas (see below). We also see some decline in functional areas that are not part of the “core competence” of insurance operations, such as marketing and accounting. The biggest gainer is insurance operations, which handle the day to day work of processing insurance premiums, and then investment and portfolio management, reflecting the increased importance of investment opportunities to insurance operations during the late 1980s. The deregulation of parts of the investment industry during the 1980s and the increasing complexity associated with investments made this function much more important to the organization.

Table 3 presents the changes in employment, skill and pay across those functional areas that represented at least 1 percent of the jobs in the dataset. In general, we see the same pattern with respect to hierarchy within functions as with the sample as a whole: there are proportionately fewer managers in each area, they have higher skills, and they are receiving more pay. Average skill levels for the function as a whole are down in all but one area while the overall pattern for pay is mixed.

In general, the organizational chart represented by the distribution of employment across levels is remarkably similar across functional areas in 1992 (see Table 3A -- bar chart). This was not the case in 1986 when some areas, like underwriting, were quite “flat” in structure while others, like insurance operations, were very” steep.” Much of the variance in the changes experienced across functional areas in the past six years, therefore, appears to be driven by the convergence toward a common organizational structure in 1992.

The functions that are gaining the most jobs turn out also to be the functions that, on average, show the greatest amount of deskilling. This is because the growing functions are seeing most of the expansion in lower-skilled jobs. Similarly, the functions with the greatest pay increases overall are those with the slowest growth in employment because average skill is rising the most in those areas. The one exception is portfolio management which sees a sharp overall increase both in jobs and in pay. Pay in this area may have been responding to the sharp expansion of the investment management industry outside of insurance during this period.

The relationship between supervisors and non-supervisory employees (levels 3 and 4) has received the most attention in the popular press because of new practices like employee empowerment and teamwork that are aimed at that level. Changes in the span of control at level 3 account for most of the “flattening” in the overall organizational structure across functions. Skill levels were up for all the supervisory functions except Marketing—no doubt related to the more extensive responsibilities associated with supervising more workers. Skill levels declined in six of the eleven areas for non-supervisory workers, suggesting again that any transferring of responsibility from supervisors to exempt non-supervisory workers was not sufficient to raise skills measurably. As noted previously, however, this does not address the question of whether the skills were transferred down yet another level to the non-exempt, non-supervisory workers.

Our interviews with the companies in this sample suggest that new technology -- specifically, the use of expert systems -- accounts for some of the variance across functional areas. Expert systems are computer decision trees that apply the decision rules used by that experienced staff (experts) to complex decision making processes such as the underwriting decision (Forester and Morrison, 1994). The system takes all the information on the insurance application and evaluates it in terms of risk factors, generating decisions about coverage and price. Underwriting and benefit administration in particular are using expert systems extensively. They have seen modest increases in the skills of non-supervisory workers (level 4) and the smallest increases in the span of control for supervisors. Level 4 employees are not necessarily the targets of expert systems. Some of the skill and decision making of level 4 jobs is built into the expert systems which are then used by lower-level, often non-exempt, employees. Level 4 workers are then left with the more complicated tasks which raise their average skill levels.

Overall, level 3 (supervisors) had an increase in skill but did not have a correspondingly significant increase in pay (see Table 1). This can be attributed to changes in the distribution of jobs across functions: Every area except Marketing experienced increased skill for its supervisors, but the two areas adding the most supervisors (Data Processing and Benefits Administration) were also among the lowest-paid, and they helped depress the average increase.

Understanding the Variance Across Firms: A central question raised by the analyses by function above is whether there are policies and practices that might influence the pattern of changes. These factors should be most noticeable across firms. As Table 4 shows, there is considerable variance across firms in the various outcomes considered above. Perhaps that variance is related to policies and practices that are within the control of the organization. For example, the companies with more health insurance business have larger benefits administration staffs. (There are more health insurance claims per policy to be processed than there are life insurance claims per policy.) We found larger marketing staffs in the companies that used the branch model of marketing, but we also found larger customer service staffs in these companies. This suggests that companies that employ their own agents have a stronger involvement in servicing the policies sold by those agents, while the companies that use the agency model expect the agents to perform the customer service function as well. We found flatter hierarchies in the stock companies, suggesting that market pressure is operating to make these firms more efficient. See Appendix B for additional detail on the firms.

With a sample of only eleven firms, we are limited in the type of analyses that we can perform to examine the factors that drive changes in the employment distribution, skill, and pay. One of the most important ones to examine, however, is the relationship with overall firm performance. This relationship is complicated because the causation can potentially go in either direction. We use as a measure of performance the change in the ratio of net gain from operations after FIT and Dividends to Book Equity. This is basically a Return on Equity measure. While there are better measures of overall efficiency (see, e.g., Cummins and Zi, 1993), this is the only one that was available for all three types of companies for both 1986 and 1992.

We divide our sample of firms into those where performance was improving during this period and those where it was declining. There was a clear break between the five firms which had improved their performance and the six which had declined in performance, with the closest values to zero being .53 and -.009. We also divided the companies into better performing and worse performing companies in each year. As noted earlier, all of the companies in our sample were better than average in performance, so even our “worse” performers are not representative of the bad firms in the industry.¹² Table 5 presents data on changes in the distribution of employment, in skills, and in pay for these two groups of firms. The declining group cut 20 percent of its top management jobs, greatly increasing the span of control of middle managers and supervisors, increased the skill requirements of top jobs by 18 percent (but not of middle management jobs), and increased the pay of top jobs by 39 percent (but not middle management or supervisors). In other words, the declining firms concentrated their change efforts on the top management positions. And as their performance declined, they increased their emphasis on the top jobs.

What we cannot tell from this simple analysis is which way the causation is running. As the performance of firms declined, did they shift emphasis toward top management in an effort to turn things around, or did their performance decline because of that shift in emphasis?

Kendall rank correlations suggest that changes in the administrative ratio -- level two and three managers to level 4 employees -- are positively and significantly related to increases in organizational performance between 1986 and 1992, as well as to performance in 1992. The Kendall's tau for the correlation between change in administrative ratio and change in performance was -.6 ($Z = -2.415$), while the same statistic for the correlation between change in administrative ratio and performance in 1992 was -.511 ($Z = -2.057$). This is a potentially important finding which suggests that reducing the proportion of middle management “overhead” in an organization is associated with improved performance. Changes in skill and salary did not reveal any significant effects on performance or on change in performance.

¹²There seemed to be a break in our sample between ratios of .28 and .52 in 1982, so we divided our “better” and “worse” firms at this point. Five firms were in the “better” category and six were in the “worse” category. In 1992 there was not such a clear break. There were two possible breaks: between .51 and .36 and between .36 and .28. We selected the first break, deciding that a rate of .50 as the dividing line for both years would be the most interpretable.

Conclusions

The most important results from this study are the overall findings suggesting that insurance companies have moved toward a flatter organizational hierarchy, that skill levels are rising for individual jobs but falling for the organization as a whole (because of shifting employment toward lower skilled jobs), and that income inequality within the companies is rising. Managers have fewer promotional opportunities, but those who succeed receive a larger payoff. This suggests that “management” as a career will remain attractive, albeit less certain in terms of promotion prospects. Shifts to team-based approaches and the elimination of functional designations would suggest a greater need for generalists than specialists. As technology such as expert systems reduces the need for large units of “experts,” the manager’s skill will be in recognizing when an expert needs to be called. Leadership skills and the ability to adapt to a changing environment are two qualities that will be sought in the future. Fortunately, these skills will also be useful to team members who are not selected for promotion to manager. Increasing income inequality may lead to distrust within the organization, though this may be offset by the creation of technical tracks that allow highly skilled non-managers to earn equivalent levels of pay. The fact that insurance companies are relatively unique in facing no major industry-specific shocks from the outside environment suggests that these results should translate well to organizations in other industries.

References

Adler, Paul

1986 "New Technologies, New Skills," *California Management Review*, 29(1): 9-28.

American Council of Life Insurance

1993 1993 Life Insurance Fact Book. Washington, D. C.: American Council of Life Insurance.

Anonymous

1987 "Companies Upgrading Product Development," *National Underwriter (Life/Health/Financial Services)*, 91(29a):23-25.

Attewell, Paul

1987 "The Deskilling Controversy." *Work and Occupations*, 14(3): 323-346.

Attewell, Paul

1990 "What is Skill," *Work and Occupations*. 17(4): 422-448.

Best's

1986-92 Best's Insurance Reports - Life/Health. Morristown, New Jersey: A.M. Best Co.

Bird, Anat

1991 "Organizational Flattening Within the US Banking Industry," in *Bankers Magazine* v174n4, p. 67-70.

Brooks, N.A.

1987 Strategic Issues for Financial Services Marketing, *Journal of Services Marketing* 1:57-66.

Bureau of Labor Statistics

1990 Insurance Employment Outlook. Washington, D. C.: U.S. Government Printing Office.

Cappelli, Peter

1992 "Examining Managerial Displacement." *Academy of Management Journal*, 35(1): 203-217.

1993 "Are Skill Requirements Rising? Evidence from Production and Clerical Jobs." *Industrial and Labor Relations*

Chamot, Dennis

1987 "Electronic Work and the White Collar Employee." In Robert E. Kraut (ed.), *Technology and the Transformation of White Collar Work*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cummins, J. David, and Hongmin Zi

1993 A Comparison of Econometric and Mathematical Programming Cost Efficiency Estimates for the U.S. Life Insurance Industry. Philadelphia: Working Paper, Wharton School, Financial Institutions Center.

Dauer, Christopher

1991 "Industry is Moving Away from Field Adjusters," in *National Underwriter*, v95n18, p17,46.

Dauer, Christopher

1992 "Industry Officials Consider Future of Insurance Distribution," *National Underwriter (Life/Health/Financial Services)* 96(40): 15.

Feldberg, and Glenn

1987 "Technology and the Transformation of Clerical Work." In Robert E. Kraut (ed.), Technology and the Transformation of White-Collar Work. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Feuer, Dale

1985 "Where the Dollars Go." Training, 22(10, October): 45-53.

Forester, Tom and Perry Morrison

1994 Computer Ethics. Cambridge, Massachusetts: The MIT Press.

Hall, P.

1992 "Living With TQM," Risk Management, 39(3):20-22.

Hartmann, Heidi I., Robert E. Kraut, and Louise A. Tilly

1986 Computer Chips and Paper Clips. Washington, D. C.: National Academy Press.

Haveman, Heather

1993 "Organizational Size and Change: Diversification in the Savings and Loan Industry after Deregulation" Administrative Science Quarterly, 38:20-50.

Helldorfer, S. and M. Daly

1993 Best's Review (Prop/Casualty) 94(6):82-85.

Henderson, Richard I.

1985 Compensation Management: Rewarding Performance Reston, Virginia: Reston Publishing Company.

Hoyt, B.

1992 "Striving for Efficiency in Personal Lines," Agent & Broker, 64(2):26,28.

King, Carole

1991 "Sales Help When Agents Need It," in National Underwriter, v95n9, p.23-24, 34.

Klein, Elizabeth

1992 "Thinking Machines Add New Expertise to Banking Functions," in Savings Institutions, v113n2, p. 37-38.

Leana, Carrie

1986 "Predictors and Consequences of Delegation." Academy of Management Journal, 29(4, December): 754-774.

Lederer, R. Werner

1971 Home Office and Field Agency Organization -- Life. Homewood, Illinois: Richard D. Irwin, Inc.

Levin, Henry M., Russell Rumberger, and Christina Finnan

1990 Escalating Skill Requirements or Different Skill Requirements? Brown University: Conference on Changing Skill Requirements: Gathering and Assessing the Evidence.

Levine, David I.

1993 "What Do Wages Buy?". Administrative Science Quarterly, 38:462-483.

Levy, Frank and Richard Murnane.

1992 "U.S. Earnings Levels and Earning Inequality: A Review of Recent Trends and Proposed Explanations" Journal of Economic Literature, 30(3) p. 1333-1381.

Lunt, Penny

1992 "Children's Savings Stir New Interest," in ABA Banking Journal, v84nl, p.73-74.

McClure, K.A.

1992 "Telephone Service Sells," *Best's Review (Life/Health)* 93(5):65-66.

McGrath, Richard A.

1992 "It Pays to Provide Good Service," in *American Agent & Broker*, v64n2, p. 20-21,43-45.

Nelson, Warren A.

1992 "Boost Retention," in *Managers Magazine*, v67n7, p.23-26.

Pfeffer, Jeffrey and James N. Baron.

1988 "Taking the Workers Back Out: Recent Trends in the Structuring of Employment." *Research in Organizational Behavior*, Vol. 10, pp.257-303.

Ranger-Moore, James, Jane Banaszak-Holl, and Michael T. Hannan

1991 "Density-Dependent Dynamics in Regulated Industries: Founding Rates of Banks and Life Insurance Companies." *Administrative Science Quarterly*, 36(1, March): 36-65.

Rickard, Henry C.

1972 "The Hay Compensation Comparison." In Milton L. Rock (ed.), *Handbook of Wage and Salary Administration*: 3-60 – 3-66. New York: McGraw-Hill.

U.S. Department of Commerce

1985-93 *Statistical Abstract of the United States*. Washington, D. C.: U.S. Government Printing Office.

U.S. Department of Labor

1990 *Technology and Its Impact on Employment in the Life and Health Insurance Industries*. Washington, D. C.: U.S. Government Printing Office.

U.S. Department of Labor

1990 *Occupational Outlook - Life Insurance*. Washington, D. C.: U.S. Government Printing Office.

U.S. Department of Labor

1992 *Employment and Earnings*. Washington D. C.: U.S. Government Printing Office.

Van Horn, Charles W.G.

1972 "The Hay Guide Chart-Profile Method." In Milton L. Rock (ed.), *Handbook of Wage and Salary Administration*: 2-86 – 2-97. New York: McGraw-Hill.

Violano, Michael

1990 "Bankers Tickled with Teller Automation Toys," in *Bankers Monthly*, v107n7, p. 42-46.

Zelizer, Viviana A.

1978 "Human Values and the Market: The Case of Life Insurance and Death in 19th-Century America," *American Journal of Sociology*, 84:591-610.

Appendix A

In 1986, there were 2,254 life insurance companies in the United States. By 1988, there were 2,343. The next few years showed decreases in the number of companies (2,270 in 1989, 2,195 in 1990, 2,065 in 1991, and 2005 in 1992), but the numbers of establishments and employees and the dollar value of the payrolls did not begin to drop as sharply or as soon. Sales, income, and assets of these companies maintained a steady rise over the same period.

Mutuals have no stockholders and no capital stock. The policyholders own these companies, elect the boards of directors, and may receive profits as dividends. Stockholders own stock companies, sharing in the profits and losses and electing the boards of directors. Fraternal have no capital stock, and the activities of these organizations are carried out for the mutual benefit of the members of the organization. They have representative forms of government. Stock companies are by far the most common, while fraternal are becoming so uncommon that they are not included in reports of numbers of life insurance companies. In 1971, there were 150 fraternal providing life insurance, out of 1950 companies.

	1988	1989	1990
Establishments	14,400	14,300	14,100
Employees	538,300	568,800	571,800
Payroll (\$bill)	13.7	14.8	16.3
Sales (\$bill)	1,716	1,788	2,024
Income (\$bill)	338.1	367.3	402.2
Assets (\$bill)	1,167	1,300	1,408

(U.S. Department of Commerce, 1992)

Company size has changed as follows over the years:

	1985	1988	1991
Employees	565,000	538,300	561,200
Companies	2,261	2,343	2,065
Employees/Company	250	230	267

(U.S. Department of Commerce, 1992)

Appendix B

Stock companies, holding companies:

Company #	Human Resources Practices	Product Line	Efficiency/ Financial Condition
1	Uses general agency model for individual life insurance, branch model for group lines, accident, and health insurance. Reorganized corporate structure in 1987, sold its property/casualty company in the same year.	life, health, annuities, disability	.726 A+ Experienced significant loss in 1987, but has had good performance generally
2	Holding company, uses different practices in different subsidiaries.		.69
3	Uses general agency model. Merged with an affiliated company in 1987.	life, annuities, disability, health Markets life and annuities through banking institutions	A+ profits reduced in 1988 due to losses in other lines

Mutuals, fraternal:

Company #	Human Resources Practices	Product Lines	Efficiency
1	Uses agency model Formed two subsidiaries in 1981	life, annuity, disability no group life or health	.725 A+
2	Uses branch model, accepts brokerage Purchased two subsidiaries, one in 1981, one in 1985	life, annuity, health	.454 A+
3	Uses agency model in US, branch model in overseas operations	life, annuity, disability	.644 A+
4	Uses agency model	life, annuity, disability	.625 A+ A court judgment against this company is pending appeal
5	Uses agency model New president, CEO 1987	life, annuity, disability, long-term care	.666 A++
6	Uses agency model	life, annuity, disability, health	.462 A
7	Uses agency model for individual business, branch model for group and corporate business	life, annuity	.508 A++
8	Uses agency model	life, annuity dropped several lines from 1986-1992	.681 A+

1992 Staffing Patterns -- Average by Type of Firm						
	Product Lines		Governance		Human Resources	
	Health and Life	Life Only	Stock	Mutual and Fraternal	Branch	Agency
Finance/Acctg	10.09%	8.83%	5.62%	9.64%	8.49%	9.14%
DP	29.70%	25.26%	18.47%	29.26%	24.57%	28.26%
HR	3.74%	4.18%	3.26%	3.84%	3.28%	3.68%
Marketing	13.32%	12.80%	15.33%	12.56%	16.58%	12.64%
Investment	0.91%	1.54%	1.24%	1.78%	2.09%	1.16%
Portfolio	1.83%	2.77%	3.43%	2.08%	1.68%	2.13%
Operations	4.31%	1.87%	6.23%	2.25%	2.27%	3.38%
Accounting	4.80%	5.71%	5.62%	5.49%	3.53%	6.83%
Underwriting	7.16%	9.01%	7.41%	7.76%	8.13%	7.71%
Customer Service	8.17%	8.88%	11.23%	7.96%	9.05%	7.26%
Benefits Administration	2.93%	2.63%	10.33%	2.12%	6.62%	2.16%

TABLE 1
Employment, Skills and Compensation by Management Level

	Number			Skill Points			Compensation				
	1986	% of Total	1992	% of Total	%Change	1986	1992	% Change	1986	1992	% Change
Top Manager	138	0.90%	137	0.89%	-0.72%	721	755	4.72%	122891	157908	28.49% ***
Middle Manager	570	3.70%	591	3.84%	3.68%	360	359	-0.28%	60056	66155	10.16% ***
Line Supervisor	1288	8.36%	1716	11.14%	33.23%	225	228	1.33%	39338	39023	-0.80%
Exempt, non-supervisory	2726	17.69%	4755	30.86%	74.43%	172	170	-1.16%	29596	29972	1.27% *

TABLE 2
Employment in Functional Areas

	1986	1992	% Change
UNDERWRITERS	503	537	6.76%
CUSTOMER SERVICE	632	854	35.13%
DATA PROCESSING	922	1580	71.37%
BENEFITS ADMINISTRATION	347	666	91.93%
ACTUARIAL	249	377	51.41%
PORTFOLIO MANAGEMENT	144	279	93.75%
INVESTMENT MANAGEMENT	51	107	109.80%
INSURANCE OPERATIONS	95	277	191.58%
FINANCE/ACCOUNTING	310	430	38.71%
MARKETING	697	905	29.84%
HUMAN RESOURCES	147	274	86.39%

TABLE 3
Employment, Skills, and Compensation by Function and Level

	1986	1992	% Change	1986	1992	% Change	1986	1992	% Change		
	NUMBER			SKILL			PAY				
DATA PROCESSING											
Top Manager	11	9	0	549	599	9.11%	96.2	123.6	28.48%		
Middle Manager	69	69	0	340	336	-1.18%	55.3	60	8.50%		
Line Supervisor	172	248	0	229	240	4.80%	40.1	42.4	5.74%		
Exempt, non-supervisory	670	1254	1	163	167	2.45%	29.2	29.8	2.05%		
Total	922	1580	71.37%	Average	193	188	-2.59%	34	33.6	-1.18%	
UNDERWRITERS											
Top Manager	2	2	0.00%	543	634	16.76%	84.2	119.7	42.16%		
Middle Manager	43	28	-34.88%	354	359	1.41%	57.2	65.9	15.21%	.0073	
Line Supervisor	87	98	12.64%	246	255	3.66%	.0010	40.3	42.9	6.45%	.0000
Exempt, non-supervisory	371	409	10.24%	174	181	4.02%	28.6	30.1	5.24%	.0000	
Total	503	537	6.76%	Average	203	205	0.99%	33.3	34.7	4.20%	
CUSTOMER SERVICE											
Top Manager	1	5	400.00%	470	568	20.85%	65	113.5	74.62%		
Middle Manager	58	62	6.90%	310	311	0.32%	49	55.8	13.88%	.0029	
Line Supervisor	248	263	6.05%	184	197	7.07%	.0000	30.2	33	9.27%	.0000
Exempt, non-supervisory	325	524	61.23%	154	151	-1.95%	.0000	27.9	27.4	-1.79%	.0000
Total	632	854	35.13%	Average	181	179	-1.10%	30.8	31.7	2.92%	
BENEFITS ADMINISTRATION											
Top Manager	1	1		650	632	-2.77%	103	119.9	16.41%		
Middle Manager	30	14	-53.33%	307	343	11.73%	.0190	46.9	57.8	23.24%	.0263
Line Supervisor	148	269	81.76%	192	202	5.21%	.0000	31.7	31.8	0.32%	
Exempt, non-supervisory	168	382	127.38%	141	145	2.84%	24.1	25.1	4.15%		
Total	347	666	91.93%	Average	179	173	-3.35%	29.5	28.6	-3.05%	
ACTUARIAL											
Top Manager	8	8	0.00%	574	580	1.05%	84.7	108.7	28.34%		
Middle Manager	55	57	3.64%	419	422	0.72%	68.5	80.9	18.10%		
Line Supervisor	46	68	47.83%	237	291	22.78%	.0047	40.7	52	27.76%	.0002
Exempt, non-supervisory	140	244	74.29%	183	178	-2.73%	.0006	31.1	33.3	7.07%	
Total	249	377	51.41%	Average	258	244	-5.43%	42.9	45.4	5.83%	
PORTFOLIO MANAGEMENT											
Top Manager	9	11	22.22%	642	691	7.63%	116.8	151.7	29.88%		
Middle Manager	30	58	93.33%	407	377	-7.37%	67	80.6	20.30%	.0217	
Line Supervisor	28	38	35.71%	313	376	20.13%	51.7	52	0.58%		
Exempt, non-supervisory	77	172	123.38%	200	212	6.00%	33	39.5	19.70%		
Total	144	279	93.75%	Average	291	275	-5.50%	48.6	54.3	11.73%	
INVESTMENT MANAGEMENT											
Top Manager	6	9	50.00%	958	847	-11.59%	168.6	179	6.17%		
Middle Manager	7	11	57.14%	316	356	12.66%	54.1	61.7	14.05%		
Line Supervisor	9	17	88.89%	217	245	12.90%	.0000	33.1	43.1	30.21%	.0000
Exempt, non-supervisory	29	70	141.38%	179	168	-6.15%	30.9	30.7	-0.65%		
Total	51	107	109.80%	Average	307	257	-16.29%	52.8	48.3	-8.52%	
INSURANCE OPERATIONS											
Top Manager	19	18	-5.26%	795	830	4.40%	138.5	185.4	33.86%		
Middle Manager	18	32	77.78%	452	363	-19.69%	84.5	62	-26.63%	.0000	
Line Supervisor	21	56	166.67%	208	219	5.29%	.0000	31.5	36.6	16.19%	.0000
Exempt, non-supervisory	37	171	362.16%	183	148	-19.13%	.0000	29.3	26.6	-9.22%	.0001
Total	95	277	191.58%	Average	361	231	-36.01%	62.1	42.8	-31.08%	
FINANCE/ACCOUNTING											
Top Manager	6	10	66.67%	592	721	21.79%	94	136.5	45.21%		
Middle Manager	51	44	-13.73%	339	335	-1.18%	54.2	60.1	10.89%		
Line Supervisor	87	110	26.44%	194	222	14.43%	.0641	31.4	36.7	16.88%	
Exempt, non-supervisory	166	266	60.24%	167	160	-4.19%	27.6	27.4	-0.72%		
Total	310	430	38.71%	Average	211	207	-1.90%	34.4	35.6	3.49%	
MARKETING											
Top Manager	11	15	36.36%	668	684	2.40%	107.7	141.8	31.66%	.0241	
Middle Manager	104	91	-12.50%	369	383	3.79%	.0101	64.7	70	8.19%	.0157
Line Supervisor	241	255	5.81%	292	254	-13.01%	.0000	57.9	45.8	-20.90%	.0000
Exempt, non-supervisory	341	544	59.53%	185	193	4.32%	.0105	32	33.9	5.94%	.0008
Total	697	905	29.84%	Average	257	238	-7.39%	47.1	42.7	-9.34%	
HUMAN RESOURCES											
Top Manager	4	4	0.00%	531	654	23.16%	92.8	137.5	48.17%		
Middle Manager	19	28	47.37%	324	330	1.85%	51.5	60.2	16.89%		
Line Supervisor	26	52	100.00%	192	214	11.46%	.0216	33	35.8	8.48%	.0594
Exempt, non-supervisory	98	190	93.88%	176	161	-8.52%	28.5	28.3	-0.70%		
Total	147	274	86.39%	Average	208	196	-5.77%	34	34.6	1.76%	

TABLE 3A
Employment by Function and Management Level

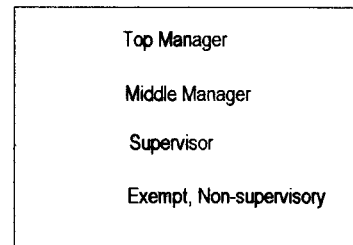
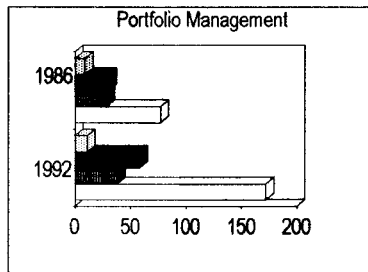
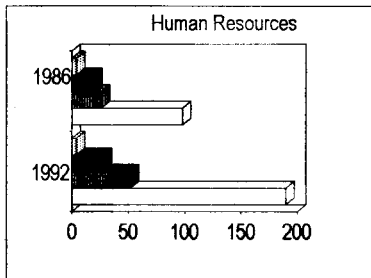
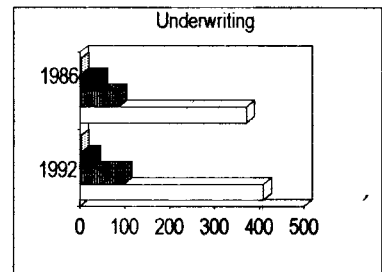
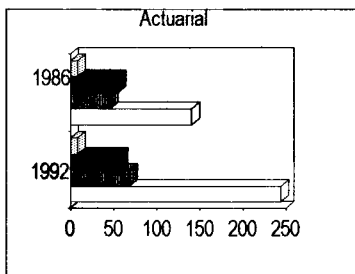
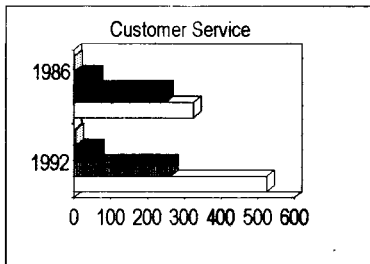
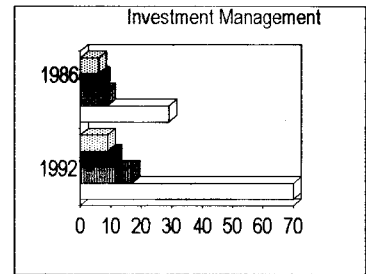
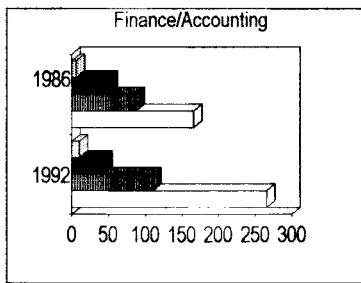
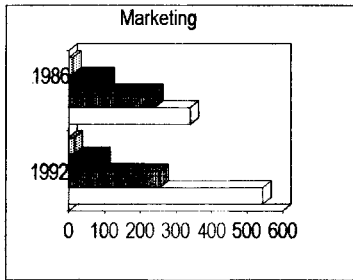
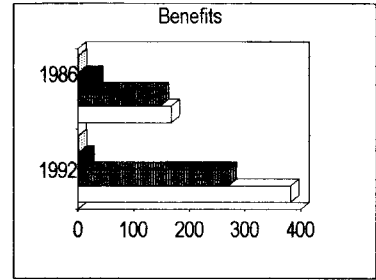
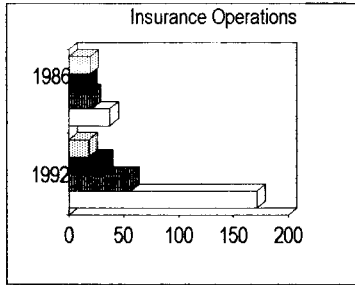
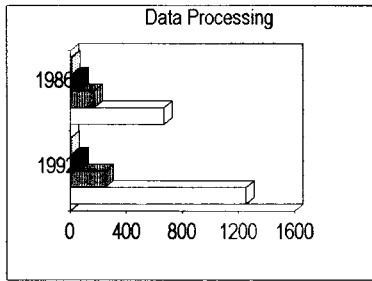


TABLE 4
Employment, Skills, and Pay by Level and Company

SKILL Company	Top Manager			Middle Manager			Supervisor			Exempt, Non-Supervisory		
	1986	1992	% Change	1986	1992	% Change	1986	1992	% Change	1986	1992	% Change
1	752	759	0.93%	353	338	-4.25%	189	193	2.12%	161	151	-6.21%
2	801	701	-12.48%	322	303	-5.90%	166	173	4.22%	166	155	-6.63%
3	839	1118	33.25%	469	615	31.13%	272	256	-5.88%	165	186	12.73%
4	895	846	-5.47%	383	467	21.93%	193	297	53.89%	199	190	-4.52%
5	729	814	11.66%	325	375	15.38%	190	195	2.63%	161	159	-1.24%
6	629	614	-2.38%	305	324	6.23%	210	209	-0.48%	184	179	-2.72%
7	658	778	18.24%	325	398	22.46%	252	249	-1.19%	187	182	-2.67%
8	703	837	19.06%	373	408	9.38%	202	221	9.41%	209	196	-6.22%
9	473	535	13.11%	282	302	7.09%	198	195	-1.67%	157	154	-1.60%
10	716	660	-7.82%	393	353	-10.18%	177	197	11.30%	198	143	-27.78%
11				406	370	-8.87%	177	194	9.60%	152	148	-2.63%
COMPENSATION												
1	122781	168864	37.53%	54622	62069	13.63%	31204	33853	8.49%	28457	27890	-1.99%
2	148572	139697	-5.97%	60083	59777	-0.51%	28071	33038	17.69%	30126	30206	0.27%
3	158909	264488	66.44%	84741	100683	18.81%	51226	42374	-17.28%	29049	30665	5.56%
4	161214	188783	17.10%	68852	89415	29.87%	32870	56843	72.93%	34250	33687	-1.64%
5	118288	147867	25.01%	54013	64448	19.32%	33416	35056	4.91%	28079	27569	-1.82%
6	103422	117319	13.44%	46617	56290	20.75%	34295	37866	10.41%	30533	32692	7.07%
7	114045	167328	46.72%	51157	87966	71.95%	40270	43123	7.08%	31518	33569	6.51%
8	110963	199040	79.38%	55985	85425	52.59%	28249	35191	24.57%	30146	32248	6.97%
9	68566	89119	29.98%	45300	48973	8.11%	33670	36635	8.81%	29133	28799	-1.15%
10	109628	98276	-10.36%	54760	50214	-8.30%	26577	29725	11.84%	29309	25657	-12.46%
11				62265	64877	4.19%	32660	34898	6.85%	26278	27266	3.76%
EMPLOYEES												
1	27	39	44.44%	118	265	124.58%	204	341	67.16%	633	1758	177.73%
2	11	7	-36.36%	102	84	-17.65%	108	75	-30.56%	231	170	-26.41%
3	21	14	-33.33%	56	23	-58.93%	507	705	39.05%	902	1405	55.76%
4	7	7	0.00%	80	20	-75.00%	61	74	21.31%	212	383	80.66%
5	9	6	-33.33%	45	43	-4.44%	43	33	-23.26%	161	122	-24.22%
6	27	34	25.93%	39	39	0.00%	145	189	30.34%	246	396	60.98%
7	11	8	-27.27%	42	29	-30.95%	44	70	59.09%	83	161	93.98%
8	11	7	-36.36%	42	33	-21.43%	79	57	-27.85%	159	193	21.38%
9	6	4	-33.33%	1	1	0.00%	10	10	0.00%	12	15	25.00%
10	7	11	57.14%	25	25	0.00%	49	97	97.96%	55	92	67.27%
11				20	29	45.00%	38	65	71.05%	32	60	87.50%
stock	20	20	1.69%	72	107	48.61%	263	368	39.62%	565	1119	98.11%
mutual/frat	11	11	-1.28%	47	41	-11.29%	68	71	4.81%	130	156	20.25%

