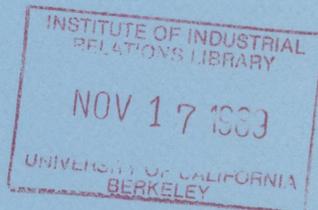


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COMPENSATION DATA IN THE FUTURE:  
A USER'S PERSPECTIVE

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# Compensation Data in the Future: A User's Perspective

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In the long history of the Bureau of Labor Statistics, the production of data on wages and compensation has often been a less visible aspect of the Bureau's work.<sup>1</sup> BLS data on price inflation and unemployment have tended to be more in the public spotlight because of their macroeconomic significance. However, the BLS has collected various forms of compensation data from its inception and the demand by users for more comprehensive compensation series will continue to expand. During the 1990s and beyond, moreover, changes in compensation and the compensation system may well play a critical role in reconciling conflicting pressures in the American labor market. It will be more crucial than ever for BLS adequately to monitor and disseminate compensation.

From the user viewpoint, information provided by BLS on compensation and compensation practices is always of benefit. Users are not, however, in a good position to comment on the cost/benefit ratio of data collection, since the cost side is not something about which they have much information. Ultimately, such judgments are made by BLS and the political process. Nonetheless, users can indicate their data preferences as part of the decision process. This essay puts forward user preferences against a backdrop of current BLS compensation programs and likely changes in the labor market.

#### I. Conflicting Labor Market Trends and Data Needs.

There are three reasons to expect that compensation issues will become more visible in the future. The first involves contradictory regulatory policies in the U.S. product and labor markets. Second, there are demographic pressures which will progressively impinge on the public and private policies. These demographic pressures, however, potentially collide with recent shifts in the size of employing units. Third, there were already notable changes in compensation practices visible in the 1980s.

##### i. Regulatory Pressures.

During the 1980s, the trend in the product market was toward deregulation and greater reliance on market forces. Employers in transportation, financial services, and communications were especially affected. Markets themselves seemed to become more volatile, particularly for firms exposed to foreign competition. A major factor was the gyrating dollar which could quickly shift the position of American firms from competitive advantage to disadvantage and back again. Dollar fluctuations were themselves the product of the end of exchange rate regulation by world governments in the early 1970s.

Despite this move toward *laissez faire* in the product market, American labor markets in many respects became more regulated in the 1980s. At the federal level, for example, changes in the tax code imposed complex requirements regarding the design of benefit plans. Employers were required to offer benefit continuation options for laid off workers and to provide 60 days notice for plant closings and mass layoffs. Bills were considered to mandate health care benefits and various types of pregnancy and family leave, both at the federal and state levels. State court decisions encroached on the traditional doctrine of *at-will* employment.

The net effect of increased labor-market regulation is to make it more difficult to respond to product market volatility by employment variation and to create inflexibilities in certain elements of benefits. Employers can be expected to seek alternative forms of flexibility as a "safety valve" including more variability in those parts of the pay package which are not mandated. BLS will need to capture these changes in its various compensation programs.

#### ii. Workforce Structural Change and Industrial Organization.

BLS demographic projections show that the American workforce will be aging into the 21st century.<sup>2</sup> Generally, older workers tend to be less mobile; job loss is more difficult for older workers than younger, in part because the former have dependents and fixed financial obligations. If the

political process responds to the demographics, the concept of employee rights on the job will continue to expand. Thus, the gap between the volatile product market and the regulated labor market may well widen.

Apart from regulation, the relative dearth of young, entry-level workers will create incentives for employers to cater to the tastes of their incumbent workers, and to older workers generally. These workers' tastes will tilt toward employment stabilization and job security. Under competitive pressures to retain and recruit workers, employers will need to be responsive to these employee concerns.

Generous provision of benefits and "progressive" employment practices such as employment stabilization have tended to be associated in the U.S. with larger employers.<sup>2</sup> Yet, as Table 1 illustrates, during 1979-1986, small firms and small establishments accounted for more than 100% of employment growth in the private sector. Large firms and establishments shrank in relative importance. Some observers argue that this tendency of smaller firms and establishments to grow relative to larger ones was not an aberration of the 1980s but instead reflects a long term shift in the pattern of employment toward flexible specialization. According to this view, firms of the future will be of smaller size and will prize flexibility as they seek a niche in a competitive product market.<sup>4</sup>

If the trend toward smaller employing units does continue, the tensions between the divergent trends in the labor market will have to be resolved. Smaller employing units, other things held constant, may have more difficulty than large in providing employment stabilization. However, one way of reconciling the conflicting pressures may be a change in compensation practices. Again, there looms the possibility of more pay flexibility as the outcome.

### iii. Compensation Changes in the 1980s.

Among the developments already seen in the compensation field in the

Table 1: Change in Employment by Size of Establishment, 1979-86

Category	Annualized Percent Rate of Change
All Industries	
Establishments with:	
1-19 employees	+2.0%
20-99 employees	+2.1
100-499 employees	+2.1
500-999 employees	0.0
1000 or more employees	-0.3
All Size Classes	+1.6
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Manufacturing	
Establishments with:	
1-19 employees	+0.5%
20-99 employees	-0.3
100-499 employees	-0.3
500-999 employees	-1.2
1000 or more employees	-2.6
All Size Classes	-1.6
Note: Fortune 500 Firms	-2.7%
Private, Nonagricultural Employment	+1.6%

Note: Establishment size data exclude railroads.

Source: Establishment size data from County Business Patterns, U.S. Bureau of the Census; Fortune 500 employment from The Fortune Directories, Time, Inc.; Private, nonagricultural employment from the establishment survey, U.S. Bureau of Labor Statistics.

1980s were wage concession bargaining, two-tier pay plans, lump-sum payments in lieu of wage increases, and the use of various "share" systems of compensation such as profit sharing, gain sharing, and employee stock ownership. These compensation innovations often were linked to labor cost containment and attempts to share product market risk with employees. Sometimes changes in the pay system were explicitly linked to greater job stability.

Given such developments in the American compensation system, the provision of good quality, useful compensation information will become an increasingly important element of BLS activity. Users will look to BLS for information on emerging trends. While private data gathering will continue to play a role in the nation's compensation information system, such efforts cannot take the place of the more comprehensive and methodologically superior activities of the BLS.

## II. Changes in the Locus of Pay Decisions.

One of the most notable features of the labor market in the 1980s was the decline of private-sector unionization. By 1986, only 14% of private wage and salary workers were represented by unions. Yet a significant element of the pay monitoring system was focused on union-sector developments. In part this tendency stemmed from the relative ease in obtaining information; collective bargaining contracts are more readily accessible than nonunion personnel practices. In part the tendency resulted from the widely-held view in the 1940s and 1950s that innovations in pay stemmed from the union sector. Finally, the union focus was partially the outcome of the guidelines and wage-price controls programs of the 1960s and 1970s which often were focused on union settlements.

A second tendency in the 1980s was the relative shrinkage of traditional heavy industry as a proportion of total employment. Again, the data collection system reflected the older structure of the workforce, with more

detail available for manufacturing than for other sectors. Job growth in areas such as services and trade outpaced the expansion of data collection into the expanding sectors.

Of special concern was the possibility that certain employees in the expanding sectors may have been functioning as a contingent workforce for other industries. The rapid expansion of temporary help services in particular and business service employment more generally suggested that compensation trends might be displaced across SIC codes. Firms may contract out for services previously provided internally.<sup>5</sup> As the industrial sector of employment changes, there will need to be adjustments in the gathering of pay data to keep pace.<sup>6</sup> Ultimately, there may be a need to link compensation paid out in the service sector to the industry contracting for the service.

### III. New Information Technologies.

At the beginning of the 1980s, data processing was largely confined to large scale computer systems; by the end of the decade personal computers were standard office and research tools. Through telephone and other connections, PCs could be tied into data bases housed in distant mainframe computers. The data processing capacity of PCs was steadily being enhanced. Moreover, the technology for data storage was nearing the point where very large data bases could be made available to PC users without the need for tapping into a mainframe.

The shift in information technology raises questions about the optimum approach to the dissemination of compensation information. At one time, the printed page was the sole method of data distribution. By the 1970s, on special request, BLS data could be supplied on computer tape. In the 1980s, dissemination via computer diskette began. The options for distribution of compensation data and the ability of users to employ those data in different formats will continue to increase.

#### IV. The Three Types of Users.

Three primary user groups can be identified among the constituents for compensation information: practitioners (pay setters), academics (researchers), and government macro policy makers (along with private forecasters). Although the data needs of these groups overlap, in many ways their demands for compensation information differ. Thus, the BLS, faced with resource constraints, must of necessity make decisions concerning competing needs.

Practitioner views are officially presented to BLS by union and management advisory committees. Federal government policy makers are obviously in position to make their needs known and to influence resource allocation.<sup>7</sup> Academics lack formal channels of input and - of course - have no direct control over resources. They have, nonetheless, been active supporters of BLS programs, particularly when budget cuts have been threatened.<sup>8</sup> Development of a formal communications mechanism between BLS and academic users of BLS compensation data would assist the Bureau in balancing the competing demands of the user communities.

#### V. Nine Major BLS Programs.

BLS currently operates nine primary programs which gather compensation information as shown on Figure 1. The data currently produced by these programs are of varying degrees of interest to the three constituency groups. Below ways are suggested in which each program might be improved from the viewpoint of their primary constituencies, especially in light of changing compensation practices and changing information technology.

##### i. Practitioners.

In stylized terms, practitioners primarily want information on who is being paid what. Surveys of pay setting behavior suggest that a first step is commonly to find out what other employers (within some industrial or

Figure 1: Nine Major BLS Compensation Programs

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1) The Establishment Survey, a monthly program providing detailed information on average hourly and weekly earnings of production and nonsupervisory workers by industry with some breakdown in manufacturing by region and metropolitan area.

2) The Current Population Survey (CPS), a monthly program now providing quarterly data on usual weekly earnings with some occupational detail and a breakdown by demographic characteristics (race, age, sex). Annual data are available by union status with limited industrial and occupational information for full time workers. Detailed occupational information has also been published.

3) The Employment Cost Index (ECI), a quarterly survey of wage and benefits costs with a union/nonunion breakdown along with some occupational and industrial detail. ECI information has recently been extended to include actual (dollar) cost of wages and various broad benefit categories by union/nonunion status.

4) Compensation per Hour, a quarterly series of total labor costs per hour (including benefits and employer-paid payroll taxes) linked to related productivity and unit labor cost information. As published, the series does not separate out wages from other forms of compensation. Information is available only for very broad industrial sectors.

5) Major Union Settlements, a quarterly survey of private and state and local union-management agreements involving 1,000 or more workers. Related data on individual settlements and deferred and escalator increases are also published.

6) Area and Industry Wage Surveys, a program of periodic collection of occupational data for selected urban areas and industries. Area wage surveys are conducted annually or semiannually and provide data on a limited number of occupations. Industry wage surveys provide substantial occupational detail with some regional breakdown on a 3-5 year cycle.

7) The National Survey Professional, Administrative, Technical, and Clerical Pay (PATC), an annual survey of white collar salaries in selected occupations by status level within occupations. This survey is designed primarily for guidance in setting federal civil service salaries.

8) Foreign Hourly Compensation Costs, an annual survey of pay of manufacturing production workers in selected countries and of related information on productivity and unit labor costs.

9) Employee Benefits in Medium-to-Large Firms, a regular survey of certain benefit practices providing information on the proportion of workers covered within broad occupational categories.

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locational boundaries thought relevant) are currently paying to some related group of workers.<sup>9</sup> Information so obtained is not necessarily slavishly applied; the ultimate pay decision might be to pay more or less than some perceived going rate or market average. But knowledge of the outside market is a starting point in the decision process.

To be most helpful to the practitioner, surveyed pay information must first be detailed. While information on the going rate of aggregate pay adjustments can be useful to practitioners, it is at best climatological information. The idea that unionized firms mechanically followed a broad national wage pattern in making their own pay decisions developed immediately after World War II. It was often assumed that nonunion firms passively followed the union pattern. By the 1970s, however, the industrial relations literature tended to exaggerate the comprehensiveness of pattern bargaining; such bargaining - while still influential - had become limited to certain well-defined spheres within the union sector.<sup>10</sup> During the 1980s, pattern following took a further beating.<sup>11</sup>

Thus, the detail needed by practitioner-users involves disaggregation by occupation, location (or labor market), and by the type of pay practice under which payment is made. Apart from detail, there is the issue of frequency of data collection and the speed of publication. Information on wage rates paid a year or two ago, even if provided on a detailed basis, will be of limited interest. Finally, of relevance to practitioners is the intent of other firms regarding future pay decisions. Unfortunately, BLS does not survey salary intentions, a significant gap in its compensation data base.<sup>12</sup>

Of the three user categories, pay setting practitioners are the least likely to want data in formats other than the traditional printed page. Most often, they want to know what the numbers are; they do not themselves feel a need to subject the data to further processing. On the other hand, practitioners will want to know of emerging trends for competitive reasons.

Which of the nine programs of Figure 1 are likely to be of most concern to practitioners? The establishment survey provides information on pay level and trends by detailed industry. However, its omission of benefits and the lack of a straight-time hourly earnings estimate outside manufacturing is troublesome, especially given the relative growth of benefits relative to wages since World War II. Lack of geographic detail outside manufacturing is also a problem. The industries which are expanding as a percent of total employment are less likely than manufacturing industries to be nationwide in their pay setting practices. On the plus side, earnings data from the establishment survey are available monthly with a fast turnaround.

Current Population Survey data on usual weekly earnings are potentially available on a detailed occupational basis. Practitioners are probably largely unaware of this potential source of pay information which could be valuable, especially for occupations with national labor markets. The key issue is speed of publication. Much annual labor market data from the CPS is currently made available immediately after each year closes in the January issue of Employment and Earnings. Inclusion of detailed annual occupational earnings data on the same schedule would be valuable to practitioners.

For practitioners in the union sector, the existing system of tracking major union settlements (those involving 1,000 or more workers) is helpful. It provides relatively frequent data with quick turnaround. And it permits tracking of such items as the frequency of use of escalators and lump-sum payments. The listings of contract settlements in Current Wage Developments provides the ability to track individual bargaining situations.

Generally, it has been assumed that the major agreements set patterns for smaller (non-major) units. However, significant divergences between major and non-major agreements within manufacturing were found when the BLS kept track of the smaller settlements (late 1950s through late 1970s).<sup>13</sup> Just as firm and establishment size seemed to shrink in the 1980s, so too did the number of

union workers covered by major agreements relative to the overall union sector.<sup>14</sup> Major union settlements thus have less importance, even within the union sector, than was once the case.

Industry wage surveys provide substantial occupational detail and sometimes indicate generally what type of pay system is involved, i.e., time vs. incentive. Obviously, they are of greatest potential use to pay setters within the covered industries. Unfortunately, the long intervals between surveys and the slow turnaround of data once collected sharply limit the usefulness of industry wage surveys to practitioners.

Area wage surveys provide data only on certain widely-used occupations. They do permit pay setters retroactively to compare their pay levels with community averages and distributions. The surveys are taken regularly but turnaround time is an issue. Much the same can be said for the PATC surveys. Area and industry wage surveys do provide information on the dispersion of pay, information of potential value to the firm in considering its pay policy relative to others in the labor market.

The benefit surveys provide substantial information on the degree to which particular types of benefit programs cover the workforce. Typically, firms make decisions on the structure of their benefits plans relatively infrequently. Hence, rapid turnaround is not critical. Emerging benefit programs, such as profit sharing and employee stock ownership plans are reported in the surveys, but less detail about these plans is provided than about traditional pension and health care programs.

BLS does not regularly survey employers concerning their intent to establish new pay plans or terminate old ones. Information on such plans, to the extent that it exists, has been provided privately, often as part of surveys with questionable sampling techniques. Sometimes such surveys are undertaken by organizations which support particular kinds of pay programs. A well sampled, periodic survey of this type from the unbiased BLS would be of

great interest to pay setting practitioners.

From the viewpoint of the pay setting practitioner, future data needs in the compensation area require detail by occupation and labor market and rapid turnaround of information. At present, the surveys which provide the most rapid turnaround tend to be those which give a general feel for the general pay trends in the labor market, but which are not sufficiently detailed for many pay setting purposes. Those with great detail, such as the industry wage surveys, tend to be published with a considerable lag.

ii. Academics.

If practitioners need to know who and what, academics need who, what, and why. They are also interested in the effects of particular pay policies. Timeliness is less of an issue for academics who are more likely to be concerned with completeness of information and the ability to link compensation data sets with other information on the firms or establishments supplying them. Alternatively, they are likely to call for compensation data sets which come with substantial other information about the characteristics of the firms, establishments, or workforces from which they are gathered.<sup>15</sup>

Modern computer technology makes possible the linking of data sets, provided issues of confidentiality do not prove to be insurmountable hurdles.<sup>16</sup> Because of their interest in probing the why of, and the effects of, compensation outcomes, academics are likely to want pay information disseminated in ways which can be accessed by computers directly. Such dissemination facilitates statistical analysis of data sets.

Although academics have often made use of earnings data from the establishment survey, questions of "why" (as opposed to what and who) are not easily addressed from this source. Information is not available broken down by important establishment characteristics, e.g., size of establishment or union vs. nonunion. Other than the break between nonsupervisory employees and others, there is no occupational information.

Earnings data collected from household respondents in the Current Population Survey are linked to detailed demographic, occupational, and other characteristics of the respondent. Thus, the CPS has been used for exploring such issues as racial or sex discrimination in pay, or union/nonunion pay differentials. An issue that will need to be addressed in the future, however, is the relationship between CPS-reported earnings and data from other earnings series. For example, the heavy volume of concession bargaining suggests that union/nonunion wage differentials fell during the 1980s. Although other data sources reflect the impact of concession bargaining, it has been at best weakly and unevenly reflected in CPS data.<sup>17</sup> Because of the growing use of CPS earnings data to research such policy issues as comparable worth, it would be helpful if the BLS itself undertook research on their reliability as trend indicators.

The Employment Cost Index could be a valuable source for academics interested in questions of why and effects. A limited sample of establishments is repeatedly surveyed, potentially allowing longitudinal analysis to be conducted. From the academic viewpoint, an ability to link compensation outcomes with establishment characteristics would be a boon for research. Similar issues can be raised with regard to area and industry wage surveys and the PATC survey.

Academics have devoted substantial research to union wage determination, even during the era of declining unionization. There are historical reasons for this interest; the field of labor economics was heavily focused on the union sector until the 1960s. But there is also the advantage the union sector provides to researchers because of its relative openness. One can track union settlements through Current Wage Developments and - since the employer name is known, link this information to other data on the firm. The now-discontinued series of "wage chronologies" was helpful in pulling such information together for certain major firms. Access to a data base

containing the history of settlements reported in Current Wage Developments could enable users to generate their own wage chronologies.

There are significant differences between union and nonunion pay practices. For example, escalation is quite rare in the nonunion sector but has covered between 3 and 6 out of ten employees in the major union workforce from the early 1970s until the late 1980s.<sup>18</sup> Two-tier pay structures are believed to be rare among nonunion employers compared with union. Academics would thus greatly benefit from a data set tracking nonunion pay adjustments which had information as comparable as possible to that available in the union sector.

In the benefits area, the existing survey of medium-to-large firms could potentially permit studies of why particular benefit program were offered. Unfortunately, as currently structured, information on the employer cost of the programs is not provided. There are admittedly substantial difficulties with the measurement of employer costs, especially for pay practices such as defined-benefit pensions where unfunded liabilities may accrue. And there is a conceptual difference between cost to the employer and value to the employee. Nonetheless, a marriage of benefit cost figures - such as are now available from the ECI - with benefit incidence data would be a boon to academic research.

Although academic concerns often seem abstract to practitioners, the interest of academics in the effects of pay practices could have direct payoffs for those who establish such practices. The human resource (HR) area has often been seen as the soft side of management when compared with quantitatively-oriented fields such as finance. Involving the human resource area in the strategic plan of the employer became a popular notion in the 1980s, at least among HR executives. However, to achieve such involvement in the future, HR executives will need evidence that what they do regarding pay policy and other issues matters to the economic performance of the enterprise.

Academic research is the most likely source of measurement of such interconnections.

In summary, what academics will need most in the future is access to compensation data bases. The best data bases will be those that tie compensation statistics with other data on the establishment or individual from which they are collected. From the academic viewpoint, fast turnaround of data is less important than comprehensiveness of the data base.

### iii. Policy Makers.

Macroeconomic policy relies heavily on aggregated information which, in the compensation area, involves measures of labor cost. Accuracy is important, since critical economic policy decisions may be made based on the data produced. And quick turnaround time between data gathering and dissemination is essential as policy is updated.

In the past, macroeconomic studies of wage determination relied heavily on data from the establishment survey, since that was the main source available. Aggregate establishment data, however, varied due to such factors as shifts in employment across industry and variations in overtime usage, along with adjustments in actual pay scales. From the macro viewpoint, the latter type of adjustment is most critical. In addition, benefit information was omitted.

The Employment Cost Index has offered a better alternative for macro judgments in recent years than either establishment survey data or even the more comprehensive index of compensation per hour.<sup>17</sup> Indeed, a case can be made for computing unit labor cost trends utilizing the ECI rather than compensation per hour.<sup>20</sup> The ECI could provide still more useful information to policy makers in the future if data showing the dispersion of pay change were published along with the movement of the average. For example, a widening of the dispersion of pay decisions might indicate a growing diversity of labor market conditions, with some employers experiencing tight labor

markets while others still operated in soft markets.

ECI data on benefits reflect only current employer expenditure, not necessarily the value of promised future benefits. As already noted, in the area of pension plans, this discrepancy can be significant where there are unfunded liabilities. Although private sector pension plans are subject to the ERISA regulations concerning funding adequacy, state and local government plans are not.

While analysts have not found a general tendency to underfund public pensions relative to private, in some instances public pension plans have accumulated considerable unfunded liabilities.<sup>21</sup> From the macro viewpoint, information on pension underfunding can have significance for the study of aggregate saving and retirement behavior. At the micro level, federal policy makers must be concerned with the health of the Pension Benefit Guarantee Corporation and state and local policy makers must look to longer-term fiscal implications for their jurisdictions. While it would be difficult to reflect the true value of promised benefits in the quarterly ECI, periodic reports on the unfunded liability issue could be useful supplements. The expenditure vs. value dichotomy will become progressively more important as the aging American workforce nears retirement age.

Because of the shrinkage in the union sector, the heavy emphasis once placed on trends in union pay settlements by macro policy makers has been diminished. However, the visibility of collective bargaining ensures that there will continue to be some macro interest in the settlement data. From the macro viewpoint, the lack of base wage information for the settlements reported in Current Wage Developments has long been a problem; it is difficult to compute percentage pay increases from cents-per-hour increments.

Another longstanding problem has been the exclusion of possible escalator adjustments from reported new settlements data. BLS understandably is reluctant to forecast inflation rates. However, the index might be reported

with an adjustment assuming that the current inflation rate will continue. Or a menu of inflation assumptions might be provided.<sup>22</sup> Consideration should be given to parallel treatment of other forms of contingent pay, notably profit sharing. To the extent that data on union settlements is made available for computer use, options might be provided for the user to plug in alternative assumptions about inflation and profitability.

The growth of lump-sum payments in the union sector has posed a similar difficulty. Given the frequency with which such payments are now made, lump sums can no longer be considered a temporary aberration. Indeed, one survey of larger firms suggests these bonuses are used in the nonunion sector almost as frequently as in the union sector.<sup>23</sup> BLS might consider following the practice of the private Bureau of National Affairs, Inc., and publishing its union data with and without inclusion of lump sums. If nonunion lump sums are indeed widespread (or become so), similar treatment of the lump sums in the ECI and the establishment survey might be warranted.<sup>24</sup>

The BLS data on foreign labor costs in manufacturing is a valuable tool for policy makers and economists interested in understanding swings in international trade competitiveness. During the 1980s, for example, the movements in dollar-denominated foreign compensation per hour and unit labor costs highlighted the crucial role of the dollar exchange rate in influencing trade trends. Large swings in the exchange rate dominated comparatively small differentials in national rates of wage inflation in determining relative costs.

BLS has tended to present its foreign wage cost data in an index number format, although the absolute values are also of great use. Because of the interest in contingent pay and lump-sum bonus arrangements in the U.S., it would be useful to provide more information on this component of foreign pay.<sup>25</sup> The existence of relatively large bonus payments relative to total compensation has been a noteworthy feature of pay practices in Japan and

certain other countries.

The lump sum issue points to a more general need on the part of macro policy makers. Macroeconomics inherently involves the use of aggregate indexes and data. But exactly what should be included in the aggregate series can be debated. As both macro theory and institutional arrangements change, the kind of data demanded will also vary. Indeed, different policy makers and analysis may want different aggregations. As in the case of academic needs, access to the data base can resolve the problem of changing demands in the future. With access, each user can calculate customized indexes which meet their analytical requirements.

#### V. The Future from a User Perspective.

Because of the difficulties in predicting the future direction of compensation practices, the best approaches to data gathering in the future are those which preserve options and do not lock in particular assumptions about institutions and processes. With regard to dissemination, the best approaches are open ones which provide users with the ability to tap into the data set within the limits of confidentiality. Even when resource constraints make publication of a data set difficult, options should be preserved for private sector dissemination of BLS data.<sup>24</sup>

Finally, BLS needs to develop the capability to survey attitudes and intentions of pay setters. Surveys on planned pay adjustments, which are now left to private compensation consulting firms, could be more accurately undertaken by BLS. Just as BLS once published bulletins on pay practices in major union contracts, so it will need in the future to survey pay practices such as incentive programs and pay for knowledge, both union and nonunion. Again, private surveyors of such information exist, but their approaches to sampling, and their willingness to provide data to non-subscribers, leave much to be desired. In the coming decades, BLS must continue to be what it has been for many years, the pre-eminent source of compensation data.

## FOOTNOTES

1. The official history of the BLS devotes substantially more space and attention to controversies and developments surrounding the Consumer Price Index and data relating to employment and unemployment than to compensation. See Joseph P. Goldberg and William T. Moye, The First Hundred Years of the Bureau of Labor Statistics (Washington: GPO, 1985). A general history of BLS wage gathering and dissemination can be found in H.M. Douty, "A Century of Wage Statistics: The BLS Contribution," Monthly Labor Review, vol. 107 (November 1984), pp. 16-28.
2. Howard N. Fullerton, Jr., "Labor Force Projections: 1986 to 2000," Monthly Labor Review, vol. 110 (September 1987), p. 28.
3. Walter Y. Oi, "The Fixed Employment Costs of Specialized Labor" in Jack E. Triplett, ed., The Measurement of Labor Cost (Chicago: University of Chicago Press, 1983), pp. 84-96.
4. Michael J. Piore and Charles F. Sabel, The Second Industrial Divide: Possibilities for Prosperity (New York: Basic Books, 1984).
5. Rapid growth in employment through temporary help agencies was noted in the 1980s. See Max L. Carey and Kim L. Hazelbaker, Monthly Labor Review, vol. 109 (April 1986), pp. 37-44. See also Richard S. Belous, "How Human Resource Systems Adjust to the Shift Toward Contingent Workers," Monthly Labor Review, vol. 112 (March 1989), pp. 7-12.
6. For example, the rise in employment at temporary help agencies led BLS to collect data on pay of such employees. See Harry B. Williams, "What Temporary Workers Earn: Findings from New BLS Survey," Monthly Labor Review, vol. 112 (March 1989), pp. 3-6.
7. Thus, when the issue arose of publishing information on the absolute levels of wage and benefit costs as part of the Employment Cost Index, a combination of practitioner and government users were the main force in obtaining the new data. See G. Donald Wood, "A New Measure of the Cost of Compensation Components," Survey of Current Business, vol. 68 (November 1988), p. 43. Academic researchers had long been interested in wage vs. fringe trade-offs, but their need for such data was frustrated when the BLS stopped producing an earlier series on wage and fringe costs in the 1970s. The only private source of such data, an annual survey by the Chamber of Commerce of the United States, is not made available for academic use. Despite their concerns, academics had no formal avenues to express their continuing interest in data on wage and benefit costs.
8. Academic members of the Executive Board of the Industrial Relations Research Association made various efforts to have the IRRA take positions against proposed budget cutbacks affecting the BLS. Because of the IRRA's tripartite structure, it was not possible to achieve consensus on this issue, but the organization has since maintained a statistical subcommittee to monitor budget and other developments affecting federal statistical programs. (Records of the Board debates on this issue can be found in the 1981 and 1982 annual Proceedings volumes). A related organization made up of major academic industrial relations programs, then known as the IR Center Directors, took a more active role in making contact with congressional representatives and staff and administration officials.

9. One study found that 93% of respondent employers reported using wage surveys as part of the pay setting process. Only 34% of those using such surveys reported that they utilized BLS data, perhaps because of some of the problems related to speed and detail discussed in this paper. See Bureau of National Affairs, Inc., Wage & Salary Administration, PPF Survey No. 131 (Washington: BNA, 1981), p. 3.
10. For information on pattern bargaining in the period before the 1980s, see Daniel J.B. Mitchell, Unions, Wages, and Inflation (Washington: Brookings Institution, 1980), chapter 5.
11. See Audrey Freedman and William E. Fulmer, "Last Rites for Pattern Bargaining," Harvard Business Review, vol. 60 (March-April, 1982), pp. 30-48; Audrey Freedman, The New Look in Wage Policy and Employee Relations, report no. 856 (New York: Conference Board, 1985), pp. 7-10.
12. There are precedents in other settings for data collection about intentions by government agencies. For example, information is collected about intended future investment outlays. And persons not in the labor force are asked about their future job seeking plans.
13. In the 1970s, median percentage wage adjustments in manufacturing were generally higher for major union agreements than for all union agreements. Thus, the non-major agreements apparently provided smaller adjustments than the major agreements. See U.S. Bureau of Labor Statistics, Handbook of Labor Statistics, bulletin 2070 (Washington: GPO, 1980), pp. 306-307.
14. BLS estimates the number of workers represented under major union agreements as part of its annual wage calendar. An estimate of total union representation is made as part of the CPS. In 1980, the ratio of major union workers to those who were union represented in the private, nonagricultural sector was 60%. By 1988, the ratio had fallen to 52%.
15. Alice Nakamura and Masao Nakamura, "New Measures of Nonwage Compensation Components: Are They Needed?," Survey of Current Business, vol. 69 (March 1989), p. 61.
16. Because of budgetary pressures, concern has been expressed concerning duplication of surveying efforts by different government agencies. If these difficulties can be overcome, one byproduct could be more information about the surveyed establishments which could be linked to their pay practices. See the statement of Courtenay Slater in U.S. Joint Economic Committee, The Quality of the Nation's Economic Statistics, hearings of March 17 and April 17, 1988, 99th Congress, 2nd session (Washington: GPO, 1986), pp. 27-28, 83-84.
17. Union wage and salary increases reported by the ECI have been lower than nonunion since 1983. Yet the CPS-reported ratio of union to nonunion usual weekly earnings for full-time employees has show comparatively little change during the 1980s. For example, the CPS ratio for the private, nonagricultural sector rose from 34% in 1984 (the first year available) to 36% in 1986 and then dropped to 33% in 1988. During this period, the ratio as calculated from the ECI dropped steadily and showed a decline of over 5% from June 1984 to June 1988. For discussion of the lack of evidence of concession bargaining in CPS data, see Richard B. Freeman, "In Search of Union Wage Concessions in Standard Data Sets," Industrial Relations, vol. 25 (Spring 1985), pp. 131-145.

18. William M. Davis and Fehmida Sleemi, "Collective Bargaining in 1989: Negotiators Will Face Diverse Issues," Monthly Labor Review, vol. 112 (January 1989), p. 14.
19. To assist in the evaluation of establishment survey hourly earnings data, the BLS published an hourly earnings index up through 1988 which adjusted for interindustry employment shift and overtime in manufacturing. The ECI is intended as a replacement for the hourly earnings index and the latter is no longer published.
20. Since the currently-used measure of output per hour reflects changes in the mix of industry output, it might be desirable to match the ECI with a fixed-base index of output per hour. The two indexes in combination would permit calculation of a consistent measure of unit labor costs.
21. For discussion, see Arden R. Hall and William D. Smith, "The Financial Condition of Public Employee Pension Plans" in Werner Z. Hirsch and Anthony M. Ruffolo, eds., The Economics of Municipal Labor Markets (Los Angeles: UCLA Institute of Industrial Relations, 1983), pp. 247-273.
22. This suggestion is made in Donald A. Nichols, "Wage Measurement Questions Raised by an Incomes Policy" in Triplett, ed., The Measurement of Labor Cost, op. cit., p. 461.
23. See John Thomas Delaney, David Lewin, and Casey Ichniowski, "Human Resource Management Policies and Practices in American Firms," reprint series, Industrial Relations Research Center, Graduate School of Business, Columbia University, 1988, p. 22.
24. Under special agreement with the aerospace industry, information including lump sums has been provided recently for that industry in both the establishment survey and the ECI.
25. BLS does have information on this component of pay, although it has not been prominently featured when the foreign pay data have been disseminated.
26. For example, the Industrial Relations Center of Cleveland State University plans to revive the discontinued BLS bulletins on characteristics of major collective bargaining agreements - which contained information on a variety of pay and other practices - using BLS data.