

EARNINGS CONCEPTS AND DATA AVAILABILITY FOR THE CURRENT EMPLOYMENT STATISTICS SURVEY: FINDINGS FROM COGNITIVE INTERVIEWS

Karen L. Goldenberg and Jay Stewart, Bureau of Labor Statistics
Karen L. Goldenberg, BLS, 2 Massachusetts Avenue N.E., Room 4985, Washington, DC 20212

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1. Introduction

The Current Employment Statistics (CES) Survey is conducted monthly by the U.S. Bureau of Labor Statistics (BLS), and is the source of national statistics on month-to-month change in employment, hours and earnings. At present, hours and earnings estimates are computed for a subset of employees, and earnings are based on the fairly limited concept of "payroll." BLS recently completed a pilot study to explore the collection of hours and earnings data for all employees (AE), and the collection of AE earnings based on a more comprehensive earnings concept. This paper reports the results of exploratory interviews conducted prior to the pilot study. In these interviews we examined issues underlying the current and proposed concepts.

2. Background and Definitions

CES is a monthly survey of approximately 400,000 business establishments. It is an ongoing survey, where respondents report 6 or 7 data elements each month (the number depends on the industry). Participants have a wide array of reporting options and can submit their data by mail, telephone interview, touchtone data entry (TDE), fax, or electronic data interchange.

The primary CES data element is the number of employees who worked or received pay for the pay period that includes the 12th of the month. In addition, the survey obtains the number of hours paid and the total payroll paid to production workers (PW) in manufacturing and construction industries, and to nonsupervisory workers (NSW) in all other industries, again for the pay period that includes the 12th of the month. In this context, *payroll* (or *total payroll*) is defined as the total dollar amount paid to PW/NSW employees, before deductions, including overtime, paid leave, commissions if paid at least once a month, and bonuses if they are paid each pay period. This definition of payroll excludes most other payments.

The more comprehensive earnings concept comes from the ES-202 program, and is called *earnings* or *total earnings*. ES-202 refers to the administrative files generated by State Unemployment Insurance (UI)

programs. These records consist of quarterly statements submitted by all U.S. employers to their State UI offices. The statements show employee earnings along with appropriate payroll taxes. Earnings refers to the total amount paid by employers to their employees, including commissions, bonuses, sick pay, the cash value of payments in kind, and in some cases fringe benefits or sick pay distributed by a third party.¹ If CES were to obtain earnings instead of payroll, we would collect earnings for the entire previous month instead of the current month, in order to ensure that the figure included all payments.

The difference between the payroll and earnings concepts is *nonwage payments* (NWP). NWP include bonuses, awards, commissions paid less often than once a month, profit sharing payments, severance pay, the value of payments in kind (such as the use of a company car), and lump sum payments. Until such time as a decision might be made to change the earnings concept, it is important that CES respondents recognize the types of payments constitute NWP and so are not part of "payroll."

3. Method

The findings presented here come from a series of 13 personal-visit interviews with current CES respondents. Interviews took place in the Washington, D.C. metropolitan area between March and July, 1997. Respondents represented a broad range of industries and employment size classes. Members of the project team conducted the interviews, which were audio-taped and subsequently transcribed for analysis. Interviews averaged about an hour.

We conducted semi-structured interviews, working from a protocol that addressed topics relevant to the planned pilot study. The protocol incorporated elements of a respondent debriefing and a response analysis survey. More specifically, we began the discussion with a series of hypothetical questions asking respondents if they could report key data elements. Then we considered those data elements in more detail. We asked respondents to tell us, in their own words, how they understood the terms BLS uses to describe CES concepts (e.g., payroll, lump sum payments, nonwage payments). Next, we asked whether employers made specific types of payments to their employees (e.g., commissions, profit sharing), and we related that

¹ There are small variations in the specific components of total earnings across states.

information to the definitions. We discussed the extent to which the information in employers' existing data systems supported current CES reporting. Finally, we talked about availability of data on hours paid.

Because the number of cases is small, any conclusions to be drawn from them are suggestive rather than definitive. At the same time, the data provide insights into respondent perceptions of CES's fundamental economic concepts and show how changes to the data collection process would be affected.

4. The Respondent Perspective

While it is important to define and clarify concepts, the real question is what respondents do with those definitions. First, how do they *understand* the words, both those currently in use in CES and those proposed? Second, how do respondents *use* the concepts? Are they now reporting correctly? Finally, do the data systems on which reporting is based support either the current or the proposed CES concepts?

Earlier research demonstrated the collectibility of earnings and hours data for AE (BLS, 1981; Rosen and Farrell, 1986), although this research was based on payroll and not earnings. BLS has not previously studied respondents' understanding of earnings concepts. As with most establishment surveys, there is a basic assumption that respondents have a good understanding of economic concepts and can take data directly from business records (e.g., Griffiths and Linacre, 1995). But a growing body of literature challenges these assumptions by documenting respondent *misunderstanding* of economic and other concepts (e.g., Christenson and Tortora, 1995; Goldenberg et al., 1993; Jenkins, 1992).

One factor in respondent misunderstanding, at least in self-administered surveys, is that the mechanism for conveying definitions to respondents is a detailed set of written instructions. However, respondents typically do not read instructions, especially if they think they know what is being requested.² As a result, where terms have a technical meaning, or have been specifically defined for a survey, respondents may misinterpret what they are being asked to do, resulting in measurement error.

5. Results: Earnings Concepts

What words should we use to convey the particular concept that we want to collect? BLS has traditionally phrased questions with its standard terminology and then defined those terms on the data collection form, but experience shows that that this practice is not always effective.

Concepts in the abstract. Given the possible expansion of CES from collecting payroll for PW/NSW to

collecting both payroll for PW/NSW and earnings for AE, we wanted to understand how these terms would be perceived. The project team speculated that *total payroll*, *total earnings*, and *total wages* might all be words which employers could use to describe the total amounts they paid to employees. We also considered the phrase *total compensation*, which has a very different meaning to economists. To assess understanding of these terms in the abstract, we asked respondents to explain the terms in their own words. Later in the interview we specifically placed the concepts in the context of the CES questionnaire. From the answers given, we considered whether:

- Respondent understanding and use of these terms mirrors BLS usage
- Respondents could differentiate between them
- One term conveys a sense of the concept better than another.

"They're all the same". Five of the 13 respondents felt that total payroll, total earnings, and total wages all meant the same thing and were basically interchangeable. Three others viewed total earnings and total wages as the same but thought that these terms were different from total payroll. One respondent equated payroll and wages. Most respondents made a distinction between these terms and compensation, although their descriptions of compensation varied widely.

Total payroll. Respondents' definitions of total payroll were consistently closer to the ES-202 earnings concept than to the BLS payroll concept. A few referred to total dollars, gross pay, or expense to the employer, with or without reference to "before taxes." Two respondents itemized the specific types of earnings they would include.

Total earnings. As noted, five respondents said that *total earnings* was the same thing as *total payroll*. A few respondents defined total earnings as the amount earned by employees, which is consistent with the BLS definition, while others referred to *employer cost*, or an annual rate of pay that could be for an individual or for the whole company. These ideas are not consistent with the BLS definitions and point to a problem with the terminology.

Total wages. Several respondents saw total wages as the same thing as total payroll, but about half understood the term to mean workers' individual rates of pay. The term had no meaning for two respondents.

Total compensation. Six respondents viewed total compensation as economists generally use the term, to include wages and salaries plus the value of all benefits. Others saw no difference between compensation and earnings, regardless of the definition of earnings.

Clearest term. We asked which of the four basic terms, if any, we should use to obtain inclusive reports of earnings (i.e., the ES-202 concept). Most respon-

² In the research reported below, we asked respondents how often they looked at the directions on the CES form. Most respondents said "once or twice a year," or "never."

dents felt that either "payroll" or "earnings" would give us what we wanted. Four respondents recommended total payroll, thereby reinforcing the notion that "total payroll" is what they call earnings under the ES-202 concept.³ Five felt that "total earnings" was clearest.³

In short, at least in the abstract, the understanding of earnings concepts among this small group of respondents differs from BLS definitions. Payroll and earnings are more or less interchangeable, meaning that to respondents payroll encompasses the bonus, commission, and other payments that BLS specifically excludes. Neither total wages nor total compensation appear to be viable alternative terms.

"Total Payroll" in the CES Context. The cognitive task now presented to employers on the CES form is complex. In the general model of cognitive response to survey questions, respondents must: (1) comprehend the question, (2) search their memories to retrieve an answer—or, for record-based data, the availability and location of the information, (3) make judgments about how best to report that answer, and then (4) communicate that answer to the source of the question (Tourangeau, 1984), which in this case is the CES form, interviewer, or Touchtone Data Entry system. In the specific context of CES payroll reporting, first respondents must understand the terms *payroll*, *overtime*, and *lump sum payments*, and the concepts underlying them. Second, they must identify the employees who are production or nonsupervisory workers. Third, they must understand the concept of the pay period including the 12th and relate it to their own pay schedules for the appropriate group of workers. Finally, they must connect all these elements. Only then can they locate the appropriate records and report for the correct pay period.

During the first three interviews, we observed that respondent descriptions of total payroll did not match the BLS definition. In the remaining interviews, we examined this discrepancy by reading the definition from the CES form and asking respondents to paraphrase it:

"Report the total production [or nonsupervisory] employee payroll, including overtime and excluding lump sum payments for the pay period that includes the 12th of the month." In your own words, what is the Bureau asking for?

Two respondents seemed surprised by the phrase "excluding lump sum payments," indicating that they had not noticed the exclusion. Others seemed to grasp

³ One term that did appear frequently was the word "gross." This term surfaced when we asked about total payroll rather than total earnings, and seemed to convey the inclusiveness sought by the ES-202 concept. Consequently, we used it in the pilot study when we asked for Total Gross Earnings for the previous month.

the idea that lump sums were not part of the definition, although it's not clear whether they were aware of it prior to hearing the question. Several respondents interpreted the question in terms of the ES-202 concept, as they did earlier when we asked for the definition in the abstract. Among these respondents, those that made NWP or paid lump sums were as likely as those who did not to mention to lump sum payments in their interpretation of the payroll question. Finally, two respondents focused on the workers covered, rather than on remuneration to employees.

When they paraphrased the payroll definition, most respondents focused on one or two elements rather than on the entire concept. This suggests that the question contains more material than can be readily grasped at one time, and that the question wording may be contributing to measurement error.

Nonwage Payments. The back of the CES form contains a list of NWP that respondents should exclude from the reported PW/NSW payroll amount. Some of the excluded payments are general and some are industry specific. The list of exclusions contains bonuses (except those paid each pay period), retroactive pay, annual pay for unused leave, payments in kind, pay advances, tips, commissions not paid monthly, travel expenses, and "lump sum payments."

Previous research on NWP. BLS has conducted research in the past on supplements to wage and salary earnings. The FY1989 CES Earnings Supplement Pilot Test assessed the collectibility of nonwage payment data and the quality of those data. Based on the Response Analysis Survey (RAS) following the pilot test, most respondents felt that they understood the concept of nonwage payments. However, a significant number of NWP went unreported in the pilot study and were only uncovered during the RAS. Reasons for nonreporting included lacking records with which to ascertain dollar amounts, forgetting about the payments, and most relevant for this purpose, misunderstanding the payments to be reported (BLS, 1990).

Cognitive assessment of NWP terminology. The current research addresses many of the reporting errors and omissions identified in the earlier study. At different points in the interview, we asked respondents for their interpretation of the terms "lump sum payment," "nonwage payment," "bonus," and "cash award." We also asked whether employers paid bonuses, commissions, advances, retroactive pay, or severance pay, in an effort to see if an understanding of these key terms was consistent with behavior in reporting about them.

Lump sum payments and nonwage payments. The phrase "lump sum payments" appears on the CES form as part of the PW/NSW payroll column heading, so we asked about it immediately after obtaining the respondent's interpretation of the form's payroll item. As used here, "lump sum payments" is intended to cover pay-

ments made to employees in lieu of a salary increase, or to supplement a smaller salary increase. Regardless of the intended meaning, our respondents viewed lump sum payments as various types of nonwage payments. Nine interviewees specifically mentioned bonuses, and three used the word commissions.

Are NWP different from lump sum payments? We asked respondents to describe NWP in their own words. This question was separated from the one on lump sum payments by several minutes of discussion. Three of the respondents used essentially the same words to describe both concepts, while others listed specific types of payments. On the other hand, four respondents spoke of employer contributions to benefits, which are not NWP for CES or ES-202 purposes. Perhaps the term "lump sum payments" more clearly conveys to respondents the sense of the exclusions, even if it originally had a different meaning.

Bonuses and cash awards. The CES form instructs respondents to exclude payments for bonuses and cash awards, except for bonuses that are paid each pay period. Respondents do have a good sense of bonuses. In answer to our query, ten respondents described bonuses as forms of additional compensation or extra payments, in most cases linked to either the employee's or the firm's performance. Two people actually used the words "lump sum amount." Respondents were less clear about cash awards.

6. Results: Data Systems

A key question underlying this research is whether existing data systems can supply the earnings and hours data for AE. Therefore, we explored the structure of the information systems to see how well the systems meet the purposes and definitions of CES. At the start of the interview, we asked if respondents could supply:

- AE payroll (CES definition) for the pay period including the 12th
- AE earnings (ES-202 definition) for the previous month
- Total NWP for the previous month
- AE hours paid for the pay period including the 12th
- AE hours paid for the previous month.

For the most part, the respondents answered each of these questions affirmatively. However, the response to these "up front" questions is only part of the story. Looking at both the initial answers and the more detailed information that came out in the interview, we see contradictions and refinements that negate the earlier answer. Respondents who said they can give us AE payroll for the pay period including the 12th are often providing BLS-defined earnings rather than "payroll." In addition, several who said they could compile NWP seem to be answering in terms of bonuses, rather than all types of NWP. When we

probed into the specifics of the data systems, several respondents volunteered that what we wanted was feasible, but would require either an intensive manual operation or additional programming.

All employee payroll, pay period including the 12th. If CES is to collect data for AE, respondents must have the ability to report AE payroll for the pay period that contains the 12th of the month. Eleven respondents first said that they could report this figure. During the interview, however, we asked if the payroll records for a single pay period contained one total that met the BLS payroll definition and that covered all employees. Faced with this more detailed question, only five people gave an unqualified "yes" answer. Three said that their payroll records included bonuses or other lump sum payments, although in two cases it would only be an issue once a year. The remaining respondents either didn't know or said no, their records did not meet this definition.

But even the employers who said their payroll records coincide with the BLS definition told us that bonuses are now included when they report PW/NSW payroll, or would be if bonuses were paid during the pay period including the 12th. Two others who said their records meet the BLS definitions also told us that the PW/NSW payroll data they now report *would* include bonuses, except that they didn't pay bonuses in the last year, or the bonuses appeared in a different pay period. Bonuses would almost certainly be included if we asked for AE payroll. This finding supports the notion described above of payroll as an inclusive concept.

We asked respondents whether they would be able to exclude bonuses from their reported AE payroll numbers. The answer was yes, but that it would require changes to existing procedures, and would be a manual task for some employers (especially smaller ones). Larger organizations with programming staffs seemed more willing to adapt their reporting.

Commissions are another element of payroll reporting that can be problematic for some industries. It seems that commissions appear in the pay system at the time of payment, so they would fall into in the payroll figure reported to CES, rightly or wrongly, if that pay period happened to be the one with the 12th of the month.

Four of the respondents we interviewed paid commissions to their employees. While all four reported correctly for PW/NSW, this would not have been the case if they had been providing data for all employees. Quarterly commissions to sales workers would appear in the AE payroll once each quarter.

The respondents' firms occasionally made other payments to their employees that we would label as nonwage payments. Four different respondents mentioned payments to departing employees for accrued

leave. Payments in kind (e.g., car allowance) also would appear in the payroll.

All employee earnings (ES-202 definition) for the previous month. As noted, most of the employers we interviewed said they could give us earnings for the previous month. In fact, it appears that most of them already do report earnings, but for one pay period rather than the whole month. If we asked for monthly earnings, they would generally sum weekly, biweekly, or semimonthly figures. In some cases the addition would also be across separate payroll groups (e.g. a weekly and a biweekly payroll).

Total nonwage payments. Most respondents do not compile a monthly summary of NWP. While these respondents initially told us they could provide total NWP for the preceding month, half said no when asked specifically about a dollar total amount for all NWP. Five mentioned a separate record of bonus payments once or twice a year, and one said a total was available because it would always be zero. Most respondents said the totals could be tracked manually.

It's clear from these and other comments that the questions were answered only in terms of bonuses. As noted above, however, most employers made other types of payments. If a separate collection of NWP is important, we will have to ask for it in a different way. Even then we may not get it. One respondent noted that there are no identifiers associated with severance pay, payments for accrued leave, or similar NWP, so they could not be separated from the rest of the payroll.

We asked respondents whether the easiest time period for compiling total NWP would be a month, a quarter, the calendar year, the fiscal year, or something else. Preferences were about equally spread across month, year, and "doesn't matter." Again, though, this understanding of NWP reporting equates NWP with bonuses. For most respondents it does not include other forms of nonwage payments.

Hours. Two of the economic indicators produced by CES are average weekly hours and average hourly earnings. These indicators require the collection of total hours paid. "Hours paid" is relatively straightforward for workers paid by the hour, and all employers with hourly-paid workers had adequate records to provide the data, including overtime hours and paid leave. Hours paid is more problematic for salaried employees, but can usually be based on some standard. The concept has less meaning, and therefore is more difficult, for employees whose earnings are based on commissions, piece rates, or miles driven.

Early in the interview, we asked respondents if they would be able to give us hours paid information for all employees. All but two respondents said "yes," both for the pay period including the 12th and for the previous month. As a rule, hours for salaried employees would be based on the number of hours in

the work week or the pay period. Two respondents said they would report actual hours.

Hours reports for employees whose earnings are solely commission-based are necessarily estimates. We encountered one such situation where the employees are personal-service workers whose income is a percentage of the fees paid for services. The respondent estimated hours paid from each employee's first and last appointments on the daily schedule, but noted that there were often gaps between those times. Commission sales present a similar quandary, especially for big-ticket items, such as real estate or securities, but we did not interview anyone in these industries.

7. Discussion

Results from the small number of exploratory interviews can only be viewed as suggestive, but there are some patterns that emerge. First, respondents do not distinguish between "payroll" and "earnings" as defined by BLS. Rather, it appears that "payroll" is what goes to the employee, including a variety of nonwage payments that are specifically excluded by the CES payroll definition.

Second, respondents have a fairly limited view of nonwage payments and lump sum payments. Most associate both of these terms with bonuses, even when they offer severance pay, profit sharing, use of a company car, or similar forms of nonwage compensation. In addition, while most respondents indicated that they could provide total NWP monthly, it became clear later that they were talking about bonuses and not the other items. Further investigation revealed that preparing monthly NWP totals would be done manually and that the NWP total would include some, but not all, NWP. A 1989 BLS study found NWP to be about 3 percent of the total reported annual payroll (BLS 1990), which probably means 3 percent of "earnings."

Third, employer data systems can be significant limiting factors. "Total payroll" is what comes out of the information system, "total payroll" conforms more closely to "earnings" than to "payroll", and "total payroll" appears to be reported now for PW/NSW. In some cases, respondents noted that payments could not be eliminated from payroll because they were not coded separately (e.g., accumulated vacation paid to an employee who left the firm). Since 8 of the 13 respondents used payroll service bureaus, most of the people we spoke to have little control over the way the data are handled. On the other hand, large organizations with internal programming staffs demonstrated the capability and willingness to report data that match BLS concepts, and large organizations by definition cover a larger percentage of employment than small ones—thereby reducing the effect of this limitation.

Fourth, the interaction of employer data systems and misreported NWP is probably not too significant

most of the time. The concern arises from unusual behavior that would increase payroll in a nonrandom way—e.g. annual bonuses that tend to be concentrated at certain times of year (especially December and January). Employers seem to be more aware of bonuses than other NWP and could probably more easily subtract them. Quarterly commissions could present another potential bias, unless respondents can be trained to omit them. Most other NWP, however, would be distributed across the year or paid on a recurring basis, and so would not have a noticeable biasing effect on reported payroll. After all, CES measures month-to-month change in these variables.

Fifth, it appears that we can collect data on hours paid for all employees.

The original question underlying this research was whether respondents could give us AE earnings, AE hours, and NWP. We conclude from these interviews that the answer is "Yes, but..." *Yes*, the data can be supplied—*but* the respondents are generally not attentive to the details of the concepts. *Yes*, there may be measurement error—*but* the effect of it will generally be small. If CES continues to collect "payroll" rather than earnings, it would be useful to educate respondents and encourage them to report data that more closely match our definitions. To the extent that they cannot, we could develop procedures to identify reported data that includes NWP, so we can adjust for it.

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