Employer Provided Health Insurance
What can be learned from the Form 5500?

Final Report
January 2006

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The authors wish to acknowledge the substantial contributions of LEHD Staff, in particular Kristin Sandusky, Martha Stinson, and wish to thank John Abowd, former Office of Policy and Research employee Dan Beller, Kristin McCue, as well as David McCarthy and Elaine Zimmermann of the Office of Policy and Research (Department of Labor) for their comments.

This document reports the results of research and analysis undertaken by three authors while they were working at the U.S. Census Bureau. It has undergone a Census Bureau review more limited in scope than that given to official Census Bureau publications. This document is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed herein are attributable only to the authors and do not represent the views of the Census Bureau, the Office of Policy and Research (OPR) at the Department of Labor, its program sponsors or data providers. This research uses confidential data from the Census Bureau's Longitudinal Employer-Household Dynamics Program (LEHD), which is partially supported by the National Science Foundation Grant SES-9978093 to Cornell University (Cornell Institute for Social and Economic Research), the National Institute on Aging, and the Alfred P. Sloan Foundation. Integration of the Form 5500 pension data has received support from the Office of Policy and Research at the Employee Benefits Security Administration (EBSA) of the Department of Labor. The Census Bureau is preparing to support external researchers' use of these data; please consult http://lehd.dsd.census.gov.

Executive Summary

Background. Estimates of the uninsured population range from 21 million to 40 million, depending on the definition[1]. Over 60 percent of adult nonelderly individuals who were uninsured cited the inability to get health insurance from employers as a reason for the lack of health insurance – and 83 percent among those who were uninsured for twelve months or more. This highlights the importance of taking a closer look at the characteristics of firms that do and do not provide health benefits as one component of research on the uninsured population.

Existing data provide important insights on employer provided health benefits, particularly the percent of workers who have health benefits available through their employers and the percent who participate. However, we have much less detail available on the firms themselves -- particularly how these firms' benefit offerings evolve over time, how costs of health benefits and cost-sharing with employees is changing within firms, and whether those firms' employees are aware that their employers offer benefits.

This study examines a new data set constructed by the Longitudinal Household Dynamics Program (LEHD) of the Census Bureau, and it assesses its potential not only to answer questions like these but also to triangulate evidence on employer provided benefits with other data sources.[2] The new data enhance existing administrative records on benefit plans filed by firms -- improving the match between plans and the individual employers who offer them and tracking those employers' offerings over time. The enhanced data also contain linkages to SIPP and CPS survey responses for the employees who work within these firms.

Because these data offer significant enhancements to firm-level data that were not previously possible, and because they are part of a larger data set already being explored within an ASPE-funded project, ASPE felt it was worthwhile to conduct a preliminary assessment of the data's potential value for informing research questions on employer-provided health benefits. As these data have not yet been fully analyzed, it is important to assess their quality and representativeness as a first step in determining whether they merit further exploration, and that is the primary purpose of this report. It is well-known that the stand-alone administrative data on employer filed health benefits (the 5500 data) have several limitations, but it is hoped that the enhancements resulting from the linked file explored in this study can overcome some of these problems and support informative analysis on several key questions regarding employer provision of health insurance.

Research Questions. We first explore what proportion of the health benefit plans on file in the 5500 data can accurately be linked to specific employers. Second, we examine how the proportion of firms offering health plans observed in these data coincides with

[1] How Many People Lack Health Insurance and For How Long? CBO, May 2003

[2] A similar integration of the Form 5500 pension benefits data and the Census Business Register data was explored previously through funding by the Office of Policy and Research at the Department of Labor.

what we observe in other data sources. Next, we look at individual workers and whether their employment by firms that have and have not filed health plans is consistent with their self-reports of access to health benefits as reported in the CPS and the SIPP. Finally, we discuss the types of questions that these data could inform, and offer some descriptive findings on changes in employer health benefits over time as an illustration of what the first steps of such a research agenda might look like.

Results. We find that while the linkages to the Census Business Register did increase our ability to match the health plans on file in the 5500 data back to individual employers, the resulting count of employers that provide health benefits is substantially smaller than that observed in data drawn from worker and employer based surveys. Thus, the data are not well suited to measuring the prevalence of employer offerings of health plans.

Nonetheless, the patterns of health plan offerings by firm age, size and industry appear similar to those identified in other data. Offer rates are much higher among older and larger firms and within particular industries consistent with those seen in other data. In addition, we see an encouraging level of concordance between employer filings of health plans within the 5500 data and survey responses of their workers regarding access to employer provided health benefits. The instances of discordance may themselves be informative, as additional analyses indicate that some such cases may actually reveal a significant share of workers that are unaware of health benefits available on the job.[3]

While we do understand that the Form 5500 health data do not cover all existing health plans, we believe that these findings provide a preliminary yet promising indication that the 5500 data are representative of the firms that provide health plans, at least among large firms. Thus, these data could contribute much to our understanding of the types of firms that offer benefits and the dynamics behind those offers over time. Additional analyses, proposed below, could provide a more definitive assessment of the data's representativeness and appear merited based on these preliminary results.

In summary, these data provided a useful triangulation with several other data sets regarding the availability of employer provided health plans. More importantly they offer the potential for a new analysis of the way in which changes in firms and firm characteristics affect the availability of employer provided health benefits over time. The new types of questions that could be answered with these data include: a) how does economic turbulence -- new firms entering a sector, existing firms dying, or changes in existing firms – affect the benefits offered in a sector?; b) do changes in worker reports of changing levels of employer benefits accurately reflect changes in employer offerings? c) how much of increases in employers' health insurance costs are passed along to workers and d) how much do such increases affect participation?[4]

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[3] Other reasons for discordance are misunderstanding of the question or the unwillingness to answer correctly by the respondents

[4] In particular, the richness of the Census Business Register together integrated with the information of the Form 5500 data could help answer questions a) and b), and some information on the Form 5500 and the SIPP and CPS surveys could be used to answer questions c) and d).

In our example of descriptive analyses on the evolution of employer provided health plans between 1997 and 2001, we find some interesting results. In particular, we find that there are differences by industry, age and size – one example being that more large firms ended health plans than began them over the five year span, resulting in an overall decline in health plans among large firms. Expanding these analyses to address questions like those posed above could greatly increase our understanding of the factors underlying these changes.

1. Introduction

Background. Estimates of the uninsured population range from 21 million to 40 million, depending on the definition[5]. Over 60 percent of adult nonelderly uninsured individuals cited the inability to get health insurance from employers as a reason for the lack of health insurance – and 83 percent among those who were uninsured for twelve months or more. This highlights the importance of taking a closer look at the characteristics of firms that do and do not provide health benefits as one component of research on the uninsured population.

Existing data provide important insights on employer provided health benefits, particularly the percent of workers who have health benefits available through their employers and the percent who participate. However, we have much less detail available on the firms themselves, particularly how these firms' benefit offerings evolve over time, how costs of health benefits and cost-sharing with employees is changing, and whether employees appear to be aware that their employers offer benefits.

This study examines a new data set and assesses its potential not only to answer questions like these but also to triangulate evidence on employer provided benefits with other data sources. The dataset takes administrative records from the Department of Labor's Employee Benefit Security Agency's 5500 data that detail firms' health and other benefit plans and combines them with the Census Business Register, a powerful resource that allows us to link those plans back to individual employers. The data also link those firms to their workers who had responded to two major sources of information on employer-provided health insurance: the Current Population Survey and the Survey of Income and Program Participation. This new database – which combines administrative and survey based data on firms in 1997 and in 2001 – has the potential to provide detailed information on the firms offering health benefits and track coverage over time. The data are maintained within the Bureau's LEHD (Longitudinal Household Dynamics) data program, an extensive database linking various administrative and survey records on both workers and firms longitudinally. [6]

[5] How Many People Lack Health Insurance and For How Long? CBO, May 2003

[6] More information on this program, which combines administrative records on employers and employees from state and federal sources, is available at http://lehd.dsd.census.gov.

Because these data offer significant enhancements to firm-level data not previously possible and because they could be readily explored within a current ASPE-funded analysis of LEHD data, ASPE felt it was worthwhile to conduct a preliminary assessment of the data's potential value for informing research questions on employer provided health benefits. As these data have not yet been fully analyzed, assessing their quality and representativeness is a key first step in determining whether they merit further exploration, and that is the primary purpose of this report. It is well-known that the stand-alone administrative data on employer filed health benefits—the 5500 data-- have several limitations, but it is hoped that the enhancements resulting from the linked file explored in this study can overcome some of these problems and support informative analysis on several key questions regarding employer provision of health insurance.

Research Questions. We first explore what proportion of the health benefit plans on file in the 5500 data can be accurately linked to specific employers. Second, we examine how the percent of firms offering health plans as observed in these data coincides with what we observe in other data sources. Next, we look at individual workers and whether their location in firms that have and have not filed health plans is consistent with their self-reports of access to health benefits as reported in the CPS and the SIPP. Finally, we discuss the types of questions that these data could inform, and offer some descriptive findings on changes in employer health benefits over time as an illustration of what the first steps of such a research agenda might look like.

Approach. We begin by matching 5500 files for 1997 and 2001 to the 1997 and 2001 Census Business Register. The match to the Business Register allows us to link plans with offering firms more completely than could be done using the 5500 data alone. We then use administrative records to match those firms to their workers who responded to the 1996 SIPP and 1997 CPS files[7]. The 1997 match of enhanced 5500 data with CPS and SIPP data is used primarily to assess the consistency of the 5500 data with what we observe in other sources. The 1997 to 2001 comparison of enhanced 5500 data is used to explore changes in firm offerings of health plans, as an example of the type of analyses that can be done with these data.

2. Data Description

2.1 IRS Form 5500

IRS Form 5500 is an annual report that employers are generally required to file on tax-preferred benefit plans that they offer to employees. This is potentially a valuable source of information on the availability of employer-provided health insurance, since there is a rich amount of detail available. Information reported on Form 5500 includes name, address, and Employer Identification Number (EIN) of the plan sponsor (usually the employer) and of the plan administrator; the industry code of the sponsor; benefit plan name and type; number of plan participants; information on plan amendments, mergers

[7] The reason for the apparent difference in dates is that the 1996 SIPP is a 48 month longitudinal survey that covers 1997.

and consolidations; funding; benefit arrangements; plan assets, liabilities, expenses and income (including the total of employee contributions for each plan); and whether the plan is part of collective bargaining agreements.

However, the coverage of the file is an issue. Generally speaking, firms that provide health plans covering 100 or more participants filed form 5500 reports to the IRS in order to claim the appropriate tax deduction. However, plans that have fewer than 100 participants and that have particular financial restrictions on the plan[8] are not required to be filed. This poses a clear problem in that we cannot distinguish between firms that offer a plan but do not file because they have too few participants and firms that do not offer a plan. To minimize this issue, we focus primarily on businesses that employ more than 100 workers – which covers some 60 percent of the U.S. workforce.[9]

2.2 Characteristics of Firms That File The 5500 Form

Our extract of the Form 5500 file for 1997 includes 45,986 records for health plans with at least 100 participants covering more than 55 million participants (these are filed under an Employer Identification Number, or EIN).[10] The 15,237 records of health plans with less than 100 participants cover fewer than 600,000 participants. Given that the Form 5500 is more relevant for larger firms, most of the later tables below will only include firms with at least 100 employees.[11] Some 1,165 health plans that had records for 1996 and 1998, but not for 1997 were added, because these were likely to be filing omissions. A similar exercise was performed for 2001. This resulted in the addition of 611 records.[12]

For our purposes, we define a health plan as any combination of health, dental or vision plan. This is a reasonable assumption if one assumes that all firms that offer a dental or vision plan also offer a health plan. Of the EINs that have a health plan in 1997, 97.5 percent of firms offer a health plan or a health plan with either dental, vision or dental and vision. Only a small percentage of firms (2.5 percent) do not offer a health plan but do offer a dental and/or vision plan.

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[8] That is they do not have an explicit fund set aside to pay for the benefits (unfunded), or they bear none of the risk (they are fully insured).

[9] The geographic coverage is national except for matches to the Current Population Survey, where we use the subset of states that participate in the LEHD program (more detail provided in Section 5).

[10] The number of employees is reported by the plans as of the plan end date. Given that we are interested in using these employment numbers, we define the subsample of 1997 (or 2001) plans as all plans with a plan end date during 1997 (or2001), respectively, regardless of their actual date of filing.

[11] There exist 65,333 records for health plans in the 5500 File; for 61,223 plans participation numbers are available. 10 records with participation counts of more than 1 million were discarded.

[12] Records for plans with plan end dates of 2002 are found mostly in the 2001 or 2002 filings. Given that the 2002 filings were not available yet and given that for adding missing plans we required existing 2000 and 2002 records, there were less records added for 2001 than for 1997.

2.3 The Census Business Register

The Business Register provides information on firm age, payroll, employment, and company structure. The latter is especially useful because each 5500 health plan reports a single EIN, but large firms may have several subsidiaries with multiple EINs. Firms with several benefit plans might report their health plans either under several EINs or under just one EIN on the Form 5500. To properly look at firm statistics rather than plan statistics, additional identifiers are needed. Therefore, for 5500 EINs that appear on the Business Register as part of a multi-location firm, we use information on company structure from the Business Register (an identifier known as an ALPHA is associated with all establishments and EINs that have common ownership) to identify any other EINs (and affiliated establishments) that belong to the same company. We report the results separately for both single unit firms and multi-unit firms, because that is the way the Business Register is structured.

2.4 The Longitudinal Employer Household Dynamics Data

The Census Bureau already collects data on households and businesses with products including aggregate (e.g., national, industry, state, county) statistics on a large variety of variables including output, employment, income, earnings, capital expenditures, and poverty. In addition, the Census Bureau produces separate analytical micro datasets on households and businesses. The Longitudinal Employer-Household Dynamics (LEHD) program at the Census Bureau brings the household and business data together at the micro level using universe state level wage record data to create a comprehensive and unique resource for new analysis[13].

The key integration record in this case is the Unemployment Insurance (UI) wage record. Every state in the U.S. collects quarterly employment and earnings information through its State Employment Security Agency to manage its unemployment compensation program, enabling us to construct a quarterly longitudinal data set on employers. The employer's four-digit Standard Industrial Classification code is then added from another administrative file. Virtually all business employment is covered. The characteristics of workers are merged in from another administrative file. The longitudinal nature of the data permit the construction of job creation and destruction, accession and separation data for each business in the data set, as well as the direct calculation of when the business enters or exits.

3. What Proportion of Health Plans can be Accurately Matched to Employers?

3.1 Summary of Results

In order to identify each health benefit plan with a particular employer, we use the EIN to match the 5500 records to the 1997 Census Bureau's Business Register, which is a list of all private employers in the U.S. and their EINs. Based on this match, as Table 3.1 shows, almost 90 percent (46,354) of all health plans filed in the 5500 data can be linked to employers in the Business Register.

Table 3.1 – 5500 File Match to Business Register – 1997

Match to Single-Unit Firms in Business Register	Match to Multi-Unit Firms in Business Register	No Match to Business Register	Total EINs in 5500 file with Health Plan
17,808	28,546	5,358	51,712
34%	55%	10%	100%

[13] These data are integrated under strict confidentiality protocols – they are protected by both Title 13 and Title 26 of the U.S. Code, which means that disclosure of any individuals or businesses results in a $250,000 file and/or 10 years in jail. All data are anonymized with the Census Bureau, and the data may only be used for statistical purposes.

3.2 Potential Reasons for Nonmatches

This raises the question of why some plans that were filed in the 5500 data do not match to valid employers in the Census Business Register, and whether these nonmatches lead us to undercount or misrepresent the employers who offer plans. Ten percent of plans, or 5,388 plans covering 9,256,586 participants, failed to match to valid employers in the Business Register. There are a number of reasons why a match might not be valid for the purpose of studying private firms: the EIN might not be valid, or the employer in the Business Register is non-active or out-of-scope.[14]

To get a better understanding of the reasons why these plans that are present in the 5500 data failed to match to the Business Register, we took a detailed look at a sample of 203 of the largest such plans, covering over 5.7 million participants. This sample is comprised of all non-matched plans that covered a relatively arbitrary threshold of 75,000 participants because this accounted for almost two-thirds of the participants in plans that did not match. The reasons for nonmatch in the sample we examined are listed below in Table 3.2.

Table 3.2: Reasons for Non-match: Sample Plans

Number of plans	Total number of participants	Match to (invalid) records of the BR	Reason for non-valid match
26	624,081	no match to BR	EINs not recorded in BR.
90	1,971,765	no match to BR	Plans are out-of scope of BR (plan sponsor is government, union, or plan is set-up as a trust with a separate EIN), or EIN only an administrative EIN.
10	884,942	Match to (invalid) records of BR	Plans match to EINs in BR whose company structure is unclear.
19	428,867	Match to (invalid) records of BR	EIN in BR belongs only to establishments that died or that merged with other firms and had an unclear company structure.
58	1,878,331	Match to (invalid) records of BR	EIN in BR only had establishments with zero payroll and zero employment.

In sum, of the 203 plans in our sample that did not match to a particular business, 44 percent are attributable to sponsors that are out-of-scope, such as nonprivate employers or unions that cannot be found on the Business Register. Thus, for any analyses and discussions that focus specifically on the private sector labor market, these nonmatches are less of a concern. Additionally, 10 percent match to EINs that are nonactive — i.e. it appears the plans were sponsored by firms that after the start of the plan year, but before

[14] Records in the Business Register are considered non-active if they have zero payroll; an ownership change has occurred, or the firm discontinued. The Business Register is out-of-scope for non-private firms.

the survey date of the Business Register became defunct or have changed hands — and so these nonmatches are also unlikely to compromise the representativeness of the data.

More puzzling is the fact that over 12 percent of the sample of nonmatching plans we examined — 26 plans — appear to be in scope yet failed to match to any EIN in the Business Register. What employers are sponsoring these plans and does our inability to identify them bias how the data reflect the types of private employers that offer health plans? To address this concern, we manually investigated the 5500 plans that were in scope but that did not match to any record in the Business Register to learn more about the employers who sponsor them. Using detailed comparisons of name, industry and geographical information from both the 5500 file and the Business Register, we were able to confirm that most plans (17) were sponsored by firms that had already been identified as offering health plans elsewhere in the data. One of the plans could not be matched reliably, and only 7 plans matched to firms not already identified.

3.3 Implications of Nonmatches: Although nearly 10 percent of health plans filed in the 5500 data could not be readily matched back to a particular employer, it is likely that these unmatched plans do not greatly compromise the ability of the 5500 data to characterize the types of firms offering health plans by private employers. A detailed examination of a sample of these nonmatched plans revealed that most had been sponsored by nonprivate employers, by firms that were now defunct or had changed hands, or by firms that had already been identified as offering health plans elsewhere in the data. Of the 203 plans examined in the sample, comprising roughly 6 million participants, only seven plans with just over 100,000 participants were found to be sponsored by private, viable employers not previously identified.

4. Is the Rate of Employers Offering Health Plans Consistent with Other Data Sources?

Another important factor to consider in assessing the potential value of the 5500 data is how well findings on the prevalence of employer provided health plans coincide with what we see in other data sources, in particular results by firm age, size and industry. An important data source with which to compare is the Medical Expenditure Panel Survey (MEPS).

4.1 Identifying Firms that Offer Health Plans based on 5500 Data:

As noted above, almost 90 percent of all health plans filed in the 5500 data can be matched back to employers. This link encompasses a total of nearly 43,000 firms, just under half of which are single unit firms, as shown in Table 4.1 below.[15]

[15] It should be noted that, for purposes of this analysis, if at least one unit of a multi-unit firm reports offering a health plan we assume that all units of that firm have some health plan available. It is a difficult question whether a particular benefit is in fact offered at all establishments belonging to a company, or only to establishments reporting the EIN appearing on the 5500 Form. For now, we treat all parts of a company

Table 4.1 – Number of Firms That Can be Matched to a 5500 Health Plan - 1997		
Matches among Single-Unit Firms in Business Register	Matches among Multi-Unit Firms in Business Register	Total Business Register -Firms that can be matched to Health Plans
17,808	24,741	42,549

4.2 Calculating Health Plan Availability Rates in 5500 data:

The number of firms that match to plans filed in the 5500 data divided by all firms in the Business Register yields the percent of those firms that offer health benefits, or a coverage rate. This rate can also be calculated by firm size, age and industry. As noted above, most firms offering health plans with fewer than 100 participants are not required to file in the 5500 data, and so the coverage rate in these data for firms that do not have at least 100 employees is very low as would be expected (less than 1 percent). As can be seen from Table 4.2a, the data are more representative and the coverage rates higher for larger firms: 24 percent of firms with 100 to 499 employees, 56 percent of firms with 500 to 999 employees, and 75 percent of firms with more than 1000 employees have a health plan matched to them.

Another way to measure coverage is to calculate the proportion of employees that work at firms offering health plans. Table 4.2b provides an examination of the matched data from this perspective. This confirms that as firm size increases, rate of health coverage also increases. Among firms with more than 100 employees, the coverage rate of employees ranges from 30 percent for firms with 100-499 employees, 57 percent for those with 500-999 and 86 percent for those firms with more than 1000 employees.

Table 4.2a Percentage of Private Active Firms Matching to 5500 Health Plan, 1997		
Size of Firm	Total Number of Firms	Percent of Firms that Match to 5500 Health Plan
0-99 Employees	5,647,714	0%
100-499 Employees	80,687	24%
500-999 Employees	8,187	56%
>= 1000 Employees	8,204	75%

Table 4.2b Percentage of Workers that are in Firms Matching to 5500 Health Plan, 1997		
Size of Firm	Total Number of Workers	Percent of Workers in Firms that Match to 5500 Health Plan
0-99 Employees	38,779,719	1%
100-499 Employees	15,572,881	30%

as offering benefits if at least one EIN belonging to that company matches to the 5500 File. See appendix for further details.

500-999 Employees	5,652,477	57%
>= 1000 Employees	45,664,096	86%

4.3 Comparison with Coverage Rates in MEPS data:

The Medical Expenditure Panel Survey, or MEPS, is one of the most widely sited sources of information on the prevalence of health plan availability[16]. Findings based on the 5500 data are consistent with rates from the MEPS in that both sources show a pattern of rates significantly increasing with firm size. However, across firm size, coverage is consistently lower in the 5500 data as compared to the MEPS data. Although a good deal of this is due to differences in reporting requirements – filing a 5500 form is only required for plans with more than 100 participants – a sizeable gap remains even among the larger firms. This is true both with respect to the proportion of firms that offer plans, and the proportion of workers in firms that offer plans.

For example, the MEPS shows some 99 percent of firms with more than 1,000 employees offer health insurance, while the offer rate based on 5500 data is below 80 percent. MEPS reports that over 97 percent of workers are employed by firms that offer health plans, while the corresponding result for the 5500 data is only 86 percent. A similar analysis of the coverage of the 5500 match by industry and firm age reveals that although the *patterns* of coverage are similar across industries and across firm age to those reported in the MEPS, the *levels* are substantially lower.

4.4 Reconciliation of Match Rate Differences

It is clear that, even for large employers, the coverage rates derived from the 5500 data are significantly lower than what we would expect based on estimates of health insurance coverage rates from other sources.[17] There are a number of possible reasons for this. One is that some health plans filed in the 5500 data may be erroneously reported as 'fringe benefit' plans. That category is supposed to include only cafeteria and educational assistance plans, but we find a surprisingly large number in the 5500 files. In 1997, there are approximately 65,000 exclusive health plans in 5500 file; there are more than 200,000 fringe plans.[18] We have done some exploratory work looking at fringe plan names that

[16] As its website notes, MEPS, is a national probability survey conducted by AHRQ on the financing and utilization of medical care in the United States. Although there are four surveys in one – covering households, nursing homes, medical providers and insurers, the data cited here are from the household component: drawn from a sample of families and individuals, and is nationally representative of households.

[17] For example, in 2001 99.4% of establishments of firms with more than 1,000 or more employees offered health insurance. See 2001 Employer-Sponsored Health Insurance Data. Private-Sector Data by Firm Size, Industry Group, Ownership, Age of Firm, and Other Characteristics. September 2003. Agency for Healthcare Research and Quality, Rockville, MD.
http://www.meps.ahrq.gov/mepsdata/ic/2001/index101.htm.

[18] When examining the plan name of the fringe plans, we find that almost 1000 plans that were coded as fringe plans are most likely to be health plans.

indicates there may be a sizeable number of health plans reported as fringe plans, but we have not yet found a systematic way of identifying those and so are not sure of the size of the problem. It would be a useful question for further exploration.[19]

Another possibility was that firms could have failed to file or their filing was not entered in one year. We have, however, already incorporated this possibility into our previous analysis. In particular, we examined filings in previous and subsequent years. If there was a health plan filing in 1996 and a filing in 1998 for the same EIN with the same plan number, but no filing for 1997, we concluded that this plan also existed in 1997. This exercise added only 907 firms, increasing the firm match rate by under 2 percent. The effect on the workers coverage count was quite small, since these were quite small firms: the number of workers added was 319,538. Thus, regardless of whether the firm or the worker is the unit of analysis, this does not contribute substantially to the difference between the two approaches.

A final possibility is that some health plans could not be attributed back to the sponsoring employer due to a problem with the given EIN. However, as discussed earlier, while 10 percent of health plans filed could not be linked to specific employers, a detailed analysis of a sample of those plans revealed that most were typically not associated with any private, viable employers that had not already been identified.

5. Comparison with worker-reported outcomes

5.1 Summary of Results:

The findings above examine the comparability between the 5500 and the MEPS based on aggregate measures of coverage rates for firms and workers. Below, we look at the workers attached to those firms, and how closely their self-reports of having health benefits through their employers coincide with whether their employer filed a health plan in the 5500 data. This analysis draws on two major population-based surveys, the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP). The CPS and SIPP each use a different set of questions to collect health insurance information, and this provides further triangulation of the broader picture of employer-provided health insurance.

It is important to note that discordance of affirmative responses has different implications than does the discordance of negative responses, due to the way the survey questions are phrased. For both the SIPP and the CPS, the workers' responses analyzed here indicate whether they actually receive employer-sponsored health benefits, not merely whether their employer offers benefits. One would expect that those workers who report having health benefits through their employer should in turn work for an employer that filed a benefit plan. Thus, for workers answering in the affirmative, discordance with the filing

[19] Unfortunately, the Form 5500 schedule that could give some additional information about fringe benefit plans, Schedule F, is unavailable for researchers.

status of their employer is a direct indication of inconsistency between the survey and 5500 data. On the other hand, workers responding that they have no health benefits through their employer may or may not work for a firm that offers such benefits. Thus, discordance between these workers and the filing status of their employers may reflect a combination of nonparticipation and of non-eligibility as well as inconsistencies between the two data sources.

Among larger, private firms and their workers, the concordance rate for workers answering in the affirmative is quite high. Over 90 percent of the SIPP respondents and over 80 percent of the CPS respondents who indicated they had employer-sponsored health benefits worked for an employer who had filed a health benefit plan.

Naturally, this rate of concordance is higher than we find in a rougher comparison of all firms and employees, because this includes many smaller and nonprivate firms that are beyond the scope of the 5500 data. In this simple comparison, the concordance between SIPP respondents reporting they receive benefits and their employers having filed a plan was a mere 45 percent of the SIPP respondents and 53 percent of CPS respondents. Conversely, 65 percent of the SIPP and 53 percent of the CPS respondents that reported not having health insurance through their employer also had employers that did not match to a health insurance record in the Form 5500.

5.2 Worker Reports of Employer Provided Health Insurance

Information on health insurance obtained through an employer was collected on the SIPP once every trimester of every year in the core segment of the 1996 SIPP panel.[20] All respondents age 15 were asked the following health insurance question:

"Let's talk about the plan in [YOUR/HIS/HER/that person's] [name/own name]. Was the health insurance obtained through:

(1) [YOUR/HIS/HER/that person's] current employer or work
(2) [YOUR/HIS/HER/that person's] former employer
(3) [YOUR/HIS/HER/that person's] union
(4) CHAMPUS
(5) CHAMPVA
(6) Or the Military/VA health care
(7) Privately purchased
(8) Or in some other way ".

Those SIPP respondents indicating that their current employer or work was the source of health care were linked to a specific job described earlier in the interview using

[20] Specifically, the January 1997 health insurance information for rotation group 3 and the Business Register February 1997 information for rotation group 4 can be found in Wave 3, the information for March 1997 for rotation group 1 and the April 1997 information for rotation group 2 can be found in Wave 4.

anonymous keys matched to internal administrative records derived from Internal Revenue Service W-2 data.[21]

Information on health insurance obtained through an employer also was collected in the March 1997 Current Population Survey (CPS). The variable used corresponds to the statement, "Covered by a health insurance plan provided through their current or former employer or union (policy holder)".

CPS respondents who answered this question with "yes" or "no" were linked to a person in the Unemployment Insurance wage record data from nineteen states by a protected identification key.[22] These nineteen states cover 54 percent of the U.S. population. [23] The UI data contains Employer Identification Numbers (EINs), which were in turn then matched to benefit information from the Form 5500 data and the Business Register. Only respondents that answered they worked for private firms were used in the following analysis

5.3 Refining the Comparison

However, not all of the firms reflected in the above comparison are within the scope of the 5500 data, particularly small employers. Table 5.3 provides a more detailed comparison, comparing the responses of individuals with those most likely to work for firms required to file. We report both the number that is concordant/discordant as well as the proportion. The proportion relative to worker reports is reported in parentheses next to each number, while the proportion that is concordant/discordant relative to the firm reports is reported below each number. The most interesting cells are those reported in the first column of the panel. When considering only those SIPP workers employed at least one year in private firms with over 100 workers, reported in the first panel of Table 5.3, 82 percent of those who report having employer sponsored health benefits match to employers that have filed health plans. This rate rises to 92 percent when we focus on still larger firms—those with 1,000 employees or more.[24] Thus, these measures are

[21] The 1996 SIPP panel includes 124,655 job records for the first quarter of 1997. Only looking at active jobs leaves 75,111 records for 44,457 different EINs. 21,314 EINs of these match to a single-unit firm, 21,445 EINs to a multi-unit firm, and 1,698 do not match to any active firm in the Business Register. Some of those non-matching SIPP job records belong to people working for a non-private firm; non-private firms are out-of-scope for the Business Register. Since some SIPP respondents have more than one job, these number of observations reduces to 29,454 when considering only one job per person and respondents that answer the health insurance question.

[22] There are 131,617 records on the CPS. Including only respondents that work reduces that number to 69,652. We could match 52 % (36,059) of the CPS respondents/workers to UI records, and 32,579 of those to the UI records and the Business Register. Non-matches are due to CPS respondents working for non-private firms or working in the non-covered states.

[23] The nineteen states available are: California, Colorado, Florida, Idaho, Illinois, Kansas, Maryland, Maine, Missouri, Montana, North Carolina, New Jersey, New Mexico, Oregon, Pennsylvania, Texas, Washington, Wisconsin, and West Virginia.

[24] Note that in addition, this analysis incorporates information on multiple firms for those workers holding more than one job, but these provisions altered results only slightly. A firm may operate several establishments in different locations.

reasonably consistent representations of the proportion in the population who do have employer provided health insurance.

Similarly, concordance between the CPS and the 5500 data is much higher once we focus more narrowly on the categories of employers that are within scope of the 5500 data, reported in the second panel of Table 5.3. Using a similar definition of workers (those employed at least one year with private firms of at least 100 employees), we find that 85 percent of those who reported receiving employer health benefits worked in firms that filed health plans in the 5500 data. Further narrowing the focus to firms with 1,000 or more workers does not change the concordance rate.

Table 5.3 - Agreement Between Worker Reports of Health Benefits and whether Firm Files Health Plan (worker employed at firms with over 100 workers, private employer and at least one year job duration)

	Firm Filed Health Plan in 5500 Data?		
	Yes	NO	Total
Worker Report in SIPP			
Yes, I have HI through current employer	7,605 (82%) 79%	1,684 (18%) 66%	9,289 (100%) 77%
No, I don't have HI through current employer	1,978 (69%) 21%	869 (31%) 34%	2,847(100%) 23%
Total	9,583 (79%)	2,553 (21%)	12,136
Worker Report in CPS			
Yes, I have HI through current employer	2,823 (85%) 80%	727 (15%) 64%	3,550(100%) 82%
No, I don't have HI through current employer	497 (72%) 20%	285 (28%) 36%	782 18%
Total	3,320 (77%)	1,012 (23%)	4332

Note: If person has several jobs in a period, the job with the highest administrative earnings is picked.

5.4 Comparison by Industry:

We also examined consistency between the worker surveys and the 5500 data within industries. We begin by discussing results based on the SIPP, which are reported in Table 5.4a[25]. These findings focus on the same population of workers who held their jobs at least one year and were employed by private firms of 100 workers or more. The first set of columns report, by industry, the degree to which workers that report receiving health insurance from their employer agreed with the 5500 reports of their employer. These results shed some further light on the differences between individual self-reports and the 5500 filings. In particular, the lower rates in the mining (and agriculture) industry are likely to reflect the fact that union provided health plans, particularly common in the mining sector, are not reported in the 5500 data in a way that can be linked to a particular

[25] Note that totals by industry do not correspond exactly to other totals, since some respondents have failed to report their industry.

EIN or firm.[26] The lower rates in the services sectors may be due to the small average firm size in this sector – resulting in lack of filing on the part of employers (recall that the threshold for filing a plan is 100 participants, rather than workers).

[26] While union plans also have to file 5500 reports, they do not have to specify which firms are covered by their benefit plans. The EIN reported for union plans does not belong to a covered firm, but rather to the union plan itself.

Table 5.4a Agreement between SIPP respondent reports and 5500 Data for
Workers with jobs at private firms with 100+ employees, job duration >= 1 year

	Worker reports HI through employer			Worker reports no HI through employer		
By industry	Employer Files Plan	Employer does not File Plan	Industry Distribution	Employer Files Plan	Employer does not File Plan	Industry Distribution
Agriculture and Mining	66	20	86	D	D	D
(row percentage)	77%	23%		D	D	
(column percentage)	1%	2%	1%	D	D	D
Construction	64	15	79	17	16	33
	81%	19%		52%	48%	
	1%	2%	1%	1%	3%	1%
Manufacturing	2,881	166	3,047	331	34	365
	95%	5%		91%	9%	
	40%	17%	37%	18%	7%	15%
Transportation, Communication, Electric, Gas and Sanitary	814	92	906	86	19	105
	90%	10%		82%	18%	
	11%	10%	11%	5%	4%	4%
Wholesale Trade	372	64	436	64	16	80
	85%	15%		80%	20%	
	5%	7%	6%	3%	3%	3%
Retail Trade	990	140	1,130	704	191	895
	88%	12%		79%	21%	
	14%	15%	14%	38%	37%	38%
Finance, Insurance, Real Estate	692	76	768	119	27	146
	90%	10%		82%	18%	
	10%	8%	9%	6%	5%	6%
Services	1,289	387	1,676	523	216	739
	77%	23%		71%	29%	
	18%	40%	21%	28%	42%	31%
Total	7,168	960	8,128	1,844	519	2,363
	88%	12%		78%	22%	

D Suppressed to protect confidentiality

The second set of columns reports, by industry, how many SIPP respondents reported *not* receiving employer provided health benefits, despite the fact that the employer offers such benefits. These rates are remarkably high – particularly in manufacturing, transportation and FIRE. It is obviously an open question why so many workers do not take up employer health benefit offerings, although possible reasons could include alternative coverage through another family member; lack of knowledge; or inability to pay the employee share. We examine some of these reasons in a subsequent section.

In a comparison of 5500 data with CPS data[27], reported in Table 5.4b we find similar patterns but overall slightly lower concordance. Among respondents who report receiving health insurance from their employer, the percent working for firms who filed health plans in the 5500 data was quite high in manufacturing (89 percent) and transportation (88 percent), but low in construction (46 percent).

The second set of columns in Table 5.4b shows match rates to the 5500 File for CPS respondents who reported *not* receiving health insurance from their employer by industry. These proportions are slightly lower than in the SIPP: 64 percent of respondents who reported not receiving employer provided health insurance work for a firm that reports offering health insurance. The percentage is quite high in manufacturing (75 percent) and FIRE (85 percent).

Table 5.4b – CPS respondent reports
Workers with jobs at private firms with 100+ employees, job duration >= 1 year Match to Form 5500-BR

	Worker reports HI through employer			Worker reports no HI through employer		
By industry	Employer Files Plan	Employer does not File Plan	Industry Distribution	Employer Files Plan	Employer does not File Plan	Industry Distribution
Agriculture and Mining	42	12	54	8	11	19
(row percentage)	78%	22%		42%	58%	
(column percentage)	1%	2%	1%	2%	2%	2%
Construction	37	43	80	8	9	17
	46%	54%		47%	53%	
	1%	6%	2%	2%	3%	2%
Manufacturing	1,117	143	1,260	133	44	177
	89%	11%		75%	25%	
	40%	20%	35%	27%	15%	23%
Transportation, Communication, Electric, Gas and Sanitary	347	49	396	31	18	49
	88%	12%		63%	37%	
	12%	7%	11%	6%	6%	6%
Wholesale Trade	192	39	231	22	16	38
	83%	17%		58%	42%	
	7%	5%	7%	4%	18%	5%
Retail Trade	314	77	391	110	52	162
	80%	20%		68%	32%	
	11%	11%	11%	22%	21%	21%
Finance, Insurance, Real Estate	261	51	312	51	9	60
	84%	16%		85%	15%	
	9%	7%	9%	10%	3%	8%
Services	513	277	790	134	116	250
	65%	35%		54%	46%	
	18%	38%	22%	27%	41%	32%
Total	2,823	727	3,550	497	285	782
	80%	20%		64%	36%	

[27] As with the SIPP, all of the respondents are full-time workers and have at least one year of work experience.

5.5 A closer look at workers reporting no employer provided benefits

As noted above, when firms that have filed health plans have some proportion of workers reporting they do not have employer benefits, this could either indicate an inconsistency between the two data sources, or workers' lack of participation in or eligibility for the benefits. This section uses additional information reported in the SIPP and CPS to further tease out the importance of each factor.

As before, we restrict our analysis of SIPP respondents to those who have jobs at private firms with 100 + employees and who have job tenure that exceeds 1 year. Of the 2,847 SIPP respondents who do not get health insurance from their employers, 77 percent (2,185 respondents) report that they receive health insurance from another source:

- 1 percent (26) receive health insurance through the military;
- 4 percent (117) have health insurance through their previous employer
- 63 percent (1,799) receive coverage through someone else (spouse, parents etc.).

If we examine the subset of SIPP respondents who meet the same set of restrictions but who report not having health insurance at all (666 respondents), we find that

- 17 percent (114) claim that they are not eligible for HI;
- 30 percent (201) claim that their employer does not offer HI, although the firm has filed a Form 5500 form in 55 percent of these cases.

The CPS responses are similar in that over half of all respondents who said they do not receive health insurance from their employer received health insurance through other sources (49 percent). The CPS data do not provide information on what proportion of those with no benefits said their employer did not offer benefits.

These results – which compare coverage information from two very different sources – indicate that firms' 5500 filings and worker reports of health benefits are reasonably consistent overall and more so within particular industries and categories of firms. However, the results do suggest that there is a substantial minority of individuals who do not know that their employer offers health insurance, even though the insurance is available. This result is quite similar to work on pension plans by Olivia Mitchell, who found that workers were uninformed about their pension options.[28] It certainly merits further research.

6 Representativeness of the 5500 Data

The findings above indicate that the 5500 data are not suitable to measure the *incidence* of employers who offer health plans. However, the data may be well-suited to study the

[28] Mitchell, Olivia S. "Worker Knowledge of Pension Provisions." Journal of Labor Economics 6 (January, 1988): 21-39.

characteristics of those firms. Preliminary indications based on the similar patterns of health plan offerings among the two data sets are promising, at least for large firms. They suggest that the data are likely to be representative of the age, industry and size mix of firms offering coverage and of the types of firms that workers report providing coverage. These findings suggest that taking a more extensive look at the data's representativeness would be worthwhile. Several suggested analyses are described below.

Additional analyses with firm-level data. One way to see whether firms offering health plans in the 5500 are similar to those in the MEPS is to compare distributions of their characteristics. Detailed distributions could be tabulated using a more extensive set of characteristics than those explored above, including not only firm size, industry and age, but also ownership status, presence of multiple locations, union status, and proportions of low-wage and part-time workers. The relationship of these firm characteristics to the probability of offering health plans could also be compared across the two data sets.

Another source of firm–level data with which the 5500 data could be compared is the National Compensation Survey, a Bureau of Labor Statistics survey of 18,000 establishments representing nearly 89 million workers. Results such as the percentage of workers participating in employer health plans by firm industry and size could be compared across the two data sets for both 1997 and 2001.

Finally, because there are very few big firms that do not match to 5500 health plans, and these account for very large numbers of workers, a much more intensive hand-matching effort (of probably the top 200 firms) may be worth exploring. This could include a careful look at such firms that have filed fringe benefit plans in the 5500 data, and whether those plans might also include health benefits. As noted above, the larger than expected number of fringe benefit plans in the 5500 data indicates that some health plans may have been misfiled under fringe benefits.

Additional analyses with worker-level data. As noted above, roughly one third of workers in firms that filed health plans in the 5500 data reported in the SIPP or CPS that they do not have health coverage through their employers. The result may reflect an inconsistency between the 5500 data and survey data, or may simply indicate a significant lack of participation among workers. To further understand the implications of this discordance for the representativeness of the 5500 data, one could use the 5500 data to calculate, by firm size and industry, what proportion of workers in firms offering plans do not participate. If this result compares closely to the proportion of SIPP and CPS workers in such firms that report having no health insurance through their employers, this would be a closer indication of data representativeness than the rougher measure provided above.

Those cases where workers report having employer provided health care but who work for firms who did not file plans (about 10 percent) should also be explored in more detail, as these are a fairly clear case of inconsistency between the 5500 and survey data sets.

The characteristics of those firms and workers could be described in more detail and analyzed for patterns. If worker characteristics substantively predicted discordance, this might suggest systematic issues with the worker-based survey; if firm characteristics substantively predicted discordance, this might suggest systematic issues with the 5500 match.

Given how much the degree of discordance at the industry level seems to vary between the SIPP and the CPS, these analyses would be valuable for assessing the quality not only of the 5500 data, but also of the SIPP and CPS data as well. It would be worthwhile to explore to what extent the difference appears due to wording of the questions, weighting, differential match rates or other factors.

7 Using the 5500 Data to Track Changes in Firm Offerings of Health Insurance

As noted above, the 5500 data appear fairly representative of the firms that do and do not offer health plans, particularly among larger firms, and they can describe those firms and their benefits with a level of detail not available in other data. More importantly, the data can track how a firm's health coverage evolves as its characteristics or workforce composition change over time. This provides a unique opportunity to examine how firm characteristics – such as firm size, age and industry – not only affect the likelihood that they offer health benefits, but the likelihood that they change their health benefit offerings. The data also offer the potential for more in-depth analyses, [29] such as:

- How does economic turbulence – new firms entering a sector, existing firms dying, or changes in existing firms – affect the benefits offered in a sector?

- Do changes in worker reports of changing levels of employer benefits accurately reflect changes in employer offerings?

- How much of increases in employers' health insurance costs are passed along to workers? Does this vary by firm size, industry, age or other characteristics of interest?

- When the cost to workers of a firm's health plan changes, how does this affect participation? Do we see a similar association based on variation in worker costs and participation across firms?

- How well do 5500 data triangulate with SIPP and CPS more narrowly for workers who do not appear to participate in their firm's plan? That is, how 5500 totals of nonparticipation rates compare to the proportion of SIPP or CPS workers reporting no coverage but linking to a firm that filed a plan? What does this

[29] Note that not all of the data fields discussed below have been fully explored and their quality would need further assessment.

imply for the preliminary findings above about worker unawareness of firm offerings?

Below we offer some descriptive findings on changes in employer health benefits over time as an illustration of what the first steps of such a research agenda might look like.

7.1 Changes in Firm Offerings of Health Insurance from 1997 to 2001

In this preliminary analysis on the evolution of employer provided health plans between 1997 and 2001, we find some interesting results. In particular, we find that there are differences by industry, age and size – one example being that more large firms ended health plans than began them over the five year span, resulting in an overall decline in health plans among large firms.

This section looks at a subset of firms, 3.7 million single-unit firms and almost 150,000 multi-unit firms, employing almost 8 million workers, that were found in the Business Register in both 1997 and 2001 and their health plans during these two years. Firms are categorized in four ways. (1) Firms that offered health plans in both 1997 and 2001. (2) Firms that offered health plans in 1997, but not in 2001. (3) Firms that offered health plans in 2001, but not in 1997 (4) Firms that did not offer health plans in either years. By looking at the firms in these four ways, we hope to determine if coverage changed based on firm size, industry and age of the firm. Although we performed the analysis for both single-unit and multi-unit firms, we only report the results for multi-units because they account for some 46 million of the 54 million workers employed by the firms we analyze.

7.2. Summary of Results

Almost 80 percent of employees who work for very large firms (with more than 1,000 employees) work for firms that offer coverage in both years (Table 7.2a). But there appears to be a clear decline in the offerings of health plans both by firm size and by employment. More than half of all multi-unit firms with 500 or more employees offered health plans in both years. However, while 11 percent of the largest firms (with employment of 2,879,748 workers) lost their health plans by 2001, only 6 percent of the largest firms (with employment of 1,774,830) gained health plans. Most of the smaller plans never had a health plan on file. Although we do not report single-unit results in this table, of single unit firms who offered health insurance in both years, 50 percent of the large firms offered health plans in both years. Nine percent of the large firms lost their health plans by 2001, but 5 percent of the large plans gained health plans. Of course, this should not be interpreted as net-changes in plan offers, because it does not count firms that died or new firms that entered.

Table 7.2a: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size Firms Have Records in the 1997 and 2001 BR

Employment Counts	Both 1997 and 2001 Form 5500 Records Matched to Business Register	Only 1997 Form 5500 Records Matched to Business Register	Only 2001 Form 5500 Records Matched to Business Register	Neither 1997 not 2001 Form 5500 Records Matched to Business Register	Total
100-499 Employees	1,887,094	623,144	525,969	3,438,796	6,475,003
(Row Percentage)	29%	10%	8%	53%	100%
(Column Percentage)	6%	16%	21%	49%	14%
500-999 Employees	1,685,901	415,478	254,523	970,454	3,326,356
	51%	12%	8%	29%	100%
	5%	11%	10%	14%	7%
1000 or More Employees	29,268,126	2,879,748	1,774,830	2,590,306	36,513,010
	80%	8%	5%	7%	100%
	89%	73%	69%	37%	79%
Total	32,841,121	3,918,370	2,555,322	6,999,556	46,314,369
	71%	8%	6%	15%	100%
	100%	100%	100%	100%	100%
Firm Counts					
0-99 Employees	964	1,538	1,212	102,583	106,297
(Row Percentages)	1%	1%	1%	97%	
(Column Percentages)	7%	28%	28%	83%	72%
100-499 Employees	7,228	2,664	2,402	18,129	30,423
	24%	9%	8%	60%	
	50%	49%	55%	15%	21%.
500-999 Employees	2,393	597	373	1,418	4,781
	50%	12%	8%	30%	
	16%	11%	9%	1%	3%
1000 or More Employees	3,992	611	344	825	5,772
	69%	11%	6%	14%	
	27%	11%	8%	1%	4%
Total	14,577	5,410	4,331	122,955	147,273
	10%	4%	3%	83%	

What are the effects of changing industry structure? We know that firms in retail and wholesale trade, for example, are much less likely to offer health insurance than are firms in manufacturing. Table 7.2b shows the same patterns by industry. The industries that had the largest percentage of firms offering health plans in both years were Manufacturing (46 percent) and Mining (52 percent). However, in each industry, the proportion of firms not filing 5500 forms in 2001 who did file in 1997 was greater than the proportion of firms who filed in 2001, but not in 1997.

Table 7.2b: Form 5500 Matches to Multi-Unit Business Register Firms by Industry Firms with 100+ Workers That Have Records in the 1997 and 2001 BR					
Industry	Both 1997 and 2001 Form 5500 Records Matched to Business Register***	Only 1997 Form 5500 Records Matched to Business Register	Only 2001 Form 5500 Records Matched to Business Register	Neither 1997 not 2001 Form 5500 Records Matched to Business Register	Total
Agriculture	53	13	12	64	142
(Row Percentages)	37%	9%	8%	45%	
(Column Percentages)	0%	0%	0%	0%	0%
Mining	116	35	33	68	252
	46%	14%	13%	27%	
	1%	1%	1%	0%	1%
Construction	247	63	61	454	825
	30%	8%	7%	55%	
	2%	2%	2%	2%	2%
Manufacturing	4,512	1,145	630	2,313	8,600
	52%	13%	7%	27%	
	33%	30%	20%	11%	21%
Transportation, Communication, Electric, Gas and Sanitary	723	218	210	834	1,985
	36%	11%	11%	42%	
	5%	6%	7%	4%	5%
Wholesale Trade	1,439	385	365	1,505	3,694
	39%	10%	10%	41%	
	11%	10%	12%	7%	9%
Retail Trade	1,254	467	387	6,321	8,429
	15%	6%	5%	75%	
	9%	12%	12%	31%	21%
Finance, Insurance, Real Estate	1,279	350	327	1,149	3,105
	41%	11%	11%	37%	
	9%	9%	10%	6%	8%
Services	3,990	1,196	1,094	7,664	13,944
	28.61%	8.58%	7.85%	54.96%	
	29.31%	30.89%	35.08%	37.62%	34.03%
Total	13,613	3,872	3,119	20,372	40,976
	33%	9%	8%	50%	

The evolution of health insurance by firm age is another interesting aspect of this analysis that has never been able to be examined before. Clearly, as Table 7.2c demonstrates, the ability to offer health benefits is a function of firm age: the majority of firms that offered health insurance in both years were at least 20 years old (71 percent). However, yet again, there were fewer firms that were new to offering health insurance in 2001 than stopped offering health insurance since 1997.

Table 7.2c: Form 5500 Matches to Multi-Unit Business Register Firms by Age Firms with 100+ Workers That Have Records in the 1997 and 2001 BR					
Age	Both 1997 and 2001 Form 5500 Records Matched to Business Register***	Only 1997 Form 5500 Records Matched to Business Register	Only 2001 Form 5500 Records Matched to Business Register	Neither 1997 not 2001 Form 5500 Records Matched to Business Register	Total
<5 Years Old	176	68	152	1,282	1,678
(row percentage)	10%	4%	9%	76%	
(column percentage)	1%	2%	5%	6%	4%
5 to <10 Years old	556	245	324	2,493	3,618
	15%	7%	9%	69%	
	4%	6%	10%	12%	9%
10 to <15 Years Old	988	368	381	3,009	4,746
	21%	8%	8%	63%	
	7%	10%	12%	15%	12%
15 to <20 Years Old	2,225	683	543	3,685	7,136
	31%	10%	8%	52%	
	16%	18%	18%	18%	18%
>= 20 Years Old	9,642	2,494	1,690	9,704	23,530
	41%	11%	7%	41%	
	71%	65%	55%	48%	58%
Total	13,587	3,858	3,090	20,173	40,708
	33%	9%	8%	50%	

These descriptive statistics suggest that not only the *levels* of firm offerings of health benefits are affected by their characteristics – such as industry, size and age – but also the *evolution* of the offering of such benefits. More research is clearly necessary to quantify the importance of each of these factors jointly.

8 Summary

This report set out to examine the potential for a new dataset to answer questions about employer provided health insurance. We find, as expected, that the new dataset has clear deficiencies that make it inappropriate to study the incidence and prevalence of employer provided health insurance. However, we also find that the basic facts about employer offerings of health insurance are substantiated with this very different dataset. Our results are similar to both worker and firm based surveys in terms of firm characteristics – older firms, larger firms, and firms in particular industries are more likely to offer health insurance to their employees. Thus the data appear useful for characterizing the firms that offer insurance in much more detail than can be found in other data sets. Thus, additional analyses that would provide a more definitive assessment of the data's representativeness appear well merited.

This is particularly true given the data's unique potential to examine the evolution – at the firm level – of health insurance offerings over time. We found very clear differences by industry, firm size and age in both the level and evolution of health benefit offerings between 1997 and 2001. In particular, we find that there are fewer large firms offering health insurance plans in 2001 than in 1997. This is because more firms stopped than began offering health insurance between the two time periods.

The extensive detail on employers contained in these data would enable researchers to carry such analyses much further. For example, one could assess the extent to which changes in health plan availability in certain sectors were due primarily to new firms entering, existing firms exiting, or continuing firms changing their benefit offers. One could exploit the rich information reported on the Form 5500, to examine how firms' offerings of different types of health benefits have evolved over time and how this is affected by firm characteristics. Additional information from the LEHD on the firm's workforce composition, turnover, and earnings distribution could be incorporated. Examining changes in total costs, worker costs and worker participation is another likely area of interest, as well as workers' awareness of benefit offerings by their employers. Findings above suggest that a substantial proportion of respondents to both the SIPP and CPS surveys are apparently unaware that their employer offers health insurance. If this result holds up under further analysis, it would suggest that efforts to improve employee knowledge and uptake of firm provided-offerings could be an important policy response.

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Appendix

A Detailed Analysis of Firm Health Insurance Offerings from 1997 to 2001

Table 1 lists the number of firms that exist in 1997 AND 2001 Single Unit Business Register files and the match rates to the Form 5500. The number of firms that have less than 100 employees: 2,413 match to both 1997 and 2001 Form 5500 files, 4,947 matched to the 1997 Form 5500 file only, 4,157 matched to the 2001 Form 5500 file only, 3,613,052 did not match to either file. (Numbers are from the 1997 Business Register File.)

Table 1: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size					
Firms Have Records in the 1997 and 2001 BR					
Number of Firms	**Both 1997 and 2001 Form 5500 Records Matched to Business Register**	**Only 1997 Form 5500 Records Matched to Business Register**	**Only 2001 Form 5500 Records Matched to Business Register**	**Neither 1997 not 2001 Form 5500 Records Matched to Business Register**	**Total**
100-499 Employees	**3,714**	**1,771**	**1,710**	**24,358**	**31,553**
(Row Percentages)	11.77%	5.61%	5.42%	77.20%	100.00%
(Column Percentags)	80.77%	90.68%	93.34%	96.24%	93.65%
500-999 Employees	**523**	**116**	**83**	**702**	**1,424**
	36.73%	8.15%	5.83%	49.30%	100.00%
	11.37%	5.94%	4.53%	2.77%	4.23%
1000 or More Employees	**361**	**66**	**39**	**249**	**715**
	50.49%	9.23%	5.45%	34.83%	100.00%
	7.85%	3.38%	2.13%	0.98%	2.12%
Total	**4,598**	**1,953**	**1,832**	**25,309**	**33,692**
	13.65%	5.80%	5.44%	75.12%	100.00%
	100.00%	100.00%	100.00%	100.00%	100.00%

Table 2 lists the total employment for firms that exist in 1997 AND 2001 Single Unit Business Register files and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 90,329 match to both 1997 and 2001 Form 5500 files, 157,390 matched to the 1997 Form 5500 file only, 134,433 matched to the 2001 Form 5500 file only, 25,309,360 did not match to either file. (Numbers are from the 1997 Business Register File.)

Table 2: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size					
Firms Have Records in the 1997 and 2001 BR					
Total Employment	**Both 1997 and 2001 Form 5500 Records Matched to Business Register**	**Only 1997 Form 5500 Records Matched to Business Register**	**Only 2001 Form 5500 Records Matched to Business Register**	**Neither 1997 not 2001 Form 5500 Records Matched to Business Register**	**Total**
100-499 Employees	**811,720**	**337,294**	**317,143**	**4,006,971**	**5,473,128**
(Row Percentage)	14.83%	6.16%	5.79%	73.21%	100.00%
(Column Percentage)	43.34%	64.31%	72.68%	80.29%	69.95%
500-999 Employees	**364,031**	**77,142**	**54,040**	**469,139**	**964,352**
	37.75%	8.00%	5.60%	48.65%	100.00%
	19.44%	14.71%	12.38%	9.40%	12.32%
1000 or More Employees	**697,296**	**110,054**	**65,159**	**514,791**	**1,387,300**
	50.26%	7.93%	4.70%	37.11%	100.00%
	37.23%	20.98%	14.93%	10.31%	17.73%
Total	**1,873,047**	**524,490**	**436,342**	**4,990,901**	**7,824,780**
	23.94%	6.70%	5.58%	63.78%	100.00%
	100.00%	100.00%	100.00%	100.00%	100.00%

Table 3 lists the number of firms that exist in 1997 AND 2001 Multi Unit Business Register files and the match rates to the Form 5500. The number of firms that have less than 100 employees: 964 match to both 1997 and 2001 Form 5500 files, 1,538 matched to the 1997 Form 5500 file only, 1,212 matched to the 2001 Form 5500 file only, 102,583 did not match to either file. (Numbers are from the 1997 Business Register File.)

Table 3: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size					
Firms Have Records in the 1997 and 2001 BR					
Number of Firms	**Both 1997 and 2001 Form 5500 Records Matched to Business Register**	**Only 1997 Form 5500 Records Matched to Business Register**	**Only 2001 Form 5500 Records Matched to Business Register**	**Neither 1997 not 2001 Form 5500 Records Matched to Business Register**	**Total**
100-499 Employees	**7,228**	**2,664**	**2,402**	**18,129**	**30,423**
(Row Percentages)	23.76%	8.76%	7.90%	59.59%	100.00%
(Column Percentages)	53.10%	68.80%	77.01%	88.99%	74.25%
500-999 Employees	**2,393**	**597**	**373**	**1,418**	**4,781**
	50.05%	12.49%	7.80%	29.66%	100.00%
	17.58%	15.42%	11.96%	6.96%	11.67%
1000 or More Employees	**3,992**	**611**	**344**	**825**	**5,772**
	69.16%	10.59%	5.96%	14.29%	100.00%
	29.32%	15.78%	11.03%	4.05%	14.09%
Total	**13,613**	**3,872**	**3,119**	**20,372**	**40,976**
	33.22%	9.45%	7.61%	49.72%	100.00%
	100.00%	100.00%	100.00%	100.00%	100.00%

Table 4 lists the total employment for firms that exist in 1997 AND 2001 Multi Unit Business Register files and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 56,641 match to both 1997 and 2001 Form 5500 files, 79,861 matched to the 1997 Form 5500 file only, 69,737 matched to the 2001 Form 5500 file only, 3,342,714 did not match to either file. (Numbers are from the 1997 Business Register File.)

Table 4: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size					
Firms Have Records in the 1997 and 2001 BR					
Total Employment	**Both 1997 and 2001 Form 5500 Records Matched to Business Register**	**Only 1997 Form 5500 Records Matched to Business Register**	**Only 2001 Form 5500 Records Matched to Business Register**	**Neither 1997 not 2001 Form 5500 Records Matched to Business Register**	**Total**
100-499 Employees	**1,887,094**	**623,144**	**525,969**	**3,438,796**	**6,475,003**
(Row Percentage)	29.14%	9.62%	8.12%	53.11%	100.00%
(Column Percentage)	5.75%	15.90%	20.58%	49.13%	13.98%
500-999 Employees	**1,685,901**	**415,478**	**254,523**	**970,454**	**3,326,356**
	50.68%	12.49%	7.65%	29.17%	100.00%
	5.13%	10.60%	9.96%	13.86%	7.18%
1000 or More Employees	**29,268,126**	**2,879,748**	**1,774,830**	**2,590,306**	**36,513,010**
	80.16%	7.89%	4.86%	7.09%	100.00%
	89.12%	73.49%	69.46%	37.01%	78.84%
Total	**32,841,121**	**3,918,370**	**2,555,322**	**6,999,556**	**46,314,369**
	70.91%	8.46%	5.52%	15.11%	100.00%
	100.00%	100.00%	100.00%	100.00%	100.00%

Table 5 lists the number of firms that exist only in 1997 and NOT in the 2001 Single Unit Business Register file and the match rates to the Form 5500. The number of firms that have less than 100 employees: 1,774 match to Form 5500 file, 1,871,039 did NOT match to the 1997 Form 5500 file.

Table 5: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size			
Firms Have Records in the 1997 and NOT in the 2001 BR			
Number of Firms	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**1,705**	**9,234**	**10,939**
(Row Percentage)	15.59%	84.41%	100.00%
(Column Percentage)	80.31%	92.13%	90.06%
500-999 Employees	**265**	**527**	**792**
	33.46%	66.54%	100.00%
	12.48%	5.26%	6.52%
1000 or More Employees	**153**	**262**	**415**
	36.87%	63.13%	100.00%
	7.21%	2.61%	3.42%
Total	**2,123**	**10,023**	**12,146**
	17.48%	82.52%	100.00%
	100.00%	100.00%	100.00%

Table 6 lists the total employment for firms that exist only in 1997 and NOT in the 2001 Single Unit Business Register file and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 53,810 match to the 1997 Form 5500 file, 8,421,382 did not match to the 1997 Form 5500.

Table 6: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size			
Firms Have Records in the 1997 and NOT in the 2001 BR			
Total Employment	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**376,638**	**1,636,361**	**2,012,999**
(Row Percentage)	18.71%	81.29%	100.00%
(Column Percentage)	41.77%	62.27%	57.03%
500-999 Employees	**181,435**	**355,757**	**537,192**
	33.77%	66.23%	100.00%
	20.12%	13.54%	15.22%
1000 or More Employees	**343,696**	**635,803**	**979,499**
	35.09%	64.91%	100.00%
	38.11%	24.19%	27.75%
Total	**901,769**	**2,627,921**	**3,529,690**
	25.55%	74.45%	100.00%
	100.00%	100.00%	100.00%

Table 7 lists the number of firms that exist only in 1997 and NOT in the 2001 Multi Unit Business Register file and the match rates to the Form 5500. The number of firms that have less than 100 employees: 739 match to the 1997 Form 5500 file, 43,296 did NOT match to the 1997 Form 5500 file.

Table 7: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size			
Firms Have Records in the 1997 and NOT in the 2001 BR			
Number of Firms	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**2,329**	**5,443**	**7,772**
(Row Percentage)	29.97%	70.03%	100.00%
(Column Percentage)	58.08%	87.03%	75.72%
500-999 Employees	**680**	**510**	**1,190**
	57.14%	42.86%	100.00%
	16.96%	8.15%	11.59%
1000 or More Employees	**1,001**	**301**	**1,302**
	76.88%	23.12%	100.00%
	24.96%	4.81%	12.69%
Total	**4,010**	**6,254**	**10,264**
	39.07%	60.93%	100.00%
	100.00%	100.00%	100.00%

Table 8 lists the total employment for firms that exist only in 1997 and NOT in the 2001 Multi Unit Business Register file and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 34,596 match to the 1997 Form 5500 file, 1,029,466 did not match to the 1997 Form 5500 file.

Table 8: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size			
Firms Have Records in the 1997 and Not in the 2001 BR			
Total Employment	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**578,956**	**1,032,795**	**1,611,751**
(Row Percentages)	35.92%	64.08%	100.00%
(Column Percentages)	8.37%	44.87%	17.48%
500-999 Employees	**474,769**	**349,808**	**824,577**
	57.58%	42.42%	100.00%
	6.86%	15.20%	8.94%
1000 or More Employees	**5,865,208**	**919,079**	**6,784,287**
	86.45%	13.55%	100.00%
	84.77%	39.93%	73.58%
Total	**6,918,933**	**2,301,682**	**9,220,615**
	75.04%	24.96%	100.00%
	100.00%	100.00%	100.00%

Table 9 lists the number of firms that exist only in 2001 and NOT in the 1997 Single Unit Business Register file and the match rates to the Form 5500. The number of firms that have less than 100 employees: 1,064 match to 2001 Form 5500 file, 2,051,464 did NOT match to the 2001 Form 5500 file.

Table 9: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size			
Firms Have Records in the 2001 and NOT in 1997 BR			
Number of Firms	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**1,152**	**9,036**	**10,188**
(Row Percentages)	11.31%	88.69%	100.00%
(Column Percentags)	80.96%	91.49%	90.17%
500-999 Employees	**162**	**511**	**673**
	24.07%	75.93%	100.00%
	11.38%	5.17%	5.96%
1000 or More Employees	**109**	**329**	**438**
	24.89%	75.11%	100.00%
	7.66%	3.33%	3.88%
Total	**1,423**	**9,876**	**11,299**
	12.59%	87.41%	100.00%
	100.00%	100.00%	100.00%

Table 10 lists the total employment for firms that exist only in 2001 and NOT in the 1997 Single Unit Business Register file and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 26,291 match to the 2001 Form 5500 file, 8,709,600 did not match to the 2001 Form 5500.

Table 10: Form 5500 Matches to Single-Unit Business Register Firms by Firm Size			
Firms Have Records in the 2001 and NOT in the 1997 BR			
Total Employment	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**257,414**	**1,590,619**	**1,848,033**
(Row Percentages)	13.93%	86.07%	100.00%
(Column Percentags)	35.44%	48.45%	46.09%
500-999 Employees	**111,676**	**347,637**	**459,313**
	24.31%	75.69%	100.00%
	15.38%	10.59%	11.46%
1000 or More Employees	**357,195**	**1,344,882**	**1,702,077**
	20.99%	79.01%	100.00%
	49.18%	40.96%	42.45%
Total	**726,285**	**3,283,138**	**4,009,423**
	18.11%	81.89%	100.00%
	100.00%	100.00%	100.00%

Table 11 lists the number of firms that exist only in 2001 and NOT in the 1997 Multi Unit Business Register file and the match rates to the Form 5500. The number of firms that have less than 100 employees: 104 match to the 1997 Form 5500 file, 7,177 did NOT match to the 1997 Form 5500 file.

Table 11: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size			
Firms Have Records in the 2001 and NOT in the 1997 BR			
Number of Firms	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**736**	**2,478**	**3,214**
(Row Percentages)	22.90%	77.10%	100.00%
(Column Percentages)	50.31%	80.72%	70.90%
500-999 Employees	**294**	**347**	**641**
	45.87%	54.13%	100.00%
	20.10%	11.30%	14.14%
1000 or More Employees	**433**	**245**	**678**
	63.86%	36.14%	100.00%
	29.60%	7.98%	14.96%
Total	**1,463**	**3,070**	**4,533**
	32.27%	67.73%	100.00%
	100.00%	100.00%	100.00%

Table 12 lists the total employment for firms that exist only in 2001 and NOT in the 1997 Multi Unit Business Register file and the match rates to the Form 5500. The employment total for firms that have less than 100 employees: 1,754 match to the 2001 Form 5500 file, 230,905 did not match to the 2001 Form 5500 file.

Table 12: Form 5500 Matches to Multi-Unit Business Register Firms by Firm Size			
Firms Have Records in the 2001 and Not in the 1997 BR			
Total Employment	**Business Register File Matched to From 5500**	**Business Register File Does Not Match to From 5500**	**Total**
100-499 Employees	**195,256**	**511,537**	**706,793**
(Row Percentages)	27.63%	72.37%	100.00%
(Column Percentages)	5.96%	34.22%	14.81%
500-999 Employees	**204,849**	**243,575**	**448,424**
	45.68%	54.32%	100.00%
	6.25%	16.30%	9.40%
1000 or More Employees	**2,876,061**	**739,528**	**3,615,589**
	79.55%	20.45%	100.00%
	87.79%	49.48%	75.79%
Total	**3,276,166**	**1,494,640**	**4,770,806**
	68.67%	31.33%	100.00%
	100.00%	100.00%	100.00%