

Cost of Employee Benefits in Small and Large Businesses

by

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- In the largest firms, 95 percent offered at least one type of defined-contribution plan and 55 percent offered at least one type of defined-benefit plan. In the smallest firm size group, 88 percent offered at least one type of defined-contribution plan and about 10 percent offered at least one defined-benefit plan.

- Small firms tend to pay more in administrative costs per participant than do large firms in general.

Scope and Methodology

The main source of data for this study was the Medical Expenditure Panel Survey (MEPS) conducted by the U.S. Department of Health and Human Services' Agency for Health Care Research and Quality. Since the MEPS lacked several variables needed to conduct the study, it was supplemented by other databases such as the Statistics of U.S. Businesses (SUSB) and the Department of Labor's 5500 and 5500C/R forms (for private pension plans).

MEPS data from 1997, 1999, and 2002 were used to analyze health insurance coverage, retirement programs, and leave benefits. The Statistics of U.S. Businesses (SUSB) for 1997 and 2001 were used to determine payroll costs. Retirement costs were estimated using information from the 1998 5500 and 5500C/R filings; the share of employees covered by private retirement plans was obtained from MEPS.

Data analysis was limited by comparability issues, which made it impossible to make generalizations for certain years and industries. In particular, while SUSB data uses NAICS industry definitions, MEPS

used SIC codes then switches to NAICS. In addition, after 1998 the 5500 and 5500C/R forms stopped including information about the size of the firm sponsoring the pension plan. Firm-size categories used in the various databases also differ.

This report was peer-reviewed consistent with Advocacy's data quality guidelines. More information on this process can be obtained by contacting the director of economic research at advocacy@sba.gov or (202) 205-6533.

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Executive Summary

According to data from the U.S. Department of Labor's Bureau of Labor Statistics (BLS), businesses paid an average of \$7.40 in benefits for each hour their employees worked in September 2004. This is equivalent to 29 percent of businesses' total hourly compensation costs. This paper examines the incidence and the costs of benefits voluntarily provided by businesses to their employees and how those vary by the size of the business. The specific benefits examined are health insurance (25 percent of employers' benefit costs), private pensions (14 percent of employers' benefit costs), and paid vacation and sick leave (14 percent of employers' benefit costs). (In fact, holiday and other leave increase the total leave share to 23 percent of employers' benefit costs).¹

In general, employees of small businesses have access to fewer benefits than do the employees of large businesses. The benefit that is most frequently available is paid vacation leave (Table 12A). Private pension plans are least likely to be offered (Table 8B). During the booming economic years of the 1990s, the availability of health insurance benefits among small firms expanded somewhat. However, due to the increasing costs associated with benefits in recent years, companies of all sizes have reduced the availability of health insurance to their employees. In 2002, a smaller percentage of employees were eligible to enroll in firms' health insurance plans than in 1997. This was true in all firm-size groups, from the smallest to the largest (Tables 2A and 2B).

In 2002, businesses with fewer than 100 employees are estimated to have spent \$64.5 billion on health insurance premium payments, or 24 percent of the total health insurance premiums paid by private businesses. However, the amount spent on benefits per employee (enrolled and not enrolled) is lowest for small companies and rises steadily to the largest companies. This reflects the rising rate of employee access to a benefit as firm size increases. Costs per enrollee or participant tend to rise along with the size of the firm for paid leave benefits (Table 14), but this is not true of all types of benefits. Health insurance costs per enrollee in the very smallest firms, for example, are higher than they are for small to medium-size firms (Tables 3B and 4B). Health insurance costs per enrollee for the very largest firms

¹ Other benefits that are included in the BLS tabulations but are not analyzed in this paper include holiday and other leave, life and disability insurance, premium pay, unemployment insurance, worker's compensation insurance, and severance pay.

tend to be larger than for the firm-size groupings below them. There is evidence, however, that larger firms have wider benefits offerings than do small firms (for instance dental and vision care), and this would tend to explain these higher costs. Between 1997 and 2002, small firms experienced a faster rise in health insurance costs than did large firms (Tables 4A, 4B).

Firms' costs for pension plans are not smallest for the smallest firms. In fact, the very smallest firms are often making substantially larger contributions per participant than are the largest firms. However, this reflects the high incidence of business owners (especially in the professional fields) using defined-benefit and defined-contribution plans to save for their own retirement.

Other factors, some associated with business size, may be an influencing factor in the availability of benefits. Availability of health insurance varies noticeably by industry. Also, health insurance is much more likely to be offered in more established businesses than in younger businesses. Since many young businesses are small businesses, age of the firm may be one factor that lowers the rate of access to benefits in smaller companies. Finally, firms of all sizes with large part-time workforces tend to offer health insurance less frequently than do firms with primarily full-time workers.

In considering policy options for changing the availability of selected benefits, several factors must be considered. Affordability for all participants is one important factor. For example, to expand the rate of small business employees that are covered by health insurance, it is not enough to induce the business to make a health insurance plan available to a wider number of employees. Those employees must be able and willing to bear their share of the cost of the health insurance as well. Similarly, defined-contribution retirement plans generate the most retirement savings if employees take advantage of matching programs by making contributions to the plans.

Administrative costs associated with pensions tend to be higher per participant for small firms (Tables 9 through 11). Public policies that help reduce these administrative costs are beneficial. The SEP and SIMPLE plans attempt to alleviate these costs by requiring less reporting than standard pension plans. Allowing small firms greater access to methods of pooling risk and administrative costs in both pension plans and health insurance may also encourage a wider offering of these benefits.

I. Introduction

Wages have been an important topic of study for many years. While wages and wage trends are still an important measure of economic activity and an important measure of the cost of doing business, the availability of benefits and the costs of providing benefits are topics that are gaining increased attention. This paper analyzes the cost of providing benefits to firms of different sizes and looks at the availability of benefits to the employees of different size firms.

Based on the U.S. Department of Labor's Bureau of Labor Statistics' (BLS) calculations for September 2004, 29 percent of civilian workers' compensation comes from benefits, for an average cost of \$7.40 per hour.² In addition to the benefits that all employers are required to provide to their employees (unemployment insurance and tax payments to support the Social Security and Medicare systems), employers can voluntarily provide a range of benefits—from paid days off to employer contributions toward health insurance and retirement income. Of the average \$7.40 per hour that employers paid for benefits, about 28 percent of benefits (or 8 percent of compensation) was associated with legally required payments for Social Security taxes, unemployment insurance, and worker's compensation. Employers' contributions toward health insurance accounted for a quarter of benefits costs (7 percent of compensation), paid leave accounted for about 23 percent of total benefits (over 6 percent of compensation), and employers' voluntary contributions toward retirement and savings plans accounted for about 14 percent of benefits (4 percent of compensation).

Over the next few years, a better understanding of the costs businesses incur to provide benefits to their employees will become more important for several reasons. First, the rapidly increasing cost of health insurance in the United States combined with employment losses during the recession have increased the number of people without access to health insurance or whose coverage has been reduced.³ Second, there has been a steady movement of

² "Employer Costs for Employee Compensation--September 2004," Bureau of Labor Statistics press release, Table 1, December 15, 2004.

³ Based on data from the Census Bureau's Current Population Survey, Annual Social and Economic Supplements, there were 5 million more people not covered by health insurance in 2003 than there were in 2000. Furthermore, there was a reduction in those covered by private health insurance from 72.4 percent to 70.9 percent during the same time period.

retirement programs away from defined-benefit pensions, which often do not require any employee contribution to the plan, to defined-contribution retirement plans that often involve an employer matching the contributions paid by the employee.⁴ Third, in a global economy, businesses are increasingly expressing concerns about their costs of employee benefits when competitors in the world market either do not offer such benefits to their employees or are helped with the costs through government-paid health and retirement programs. Fourth, there is concern over the future of the federal Pension Benefit Guaranty Corporation (PBGC), the agency charged with insuring the benefits promised under many private companies' defined-benefit plans. Recently, several large U.S. employers have sought to reduce their pension obligations through the bankruptcy courts.⁵ This in turn has increased the financial pressure on PBGC. In 2004, the PBGC had a record deficit for its single-employer insurance fund. In recent testimony before the Senate Committee on Commerce, Science, and Transportation, the PBGC's executive director stated, "given the serious challenges facing the pension insurance program, no amount of tinkering will achieve the lasting solution we need to put the PBGC on a sound footing and to restore the confidence of workers and retirees who rely on our pension protection. On the contrary, we need a considered and comprehensive approach that will improve the financial health of the defined-benefit pension system, protect participants' benefits, and return the pension insurance program to financial strength."⁶

For these reasons and many others, the costs and the structure of employer-based benefits are likely to be debated in a wide range of venues. The Bush Administration has proposed several changes to benefits programs. Both the majority and minority leaders of the Senate Committee on Health, Education, Labor, and Pensions have indicated that health insurance coverage and pension reform will be important topics of discussion on the legislative calendars.

⁴ Aaronson and Coronado (2005) used Census Bureau CPS and SIPP data to calculate that the coverage rate of defined-benefit pension plans has dropped from 65 percent in 1979 to 30 percent in 1998 while defined-contribution plans increased from 35 percent in 1979 to 70 percent in 1998.

⁵ Alexander, Keith and A. Joyce. "Judge Lets Airline Toss Contract," *Washington Post*, January 7, 2005, p. E-1. "PBGC to Assume Responsibility for Pilots Pension Plan at UAL," Pension Benefit Guaranty Corporation press release, December 30, 2004.

⁶ Belt, Bradley D. "Testimony before the Committee on Commerce, Science, and Transportation, U.S. Senate," October 7, 2004.

This study looks at the availability to employees and the cost to employers of voluntarily provided benefits—health insurance, pension contributions and costs, and vacation and sick pay—and considers how their costs and availability varies in firms of different sizes. The study draws on several different sources of data to make estimates of these costs for firms. One relatively recent addition to the statistical compendium is the Medical Expenditure Panel Survey (MEPS) compiled by the U.S. Department of Health and Human Services’ Agency for Health Care Research and Quality.⁷ MEPS is a comprehensive source on health care benefits. For other benefits, estimates must be pieced together from a variety of sources because no one source provides information on both the availability of selected benefits and its cost to the firm.

A review of the literature on the availability and cost of benefits by firm size was conducted for this paper. The literature is relatively sparse. Most papers discuss only one benefit and are discussed in the section pertaining to that benefit.

The study is organized as follows. Sections IIA and IIB discuss the availability of health insurance and the cost to firms of different sizes of providing health insurance. It also looks at firm characteristics, other than firm size, that are correlated with differences in the availability and costs of health insurance. That analysis uses more than one year of information from the MEPS to examine how those costs have changed during the past few years. Sections IIIA and IIIB discuss the voluntary retirement system and pension benefits. Various sources are used to examine the change in the availability of pension plans by firm size during recent years and estimates of pension costs by firm size are presented for 1998. These were estimated using data from the Bureau of Labor Statistics and the Internal Revenue Service. Sections IVA and IVB discusses the availability of different types of paid leave and estimates the cost of vacation and sick leave to firms of different sizes. Following the conclusions of this analysis of benefit costs is a short section on methodology.

⁷ Medical Expenditure Panel Survey, Agency for Health Care Research and Quality, Department of Health and Human Services.

IIA. Health Insurance Benefits

The next two sections of the report look at health insurance as an employee benefit and its cost to firms who provide it. The availability of health insurance by firm size is examined and compared to the actual enrollment in employer-sponsored insurance. Finally, a comparison is made of the employer's cost for health insurance premiums for different sizes of firms.⁸

Job-based health insurance covered approximately 65 percent of the population under 65 years of age in 2002. If only persons over 18 with health insurance coverage are considered, then 83 percent of the people received their coverage through employment based insurance.⁹ While both of these percentages have declined somewhat since 1999, health insurance provided as an employment benefit is still the primary method used by the U.S. non-elderly adult population to obtain this coverage and it is the basis for a large percentage of children's insurance coverage as well.

The practice of providing health insurance in the work place evolved from the tax treatment of such benefits. Since companies' payments for health insurance are considered to be a cost of doing business, they are deductible by the employer in determining taxable profits. Individuals who are self-employed can also deduct the cost of their health insurance premiums as a business expense provided they have a business with a net profit and the health insurance is purchased by their business.¹⁰ However, individuals who do not own their own business and are purchasing health insurance for their own benefit cannot generally deduct the premium costs when determining their income tax liability.¹¹ This tax treatment of insurance

⁸ Health insurance premiums may not be the full cost to a firm of providing health insurance as an employment benefit. There may be some additional administrative costs. However, for small firms the premium cost is probably the major cost. Many of the administrative costs are borne by the insurance company and are thus incorporated into the cost of the premium. Those costs would include the brokers' commissions for matching the firm with the insurance product and the claims processing costs for participants in the plan. Since only the premium is observable there is little information on how other costs may vary by firm size. A paper by Actuarial Research Corporation (ARC, 2003) discusses some of these factors in more detail.

⁹ "Health Insurance Coverage Status and Type of Coverage by Selected Characteristics: 2002," U.S. Census Bureau, March 2003.

¹⁰ Internal Revenue Publication 535 (2004).

¹¹ While many employees do have the option of paying for health insurance using "pretax" dollars, that is the result of special employer-provided fringe benefit plans that are allowed under the tax code for businesses. There has been some discussion of changing the tax law to allow the premiums of insurance plans associated with

premiums is the primary reason that health insurance is so frequently an employment benefit rather than being directly sold to individual households, as is auto or homeowner's insurance.

IIA.1 Health Insurance Coverage by Industry and Firm Size

The Medical Expenditure Panel Survey (MEPS) was used to analyze the availability of health insurance as well as the actual enrollment by size of firm and by industry. The survey determines the enrollment in health insurance plans by calculating data for each of three steps in the coverage process.¹² This provides an opportunity to see how these factors have changed over time. The availability of insurance was examined for 1997, 1999, and 2002 (the most recent year for which information was available). Unfortunately, comparisons of health insurance coverage by industry during this time period are not possible because of a data collecting change that took effect between the 1999 survey and the 2002 survey: from the Standard Industrial Classification system (SIC) to the North American Classification System (NAICS). Consequently, the industry definitions shown in the "A" tables are not consistent with those used in the "B" tables. However, there are still interesting findings about coverage.

Tables 1A and 1B show the percent of employees that were actually enrolled in employer-based health insurance in 1997, 1999, and 2002. Tables 2A and 2B show "the potential coverage ratio" or the ratio of employees eligible to receive health insurance to the total number of employees. This potential coverage ratio reflects both by the percent of firms that offer health insurance to any of their employees and the percent of employees eligible for such insurance within firms that do offer it. It is calculated by multiplying these two percentages together. For example, in 1997 81.2 percent of employees in retail trade worked for companies that offered some health insurance. In companies that did offer health insurance, the percent of employees that were eligible to enroll was 62.5 percent. Multiplied together those two numbers produced a potential coverage ratio of 50.8 percent for retail trade. Thus, only half of the retail trade employees had the *opportunity* to enroll.

Health Savings Accounts to be deductible by individuals who do not purchase them through their employers, but this is not currently permitted.

¹² The Medical Expenditure Panel Survey is an annual survey cosponsored by the Agency for Healthcare Access and Cost Trends and the National Center for Health Statistics. For an employee to be covered by job-based health insurance requires 1) his or her company to offer health insurance, 2) the employee to be eligible to participate in the company's health insurance plan, and 3) that the employee decide to participate in the plan.

In 2002, a little over half, or 55.5 percent, of private industry workers were enrolled in some health insurance coverage through their employer (Table 1B).¹³ The pattern of enrollment between 1997 and 2002 varies somewhat by firm size. For the two largest firm-size groupings (over 1,000 employees and 100-999 employees), the enrollment rates declined somewhat from 1997 to 1999 and declined again between 1999 and 2002. Enrollment in the three other firm-size groupings followed a similar pattern: enrollment rates increased between 1997 and 1999, and declined to below the 1997 levels by 2002. In the 10-24 employee firm-size grouping, 46.2 percent of employees were enrolled in 1997, increasing to 47.4 percent in 1999 and then declining to 43.9 percent by 2002. A similar pattern is seen in the smallest grouping, less than 10 employees and in the mid-size group, 25-99. The net result for all firm sizes is a small increase between 1997 and 1999 and then a decline.

Firm Size (number of employees)	<10	10-24	25-99	100-999	1000 or more	All Firm Sizes	
Year	Percent of Employees						
Private Nonfarm	1997	32.9	46.2	54.2	62.1	67.9	57.7
	1999	35.8	47.4	55.3	61.8	66.0	58.1
Mining	1997	25.1	50.5	82.5	99.4	97.8	77.7
	1999	27.4	72.6	93.4	86.0	91.9	86.2
Construction	1997	31.3	42.2	51.2	56.6	78.9	44.3
	1999	34.0	49.8	54.0	53.7	67.9	47.4
Manufacturing	1997	47.7	62.1	69.1	76.9	87.0	78.6
	1999	50.8	64.5	71.1	80.1	86.7	80.7
TCPU	1997	34.9	58.7	66.1	70.5	86.5	75.1
	1999	44.5	54.5	64.6	68.3	79.0	72.5
Wholesale Trade	1997	41.3	67.8	69.8	79.6	79.7	71.7
	1999	43.7	64.1	73.4	76.5	80.1	72.1
Retail Trade	1997	18.3	30.4	33.4	40.2	43.6	36.8
	1999	22.6	30.2	35.8	41.1	39.6	36.4
FIRE	1997	43.7	63.4	72.4	71.0	79.2	70.6
	1999	51.3	68.3	73.2	74.5	78.3	72.9
Services	1997	34.4	44.5	51.3	56.7	61.3	52.5
	1999	35.6	45.5	52.2	54.5	61.2	52.8

Note: Table A employs SIC-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

¹³ The share of workers with health insurance coverage is higher than this since some of these employees will be covering spouses who are some other company's employee.

Table 1B: Share of All Private Industry Employees Enrolled in Health Insurance—2002						
Firm Size (number of employees)	<10	10-24	25-99	100-999	1000 or more	All Firm Sizes
Total Private Nonfarm	31.5	43.9	50.4	57.8	64.3	55.5
Mining & Manufacturing	46.6	62.6	69.3	79.6	84.2	78.4
Construction	33.4	49.5	54.9	53.3	61.9	48.2
Utilities/Transport	31.3	55.1	64.3	68.1	67.5	64.2
Wholesale Trade	49.0	61.2	74.1	74.3	76.1	70.0
Financial Services	42.8	63.6	73.4	74.9	78.8	73.9
Retail Trade	27.5	42.5	47.1	48.2	41.0	41.2
Professional Services	39.2	55.8	57.9	59.7	69.5	61.6
Other Services	16.9	21.2	26.5	35.0	44.2	32.9
Note: Table B employs NAICS-based industry definitions.						
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.						

To better understand the decline in the large firm-size groups it is helpful to look at the potential coverage ratios in Tables 2A and 2B; this shows the percent of employees to whom health insurance is available. The percentage of private nonfarm employees eligible to enroll in insurance in the two largest size classes showed virtually no change between 1997 and 1999. Consequently, the decline in the percent of employees actually enrolled is probably the result of two factors. The first is a decline in the percentage of eligible employees that chose to enroll in health insurance. Some employees may have decided the cost was too high and made a decision not to enroll; the employees' share of premiums in the two largest firm-size groups increased 12 percent during this period compared to a 3.8 percent increase in the overall Consumer Price Index. The second factor is a shift in employment from industries with relatively high enrollment rates to those with lower enrollment rates as employment in trade and services grew relatively more quickly than in the goods producing industries. The continued decline in enrollment between 1999 and 2002 may also reflect a decision by some eligible employees not to enroll since the average premium cost paid by employees continued to rise. However, there was also a decline in the potential coverage ratio in the largest size groupings by 2002. With companies offering health insurance to fewer employees, the result is fewer employees had the opportunity to enroll.

Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	All Firm Sizes
	Year	Percent of Employees					
Total Private	1997	39.8	57.2	66.9	74.8	78.4	68.6
Nonfarm	1999	43.6	59.9	69.9	74.9	78.8	70.5
Mining	1997	25.5	52.3	86.0	100.0	99.2	79.6
	1999	27.9	77.0	98.3	87.8	94.9	89.1
Construction	1997	37.9	53.2	64.6	67.9	86.3	54.5
	1999	43.1	60.5	66.5	66.9	79.2	58.5
Manufacturing	1997	53.9	73.7	81.9	88.6	93.8	87.8
	1999	60.3	77.8	84.6	90.0	93.1	89.3
TCPU	1997	39.5	67.4	77.5	82.5	90.8	81.8
	1999	51.6	71.3	79.2	83.4	89.1	83.8
Wholesale Trade	1997	48.9	79.8	82.2	88.3	84.7	79.7
	1999	53.4	76.4	85.8	88.6	89.3	82.8
Retail Trade	1997	24.1	39.7	45.3	52.3	62.0	50.8
	1999	27.4	40.7	50.0	57.3	60.6	52.8
FIRE	1997	50.9	76.4	85.8	84.1	88.6	80.9
	1999	61.8	83.4	87.2	86.6	89.6	84.7
Services	1997	42.3	56.6	64.6	71.1	71.7	64.0
	1999	43.3	58.9	68.8	68.4	74.4	65.7

Note: Table A employs SIC-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Firm Size (number of employees)	<10	10-24	25-99	100-999	1000 or more	All Firm Sizes
Total Private						
Nonfarm	39.0	56.5	64.9	72.6	77.5	68.5
Mining & Manufacturing	58.9	77.8	84.7	91.8	92.2	89.0
Construction	41.3	64.5	68.8	66.9	75.6	60.7
Utilities/Transport	41.2	72.9	84.2	88.2	73.1	74.2
Wholesale Trade	58.1	76.6	87.0	87.3	86.1	81.8
Financial Services	50.3	74.5	89.4	86.8	88.8	84.4
Retail Trade	34.8	55.7	64.0	65.9	55.3	55.3
Professional Services	48.5	69.5	74.1	74.6	83.0	75.2
Other Services	21.6	30.4	38.5	51.5	66.2	48.1

Note: Table B employs NAICS-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Because there is a certain amount of variability both by firm size and industry in these numbers, it is useful to look at the underlying data as well as the aggregates for all industries

and firm sizes. The 2002 data can be used to compare enrollment and potential coverage ratios across different size firms within the same industries and to compare different industries to each other. The 2002 enrollment rate was lowest in the other (nonprofessional) services (32.9 percent), retail trade, and construction industries and highest in the mining and manufacturing (78.4 percent), and financial services industries. In general these relationships held across all firm-size groupings. Among firms with 1,000 or more employees, the industries with the lowest enrollment rates (41 to 62 percent) were retail trade, other services, and construction. Those with the highest enrollment rates (76 to 84 percent) were wholesale trade, financial services, and mining and manufacturing. Among firms with fewer than 10 employees, the industries with the lowest enrollment rates (17 to 33 percent) were other services, retail trade, transportation and utilities, and construction. The firms with the highest enrollment rates (43 to 49 percent) were financial services, mining and manufacturing, and wholesale trade.

The potential coverage ratios showed a similar pattern for 2002. Mining and manufacturing firms were most likely to have insurance available regardless of firm size although the smallest firms were less likely to have it available (58.9 percent) than were the largest firms (92.2 percent). Similarly, the “other services” industries were the least likely to provide the opportunity for employees to enroll in health insurance for all firm sizes except the largest one. “Others services” firms with fewer than 10 employees had a potential coverage ratio of 21.6 percent in 2002. In firms with over 1000 employees, retail trade was the industry with the lowest potential coverage ratio (55.3 percent).

To look at the reasons coverage may have changed over time by industry, it is most straightforward to compare 1997 and 1999 because the definition of industries is the same for those two years. One of the highest potential coverage ratios in 1997 was in manufacturing. Between 1997 and 1999 the potential coverage ratio for this entire industry changed only slightly, from 88 percent to 89 percent. However, there were noticeable improvements in the potential coverage ratios in the smallest manufacturing firms. In the 10-24 employee firm-size group, potential coverage increased from 74 percent to 78 percent while enrollments climbed from 62 percent to 65 percent. In 1997, the industry with the lowest potential coverage ratio

was retail trade followed closely by construction.¹⁴ In 1997, the potential coverage rate in retail trade was 50 percent for the industry overall. Among the smallest retail firms that rate was even lower, 24 percent, because only about 36 percent of employees working for firms with fewer than 10 employees worked for firms that offered any health insurance. Between 1997 and 1999, enrollment rates in retail trade showed virtually no change for the industry overall; however, the availability of health insurance coverage as measured by the potential coverage ratio improved for all but the very largest retail firms.

By 2002, the potential coverage ratio for retail trade overall and for the smallest firm sizes of retail trade appear to have improved somewhat, from 50 percent to 55 percent overall and from 24 percent to 35 percent for firms with fewer than 10 employees. Unfortunately, it is not possible to tell if this is a real improvement in the industry or if this is a result of the change in industry definition. In 1997, eating and drinking places were classified in retail trade; in 2002, these establishments were part of the services sector. (Retail trade had about 7 million fewer employees in the 2002 survey than it did in the 1997 survey). By 2002, a subset of services (other or nonprofessional services including eating and drinking places) had taken over as the industry with the lowest potential coverage ratio. Overall, only 48 percent of employees working in those industries even had the potential to be covered by health insurance; less than 33 percent were actually enrolled in an insurance program.

For the smallest of the nonprofessional services size groupings, the potential coverage ratio was even smaller. However, potential coverage ratios had fallen in other industries and the larger firm-size groupings as well. Even the largest mining and manufacturing companies, which recorded a potential coverage ratio of over 95 percent in 1997 showed a decline to 92 percent in 2002. By 2002, only 6.8 million employees working for mining and manufacturing firms with over 1,000 employees were covered by health insurance compared to 8.4 million in 1997. That decline was the combined result of a decline in the potential coverage ratio, a decline in the number of employees that elected to participate in the insurance programs, and a decline in the number of employees that worked in those industries.

¹⁴ Since the eligibility for access is also, in many cases, tied to full-time employee status it is helpful to remember that many of the industries with relatively low potential coverage ratios are also industries with higher percentages of part-time workers.

IIA.2 Coverage Related to Other Characteristics of the Firm

While the availability of health insurance tends to be lower in small companies than in large companies, firm size is probably not the only characteristic of the firm that is a factor in that result. The preceding discussion makes clear that the potential coverage and enrollment ratios by size of business vary by industry. Since small businesses are more prevalent in some of the industries with lower rates of coverage and eligibility, there may be a relationship between the two. Unfortunately, that correlation does not indicate which, if either is the causal factor. However, it is helpful to look at other aspects that may influence the availability of health insurance.

For example, among firms of all size classes, younger firms are less likely to have health insurance available to their employees. In 2002, less than 60 percent of employees of firms that were less than five years old worked for firms that offered health insurance. For firms that were more than 20 years old, almost 93 percent of employees worked for firms that offered health insurance. Among the largest firms, age made very little difference to the likelihood the company offered health insurance. Over 95 percent of the employees of very large firms worked for firms that offered health insurance to at least some employees regardless of the firms' age. However, among the smallest firms, the percentage of employees working for firms less than five years old that offered any health insurance was much smaller, 49 percent for firms with 10-24 employees and 32 percent for smaller firms.

Another major factor that influences the availability of all benefits is whether an employee is a full-time or a part-time worker. An examination of firms sorted by their share of full-time employees reveals that for all firm-size groupings, potential coverage ratios are higher if over 75 percent of the workforce is full-time. For firms with more than 25 employees and with more than 75 percent of their workforce employed full-time, the potential coverage ratio is over 80 percent, and the percentage of workers enrolled in health insurance ranges from 63 percent to 73 percent. However, for firms with workforces that are primarily part-time (less than 25 percent full-time workers), potential coverage ratios are quite low, 5 percent for the firms with fewer than 10 employees and 31 percent for firms with over 1,000 employees. For firms with less than 25 percent of their workforce full-time, the percent of

employees enrolled in health insurance is also very low, 4 percent for the smallest firms and 19 percent for the largest firms.

Among for-profit firms, unincorporated small firms were less likely to offer health insurance to their employees than were incorporated firms of the same size. The difference between incorporated and unincorporated companies was especially noticeable among the firms with fewer than 25 employees. The unincorporated firms' premium costs per insured employee were about 8-9 percent lower among the firms with fewer than 25 employees. This is partly due to lower insurance premiums for the unincorporated group, but also reflects a higher incidence of single insurance coverage among the unincorporated companies and larger employee contributions to premiums. The fact that unincorporated firms have lower premiums probably does not reflect better deals with insurance companies for this group. It is more likely to reflect narrower benefit packages offered by these firms.¹⁵ While Gabel and Pickreign did not look at the difference between small incorporated and small unincorporated businesses, they did find a tendency for small businesses to have less coverage for their insurance dollar than large companies. For example small firms' copayments for in-network service tended to be twice as high as large firms'. According to Gabel and Pickreign, their paper's principal finding, "that small firms not only receive less value for their premium dollar but also must bear greater financial risk—implies that we should not expect small firms to cover their workers at the same rate as large firms."¹⁶

Unionized employees were much more likely to work for firms where health insurance is offered than were nonunion employees. Even among firms with fewer than 10 employees, 69 percent of unionized workers worked for companies that offered health insurance to at least some employees. This higher potential coverage may reflect the traditional pattern of coverage in the industries that are more likely to have unionized employees but it may also reflect the preference unionized employees have for health insurance over other types of compensation. Unionized firms are one of the few places where employees have the opportunity to speak with a single voice about their preferences and make tradeoffs for the type of compensation they want most.

¹⁵ The BLS' National Compensation Survey (2005) shows that small establishments in general are unlikely to provide dental coverage (only 30 percent did in 2003) and more unlikely to provide vision care (18 percent did).

¹⁶ Gabel, Jon and Jeremy Pickreign. "Risky Business: When Mom and Pop Buy Health Insurance for Their Employees," Issue Brief, The Commonwealth Fund, April 2004, p.5.

IIB. Health Insurance Costs by Company Size

The cost of health insurance premiums to firms of different sizes and in different industries was calculated for 1997, 1999 and 2002. These calculations were based on the public use data of the MEPS. These tables do not use the SBA's traditional small firm definition of 500 employees or less. The MEPS' largest firm-size category is 1000 or more employees; the next category is 100-999 employees.

Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	<10	<100
	Year	Billions of Dollars					Percent (of the line)	
Total Private	1997	13.264	12.709	20.882	33.608	96.480	7.5%	26.5%
Nonfarm	1999	16.159	14.110	24.836	38.287	116.176	7.7%	26.3%
Mining*	1997	0.074	0.173	0.670	0.127	1.094	3.4%	42.9%
	1999	0.034	0.082	0.235	0.404	1.187	1.8%	18.1%
Construction	1997	1.497	1.389	1.751	0.956	0.475	24.7%	76.4%
	1999	1.948	1.653	2.477	1.288	0.608	24.4%	76.2%
Manufacturing	1997	1.093	1.926	4.766	9.810	28.874	2.4%	16.8%
	1999	1.067	1.814	4.885	11.668	34.237	2.0%	14.5%
TCPU	1997	0.551	0.818	1.267	2.147	12.595	3.2%	15.2%
	1999	0.758	0.572	1.208	2.491	14.095	4.0%	13.3%
Wholesale Trade	1997	1.174	1.439	2.031	2.940	7.396	7.8%	31.0%
	1999	1.230	1.983	2.755	3.115	8.520	7.0%	33.9%
Retail Trade	1997	1.306	1.880	2.170	2.558	11.484	6.7%	27.6%
	1999	1.732	1.751	2.873	3.006	12.992	7.7%	28.4%
FIRE	1997	1.654	0.951	1.649	2.867	10.072	9.6%	24.7%
	1999	1.952	1.036	2.070	2.707	12.692	9.5%	24.7%
Services	1997	5.915	4.134	6.578	12.203	24.491	11.1%	31.2%
	1999	7.438	5.219	8.333	13.610	31.846	11.2%	31.6%

*Mining is an extremely small industry and the standard errors associated with the estimates for mining tend to be larger than average. This may explain the wide variation in some of the mining estimates.
 Note: Table A employs SIC-based industry definitions.
 Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Firm Size (number of employees)	<10	10-24	25-99	100-999	1000 or more	<10	<100
	Billions of Dollars					Percent (of the line)	
Total Private Nonfarm	18.540	16.693	29.276	48.059	152.851	7.0%	24.3%
Mining & Manufacturing	1.226	2.204	5.995	12.359	35.105	2.2%	16.6%
Construction	2.314	2.201	3.511	1.951	1.297	20.5%	71.2%
Utilities/Transport	0.447	0.587	1.359	2.174	10.017	3.1%	16.4%
Wholesale Trade	1.769	1.758	2.610	4.235	7.969	9.6%	33.5%
Financial Services	2.235	1.295	2.471	4.770	28.971	5.6%	15.1%
Retail Trade	1.945	1.993	2.593	3.207	12.469	8.8%	29.4%
Professional Services	5.750	4.132	6.293	13.014	40.412	8.3%	23.2%
Other Services	2.854	2.525	4.445	6.349	16.611	8.7%	30.0%

Note: Table B employs NAICS-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

IIB.1 General Findings by Firm Size

Tables 3A and 3B show estimated total costs that employers of different sizes paid for health insurance premiums. Private nonfarm firms with fewer than 100 employees paid almost \$50 billion for their employees' health insurance coverage in 1997, or 26.5 percent of total premium payments by private sector companies. By 2002 firms with fewer than 100 employees were paying almost \$65 billion on health insurance premiums. This was a 38 percent increase over the five-year period despite a decline in the share of total employment among firms with fewer than 100 employees.

Several factors affected the total amount firms spent for health insurance premiums during this period. While enrollment rates declined somewhat for all firm sizes, the cost of the insurance per enrollee increased. Premium payments per enrollee and per employee are examined in Tables 4A and 4B and Tables 5A and 5B.

There are two ways of looking at per employee premium costs. One is the weighted average premium paid by the firm for the employees enrolled in its health insurance plans (shown on Tables 4A and 4B). The other is a more general measure of labor costs (Tables 5A and B), the amount the firm pays for health insurance divided by all its employees (covered or uncovered by the plan).

Table 4A: Estimate of Average Private Industry Premium Payment by the Firm per Enrolled Employee—1997 and 1999							
Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	All Firms
	Year	Dollars					
Private Nonfarm	1997	2754	2652	2524	2650	3235	2930
	1999	3187	3002	2901	3141	3553	3315
Mining	1997	4424	3835	4168	4912	5149	4624
	1999	4434	3650	4307	4475	4446	4393
Construction	1997	2785	2490	2430	2281	3188	2546
	1999	3208	2648	2987	3036	3063	2971
Manufacturing	1997	2690	2779	2491	2767	3521	3149
	1999	3206	2958	2945	3161	3884	3550
TCPU	1997	2900	2989	2604	2813	4023	3584
	1999	3333	3319	2905	3580	4051	3833
Wholesale Trade	1997	3074	2750	2495	2790	3326	2996
	1999	3416	3688	3036	3446	3576	3458
Retail Trade	1997	2461	2594	2016	2120	2568	2422
	1999	2942	2623	2427	2529	2866	2739
FIRE	1997	2928	3055	3242	2825	3018	2997
	1999	3178	3409	3177	3240	3470	3373
Services	1997	2704	2485	2537	2622	3024	2778
	1999	3190	2967	2914	3122	3401	3214

Note: Table A employs SIC-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Table 4B: Estimate of Average Private Industry Premium Payment by the Firm per Enrolled Employee—2002							
Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	All Firms
		Dollars					
Total Private Nonfarm		4495	4068	3781	4072	4608	4356
Mining & Manufacturing		4512	4363	3718	4729	5135	4809
Construction		4295	3845	3853	3955	4163	3990
Utilities/Transport		4663	4245	4810	5067	5044	4974
Wholesale Trade		4807	4148	4078	3726	5270	4493
Financial Services		4868	3726	4113	3938	4620	4471
Retail Trade		3782	3622	3093	3191	3916	3644
Professional Services		4594	4332	3915	4193	4610	4439
Other Services		4564	4120	3554	3506	3859	3813

Note: Table B employs NAICS-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

In general the weighted average cost per *enrolled* employee tended to be relatively high for the very smallest firms; it declined as firm size increased, then increased again for the largest firms.¹⁷ However, the cost per employee (covered or not) rose steadily from smallest firm to largest firm because of the increase in enrollment rates rises as firm size increases.

The weighted average premium per enrolled employee increased most quickly for the smallest companies, rising 63.2 percent from \$2,754 to \$4,495 between 1997 and 2002 for firms with fewer than 10 employees. The largest companies, those with over 1,000 employees, saw their average premium payment per enrolled employee rise by 42.4 percent during that same period of time, from \$3235 to \$4608. All size groupings saw their cost per employee rise more slowly than their cost per enrolled employee (the cost per employee is a reflection of the impact on the unit labor cost of the company overall), reflecting the decline in coverage during this period. The smallest firms, with less than 10 employees were paying \$905 per employee in health insurance premium costs in 1997 and saw that increase by 26 percent to \$1142 by 1999, and then by 24 percent to \$1416 by 2002. The largest companies, with over 1000 employees, saw a 7 percent increase in costs per employee between 1997 and 1999, from \$2196 to \$2345 but then saw a 26 percent increase in these costs, to \$2961, between 1999 and 2002.¹⁸

¹⁷ Given small businesses' tendency to have somewhat less coverage than larger businesses, this pattern likely reflects the added administrative costs that are incorporated in the premiums of small plans. ARC (2003) has a further discussion of some of those factors.

¹⁸ The change in the average weighted cost per enrollee paid by the firm arises from several factors. As with all survey data, standard errors associated with the various estimates may have changed between the surveys. Shifts in the composition of employees across firms and industries also affect the results. In addition, the average weighted cost measure is also affected by changes in premiums costs for single and family insurance coverage, changes in cost sharing between the firm and the employee, and changes in the share of employees enrolled in different types of plans. (In addition, a new coverage category "single plus one" was introduced in 2002.) Because of the change in industry classifications, it is difficult to control for all the compositional changes taking place during this period in order to examine each of the effects separately.

Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	All Firms
Year	Dollars						
Private Nonfarm	1997	905	1225	1369	1645	2196	1692
	1999	1142	1424	1604	1942	2345	1926
Mining	1997	1108	1938	3440	4883	5036	3591
	1999	1217	2649	4022	3847	4084	3785
Construction	1997	872	1050	1243	1291	2515	1129
	1999	1092	1317	1612	1629	2079	1408
Manufacturing	1997	1283	1725	1722	2127	3062	2476
	1999	1628	1907	2093	2532	3366	2863
TCPU	1997	1013	1756	1721	1984	3482	2691
	1999	1484	1808	1876	2446	3200	2778
Wholesale Trade	1997	1269	1863	1741	2220	2651	2147
	1999	1494	2365	2229	2635	2864	2493
Retail Trade	1997	451	790	673	852	1119	892
	1999	665	793	869	1040	1135	996
FIRE	1997	1278	1937	2346	2005	2391	2115
	1999	1632	2329	2326	2413	2717	2459
Services	1997	930	1107	1302	1486	1852	1459
	1999	1135	1351	1521	1701	2082	1697

Note: Table A employs SIC-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Firm Size (number of employees)		<10	10-24	25-99	100-999	1000 or more	All Firms
	Dollars						
Total Private Nonfarm		1416	1786	1904	2351	2961	2417
Mining & Manufacturing		2102	2732	2576	3767	4323	3769
Construction		1435	1902	2114	2107	2578	1925
Utilities/Transport		1459	2339	3094	3451	3404	3195
Wholesale Trade		2356	2540	3020	2768	4009	3147
Financial Services		2085	2370	3019	2951	3639	3302
Retail Trade		1038	1538	1457	1540	1607	1501
Professional Services		1801	2419	2266	2503	3205	2732
Other Services		771	874	944	1228	1705	1253

Note: Table B employs NAICS-based industry definitions.
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

In examining the premium per enrollee data, some interesting trends appear. In most industries and in most years, the share employers paid of single person premiums tended to be larger than the employers' share of family premiums. However, this tended to be most

pronounced for small firms. For the largest firms, the employers' share of single and family premiums tended to be closer together. Small firms also tended to pay a larger percentage than large firms of single premiums. This share was largest in the smallest firms, declined through the 100-999 firm-size grouping, then tended to increase again for firms with more than 1,000 employees. These two trends could both reflect the fact that meeting and maintaining minimum enrollment rates in health insurance plans may be relatively harder for small employers than for large employers; thus, the small employers tend to offer a monetary incentive to single enrollees to get and keep them in the plan.

IIB.2 Health Insurance Costs and the SUSB Data

The Census Bureau's Statistics of U.S. Businesses (SUSB) is a dataset that shows annual employment and payroll by firm size. The MEPS data do not have any other cost data for the firm; however, the SUSB data has a measure of payroll by firm size by industry.¹⁹ A comparison of the estimated health insurance payments per employee to payroll per employee helps gauge the size of the health insurance estimates and may provide some insights about payroll and compensation costs. Unfortunately, the total costs for health insurance by firm size by industry cannot be directly compared to the SUSB payroll data. First, the firm-size categories are different in the two data sets. Only four of the size categories are the same: "less than 10," "less than 100," "greater than 100," and "greater than 1,000." Second, the establishment and employment distributions in the two data sets are somewhat different. This difference is not large, but it does make a direct comparison of the health insurance totals to the payroll totals unwise. Third, in 1999 SUSB data were tabulated on a NAICS basis, while MEPS was still employing an SIC basis. Nevertheless, it is possible to look at the aggregate payroll shares for all private nonfarm business for 1997 and 1999 and compare those to the aggregate shares generated from the MEPS data for those two years.²⁰ That comparison shows that for firms with less than 10 employees, the payroll share in 1997 and 1999 was 10 percent and 9.5 percent, respectively. That compares with a health insurance share of 7.5 percent and 7.7 percent, respectively. For firms with less than 100 employees, the payroll shares are 32.5

¹⁹ The Census Bureau defines "payroll" in the SUSB data as salaries, wages, commissions, bonuses, vacation allowances, sick leave pay, and payments in kind (e.g., free meals and lodgings). It does not include the costs or value of insurance or pensions.

²⁰ The 2002 SUSB data were not available in time for these calculations.

percent in 1997 and 31.6 percent in 1999 compared with a health insurance share of 26.5 percent and 26.3 percent.

	Year	<10 Employees	<100 Employees	>100 Employees
Retail Trade	1997	3.1	4.3	6.9
Mining	1997	3.2	7.4	9.7
Services	1997	3.2	4.1	6.3
Construction	1997	3.4	3.5	4.0
Wholesale Trade	1997	3.9	4.9	6.0
TCPU	1997	4.2	5.9	7.9
FIRE	1997	4.2	5.1	4.9
Manufacturing	1997	4.7	5.7	7.0
Other Services	2001	3.4	4.9	7.5
Construction	2001	4.1	4.6	5.2
Wholesale Trade	2001	4.4	5.5	6.3
Professional Services	2001	4.5	4.9	6.6
Utilities & Transportation	2001	4.7	6.6	7.8
FIRE & Leasing	2001	5.0	5.9	4.7
Retail Trade	2001	5.2	5.3	7.4
Mining & Manufacturing	2001	5.8	7.8	9.8

Source: Joel Popkin and Company, based on Medical Expenditure Survey and Statistics of US Business.

Another interesting comparison is the cost of health insurance per employee (covered and uncovered employees) compared to the average per employee payroll cost. This comparison was done for 1997 and 2001 (the 2002 SUSB data were not yet available). Unfortunately, since very few of the industries are defined the same during these two years it is not possible to come to strong conclusions about the changes by industry over time but some interesting patterns do appear in Table 6. The smallest firms (less than 10 employees) showed a fair amount of consistency in 1997. Even though these industries varied in coverage ratios, premiums costs, and cost sharing arrangements, health insurance costs as a percent of payroll per employee ranged from 3.1 to 4.2 percent for all industries except for manufacturing where it was 4.7 percent. The range for firms with over 100 employees was somewhat wider and tended to be a higher percentage of payroll: from 4 percent in construction to almost 10 percent in mining but centered in the 6-7 percent range for most industries.

While a direct industry-by-industry comparison cannot be made for most industries between 1997 and 2001, there are still signs of the growing toll of health insurance on companies' finances. For firms with fewer than 10 employees, only two industries, other services at 3.4 percent of payroll and construction at 4.1 percent of payroll, fall close to the smallest group's range in 1997. For the other industries, the percent of payroll is now higher, ranging from 4.4 percent for wholesale trade to 5.8 percent for the combined mining and manufacturing sector. The share of payroll is not as noticeably higher for firms with over 100 employees. In 2001, it ranged from 5.2 percent for construction to 9.8 percent for the combined mining and manufacturing sector and was still centered at 6-7 percent for most industries. But the cost per employee for larger firms also reflects changes in plan offerings and other modifications intended to help control health insurance costs. Perhaps large firms were slightly more successful at accomplishing that goal.

IIB.3 Health Insurance Costs for Government Employers

Government employers provided health insurance for over 20 million employees in 2002. Over half of those employees worked for local governments. Table 7 compares the average premium that government employers paid for each enrolled employee in 2002. Small government employers faced higher health insurance premium costs than did large government employers. The federal government's average payment (for active employees) for health insurance was \$4,763 in 2002, about the same as the average premium payment made by state governments, \$4,683. The largest of the local governments also had a similar payment amount per enrolled employee, \$4,720. This is somewhat higher than the 2002 average premium paid by private sector companies with more than 1000 employees, \$4,608. However, smaller state governments had higher premium payments, averaging \$5,500 for local governments with fewer than 1,000 employees.²¹

²¹ The state and local government weighted premium payments are based on a combined distribution of employees by plan type (single, family, employee plus one). To the extent these distributions vary significantly across the different size governments, it could affect the calculation of the premium. However, the general pattern is likely to persist.

Federal Government	State Governments	Local Governments—By Number of Employees				
		All sizes	<250	250-999	1000-4999	5000-9999
4763	4683	5498	5531	5288	4853	4720

Source: Medical Expenditure Panel Survey data and Office of Personnel Management, Federal Employees Health Benefits Program.

The average total premium paid by governments appears to be slightly higher for single insurance than it is for the largest private sector companies but somewhat lower for family insurance. State governments and the largest local governments faced single premiums of about \$3300 in 2002 and the largest employers faced single premiums of slightly over \$3000. But for family insurance, the state governments and the largest local governments faced premiums of slightly less than \$8000 while the total family premium for the largest companies averaged over \$8200. However, it is not clear if that reflects a difference in the demographics of the covered employees, the type of coverage provided or some other factor. Small governments, however, faced significantly higher total premiums than did other governments or small companies of similar size. Governments with fewer than 1000 employees faced average single premiums of \$3900 in 2002 and family premiums of over \$9000. That was considerably higher than what was faced by small businesses. However, that may well reflect a difference in the type of coverage offered under the insurance plans.

IIB.4 Health Insurance Coverage and Retirees

The MEPS data cannot be used to assess the cost of health insurance to a company's retirees, but it provides some information on the percent of establishments that offer this type of benefit to their retirees.²² The survey results show that in 2002, only about 2 percent of the establishments of firms with fewer than 50 employees provided retiree health coverage, while

²² The MEPS data does provide some limited information on the availability of retiree health insurance offered by state and local governments. In 2002, over 90 percent of state governments offered some sort of health insurance to their retirees although only about 86 percent offered it to retirees over the age of 65. Local government offerings varied considerably. Almost 93 percent of large local governments, those with over 10,000 employees, offered health insurance to at least part of their retirees (71 percent offered it to retirees over the age of 65.) However, less than half of the local governments with fewer than 1,000 employees offered health insurance to their retirees.

in 1998 over 5 percent of such establishments did so. Even among firms with over 1,000 employees, only about 43 percent of establishments offered any of their retirees access to health insurance; this share has fallen slightly since 1998, when it was about 45 percent. Other sources indicate that this benefit is in significant decline. A recent Kaiser/Hewitt study indicated that between 1998 and 2004 the share of firms with 200 or more employees that offered health insurance benefits to retirees declined from 66 percent to 36 percent.²³ Furthermore, the Kaiser/Hewitt survey indicates that firms that have not yet cut these benefits are at least considering dropping the benefit, changing the cost sharing, and reducing the coverage available.

²³ Kaiser Family Foundation and Hewitt Associates. *Current Trends and Future Outlook for Retirement Health Benefits*, December 2004.

IIIA. Retirement Benefits

The next two sections of the paper look at the availability and cost of the pension programs that companies voluntarily provide. First the MEPS data are used to examine the availability of retirement programs to employees of different firm sizes. Then contributions and administrative costs for companies that do provide pension plans are examined using data from the Bureau of Labor Statistics and the Internal Revenue Service.

The Bureau of Labor Statistics' analysis of the cost of benefits shows that companies voluntarily paid \$1.05 per hour worked toward retirement and savings plans for their employees as of September 2004. In addition, employers paid \$1.44 per hour worked in legally required Social Security and Medicare taxes for their employees. Together those account for about one third of employers' costs for employee benefits. While the benefits to all eligible workers in the Social Security system are determined by a set formula, the pension benefits a worker receives through voluntary pension plans can vary a great deal. Many workers receive no benefits at all through such plans.

Employees' retirement income is often referred to as a "three-legged stool." One leg is the Social Security system, to which employees and employers are legally required to contribute payroll taxes. The second and third legs are payments from companies' pension plans and the employees' private savings. Richard Berner, an economist with Morgan Stanley, recently suggested that a fourth leg now exists too: continued earned income by retired workers who have returned to work.²⁴

Since the pension system in the U.S. is a voluntary one, employers do not have to provide pension plans for their employees, and if they do provide such plans they have leeway in determining the framework of those plans, within certain limits determined by the rules of the Employment Retirement Income Security Act (ERISA) of 1974. Consequently, over time there have been changes in the types of pension plans available to employees and offered by employers. Increasingly the income retirees receive from employer-provided pensions and employees' savings are blending together.

²⁴ Presentation by Richard Berner of Morgan Stanley, February 2, 2005.

This blending is widely discussed in the literature on retirement plans and pensions. This discussion most often focuses on the change from the once dominant model, the defined-benefit pension plan, to the increasingly common defined-contribution pension plan. Under the most traditional of defined-benefit plans, the pension plan specifies a benefit that the employee will receive starting at retirement and lasting for his or her remaining life. That benefit is usually determined by a formula that depends heavily on earnings during the time period worked. This type of plan puts a significant amount of responsibility on the pension plan. The money must be invested in such a way as to generate the cash flow needed for future retirement benefits, the size of which has been determined by the formula. Determining the amount of money to be put into the plan each year generally requires an analysis of expected returns on the assets held as well as the expected life span of all the participants in the plan.

Defined-contribution plans tend to be much simpler. There is no guaranteed benefit to the retiree in the future. A specified amount of money (sometimes determined by a formula and sometimes determined by profits or a savings match plan) is put into the employee's retirement account each year. The amount of money the employee has upon retirement depends on how high the returns have been on that money during the period of time it has been invested. There is no guaranteed length of time for payments to continue after retirement with these plans.

IIIA.1 Availability of Retirement Plans

Information about the incidence of pension plans is more prevalent than is information about the costs to the firm of providing pension plans. Purcell did a study for the Congressional Research Service, for example, that used Current Population Survey data to calculate the percentage of employees who work for employers that sponsor a plan and the percentage of employees that participated in a plan for the years 1991 through 2000.²⁵ That study showed that for all firms the employees participating in some sort of plan increased from 55.3 percent in 1991 to 58 percent in 1999 and fell slightly in

²⁵ The Congressional Research Service study focused on private-sector, non-agricultural workers, ages 25 to 64, employed year-round and full-time.

2000. However, for the smallest firms in his study (fewer than 25 employees), the share had grown almost steadily from about 21.3 percent in 1995 to 29.5 percent in 2000. For firms with more than 100 employees the participation rate was relatively constant between 69 percent and 71 percent with a slight decline after 1998.

Two recent articles in the Bureau of Labor Statistics' *Monthly Labor Review* (Barsky; Wiatrowski) provide information on the incidence of pension plans from the National Compensation Survey. This survey provides some information about the type of retirement plans available by establishment (not firm) size; the two groups of establishments are "less than 100" and "100 or greater." Based on findings from March 2003, only about 9 percent of employees working for small establishments had access to a defined-benefit retirement plan whereas 34 percent of employees working for large establishments had access to a defined-benefit plan. Defined-contribution plans were much more widely available among both groups of establishments. Thirty-eight percent of employees of small establishments had access to defined-contribution plans and 65 percent of employees of large establishments had access to such plans.

The National Compensation Survey was also used to look at the change in incidence of pension plans over time. The share of establishments offering retirement plans in the 1992-93 time period was compared to the share of establishments offering those plans in 2003. The results seem to confirm some of the findings of the Congressional Research Service study. The share of small establishments offering pension plans rose during the time period from 24 percent to 45 percent, with most of the increase coming in the form of defined-contribution plans. The share of large establishments offering plans rose from about 80 percent to about 88 percent. However, among the large establishments there was a noticeable drop in the share of establishments offering define benefit plans, from 45 to 38 percent, while the share of establishments offering defined-contribution plans increased.

The National Compensation Survey data also show that almost all employees eligible to participate in a defined-benefit plan will participate but between 7 and 14 percent of employees eligible for defined-contribution plans do not participate. This can be partially explained from the cost data, discussed in more detail in the section below.

Those data show that employee contributions are relatively rare and small for defined-benefit plans. On the other hand, many of the defined-contribution plans have a savings match formula where the employee is generally making a contribution to the plan as well as the employer.²⁶ Another explanation for this result is that some employees will be eligible to participate in both types of plans and may prefer to participate in only the defined-benefit plan. Finally, small business owners often use defined-benefit plans to save for retirement, especially medical professionals. Since for this group it is a proactive decision to set the pension plan up for the purpose of participating, it is not a surprise the participation rate is quite high.

There are other sources that show the availability of pensions. For example the U.S. Bureau of the Census's Survey of Income and Program Participation does a periodic survey that collects relatively detailed information about the availability and types of pension plans. Unfortunately, the release of the latest round of these data was delayed and they could not be tabulated for this paper.

The MEPS household data also provide some information on the availability of pensions to employees. It asks an employee if he or she has a pension at his or her current main job. Unfortunately, this survey does not provide information about the type of pension program the employee is offered or enrolled in. However, since there is somewhat more information about firm and establishment sizes in this survey, it is helpful to look at the results for 1998 and 2002. Tables 8A and 8B show that information.

²⁶ Some firms offer defined-contribution plans with no employer contributions; these do allow employees to save "pre-tax" dollars toward retirement but may have a somewhat lower participation rate among the employees they are offered to.

Table 8A: Share of Employees With and Without a Retirement Plan at Their Current Main Job—1998						
Small Businesses by Size of Employment (Those Identified as having 500 or fewer employees and having a single establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	29.5	70.5	10.7	89.3	34.5	65.5
<5	11.4	88.6	5.4	94.6	13.4	86.6
6-10	15.6	84.4	5.9	94.1	18.6	81.4
11-50	30.2	69.8	10.1	89.9	35.7	64.3
51-100	44.6	55.4	21.6	78.4	49.1	50.9
101-250	66.7	33.3	31.6	68.4	72.3	27.7
251-500	56.1	43.9	25.8	74.2	60.7	39.3
Indeterminate Businesses by Size of Establishment Employment (Those Identified as having 500 or fewer employees and having more than one establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	54.4	45.6	24.9	75.1	61.4	38.6
<5	34.7	65.3	16.2	83.8	40.7	59.3
6-10	41.5	58.5	17.5	82.5	48.8	51.2
11-50	46.5	53.5	20.4	79.6	54.2	45.8
51-100	61.8	38.2	32.8	67.2	68.4	31.6
101-250	72.8	27.2	40.8	59.2	76.8	23.2
251-500	67.1	32.9	34.4	65.6	72.6	27.4
Large Businesses by Size of Establishment Employment (Those Identified as having more than 500 employees)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All >500	75.2	24.8	45.2	54.8	80.3	19.7
501-1000	73.4	26.6	46.3	53.7	77.2	22.8
1001-5000	76.0	24.0	45.7	54.3	81.5	18.5
5001 +	78.9	21.1	41.9	58.1	87.4	12.6

Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Table 8B: Share of Employees With and Without a Retirement Plan at Their Current Main Job—2002						
Small Businesses by Size of Employment (Those Identified as having 500 or fewer employees and having a single establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	31.7	68.3	9.1	90.9	36.0	64.0
< 5	10.8	89.2	1.9	98.1	13.2	86.8
6-10	20.2	79.8	9.7	90.3	22.5	77.5
11-50	31.6	68.4	10.6	89.4	35.3	64.7
51-100	49.8	50.2	14.7	85.3	55.3	44.7
101-250	63.4	36.6	19.0	81.0	67.8	32.2
251-500	54.3	45.7	16.9	83.1	59.9	40.1
Indeterminate Businesses by Size of Establishment Employment (Those Identified as having 500 or fewer employees and having more than one establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	55.0	45.0	27.1	72.9	59.9	40.1
<5	35.9	64.1	17.6	82.4	39.9	60.1
6-10	43.3	56.7	24.5	75.5	47.4	52.6
11-50	47.5	52.5	21.8	78.2	52.9	47.1
51-100	59.2	40.8	29.5	70.5	64.1	35.9
101-250	72.9	27.1	41.9	58.1	76.3	23.7
251-500	68.8	31.2	40.9	59.1	72.4	27.6
Large Businesses by Size of Establishment Employment (Those Identified as having more than 500 employees)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All >500	74.2	25.8	42.8	57.2	77.7	22.3
501-1000	69.6	30.4	38.7	61.3	73.6	26.4
1001-5000	77.5	22.5	40.0	60.0	81.3	18.7
5001 +	75.4	24.6	59.0	41.0	77.0	23.0

Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Access to retirement benefits is more prevalent among large firms than among small firms. However, new employees have less access to pension benefits than do employees that have worked longer than nine months in all firm-size groupings. In the

largest firms almost 75 percent of all employees and close to 80 percent of employees that are “not new” have access to a retirement plan. The rate is much lower for the smallest companies. Only about 11 percent of employees of very small firms (five or fewer employees) have access to retirement plans. That rate is higher amongst indeterminate size firms with five or fewer employees in one establishment. About 35 percent of those employees have access to retirement plans. These firms, while having the same size establishment as the very small firms, belong to somewhat larger firms indicating that the availability of retirement plans is probably a firm-wide decision even if all employees in a firm do not have access to the plan.

Overall, there was not much change in access to retirement plans between 1998 and 2002. Looking at the access for employees that are “not new employees” one finds a very small increase in the reported share among clearly identifiable small firms, a very slight decline among indeterminate-size firms, and a small decline among large firms.

IIIB. Pension Costs by Company Size

Very little information is available on the expenses companies incur for their pension plans. While Security and Exchange Commission rules do require publicly held companies to provide some information about their pension costs and obligations, those are never aggregated to provide any sort of overall look at the costs per company. None of the surveys mentioned above provides any information about the cost to the employer of the pension. This is not surprising since most of the surveys that request pension information ask questions of employees, not employers. Employees often know very little about the costs their employers incur even for their own pension contribution and very few will know information about the total plan costs of an employer. This is especially true of defined-benefit plans.

The most comprehensive information on pension cost information does not come from a survey but rather from the required filing of pension information to meet federal government compliance regulations. Under the ERISA rules, sponsors of most pension plans are required to annually file a form 5500 or 5500C/R providing information about

the pension plan.²⁷ These forms ask the plan sponsors, in most cases an employer, to provide the amount the employer contributed to the plan during the year, the amount employees contributed to the plan during the year, and the administrative costs incurred by the plan for the year.²⁸ In addition, the number of participants in the plan at the end of the year is requested. The 1998 forms have been used to make the estimates of costs by firm size, presented in the tables below, of pension plans sponsored by employers.²⁹ The 1998 forms are used because it is the last year in which the Department of Labor used a 5500 form that routinely asked for the size of the filer.³⁰ After 1998 the forms were changed and only pension plans that are filing for the first time are required to provide such information. Obviously, these data can only be used to make estimates of the costs for firms that have pension plans. Since firms that do not sponsor pension plans do not file any forms, these data alone do not provide information about the availability of pensions to the population overall; that information is better gathered from one of the sources mentioned earlier.

A data record is generated for each pension plan that files a 5500 form; the record includes the Employer Identification Number (EIN) of the plan's sponsor. Since many sponsors, both very large and very small, have more than one pension plan, the EIN was used to do an initial match of the plans to find all the plans sponsored by a particular EIN

²⁷ Form 5500 must be filed for any plan with more than 100 participants and the 5500C/R form can be filed for plans that have fewer than 100 participants. However, the type of form filed for the plan cannot be used by itself to judge the size of the firm that is sponsoring the plan. Several large companies have pension plans that are available to only a small group of employees and are eligible to file a 5500C/R form. There are also many companies that are small businesses that may have more than 100 participants in their plan. One extreme example of this type of company is one that is going through bankruptcy and may have a lot of retired or otherwise eligible participants in the plan but very few employees. A few types of private pension plans do not have to file either a 5500 or a 5500C/R form. Simplified Employee Pension (SEP) plans and Savings Incentive Match Plans for Employees (SIMPLE) plans, both designed for small employers, do not have to file 5500 forms. Most government sponsored plans also do not have to file these forms.

²⁸ Administrative costs include accounting, actuarial, investment advice, and legal fees as well as management fees and trustees expenses.

²⁹ Pension plans sponsored by unions were excluded from this analysis since the size of the employers that might contribute to such plans was not clear. However, a pension plan sponsored by a company for the benefit of union employees would generally be included if the size of the company sponsor could be determined.

³⁰ This is generally the size of the company but in some cases it is the size of a group filing under common ownership. In many cases the size identified in the file is for a large conglomerate that incorporates many companies, often with separate pension plans, but with a common corporate entity. The size variable may or may not include foreign and contract employees since the instructions are somewhat vague.

number. However, many very large employers, such as conglomerates, have many companies with separate EINs but file their pension plans as a related entity. Consequently, a further match was done to put together groups of EINs that appear to have been filed as a group entity. Further information about how these calculations were done is included in the methodology section of this paper.

The tables below provide information on the total number of employees reported by the sponsor for itself and any other EINs that are filing as part of its group, the total number of participants for all the plans a sponsor has, an average total payment per sponsor for all the pension plans that sponsor has, an average total contribution by the employees that are participating in that sponsor's pension plans, and the average total administrative costs for the pension plans sponsored. In addition to these totals, there are averages per participant for the employer's contribution, the employee's contribution and the administrative expenses.³¹ There are three tables showing pension costs by employer size. Table 9 shows totals for all pension plans. The other two tables show information for two sub-groupings of pension plans. Table 10 shows the sub-group consisting of the defined-benefit plans (although a few of these plans may also have profit-sharing or stock-bonus aspects to them.) Table 11 shows the sub-group consisting of the types of plans that are considered by the Department of Labor and/or the Internal Revenue Service to be defined-contribution plans. This latter group consists of profit-sharing plans, stock-bonus plans, target-benefit plans, other money purchase plans, and other defined-contribution plans.

The results are interesting. In all cases more firms have defined-contribution plans than have defined-benefit plans. The largest firms almost always have at least one of each kind and generally have several. Of 2,152 firms with more than 5,000 employees, 95 percent of them offered at least one type of defined-contribution plan and 55 percent

³¹ Employees may be participants in more than one pension plan in the same company. Many companies have both a defined-contribution plan and a defined-benefit plan and some employees are eligible for both. Consequently, the participants reported on each plan form were summed before per participant calculations were done. The number of employees was used only to allocate companies to company size groupings. An average cost per employee was not calculated for the pensions as it was for the health insurance costs because the employee number that is provided on this form is not well defined. It appears that some companies have provided their U.S. employment while others have provided their worldwide employment. Consequently, it is not clear that a per-employee calculation would provide similar information about all companies.

offered at least one type of defined-benefit plan. In the smallest firm-size group (five employees or fewer), only about 10 percent offered at least one defined-benefit plan, whereas 88 percent offered at least one type of defined-contribution plan. In almost all firm-size groups the defined-benefit plans were more likely to have a smaller number of employees than were the defined-contribution plans. Among the smallest company size group, there were often one or two participants in the defined-benefit plans. Doctors, dentists, and other professionals frequently sponsored these plans. This is important to remember when looking at the results of the average size of the employer contributions for these plans.

Looking first at defined-benefit plans, the employers' average contribution per participant is highest for the very smallest firms. Firms with five or fewer persons make average payments totaling over \$20,000 per participant into defined-benefit plans. The largest firms, over 5,000 employees, are making the smallest average contribution per participant, \$1,137. However, the average contribution for the largest company size becomes significantly smaller if two companies are dropped from the analysis. Without those two companies the average contribution is \$674.³²

The employers' contributions to defined-contribution plans are somewhat more consistent but show a similar pattern. The average employer contribution per participant for the defined-contribution plans is \$4,924 for the smallest companies (five or fewer employees). That amount decreases relatively steadily and levels off to an average contribution of \$875-\$975 per participant for the companies that have more than 200 employees. The employees' contributions show the opposite pattern, smallest for the smallest firm-size group, about \$550, then leveling off for the largest groups, ranging from \$1,460 to \$1,735 for all the firm-size groupings above 200 employees.

³² Two companies had defined-benefit plans with very limited participation and very large contributions in 1998. A study of the 10-Ks for these two companies indicates that these may reflect unusual retirement payments for selected company officers.

Table 9: All Company-Sponsored Plans from 1998 5500 Forms

Size of Firm (number of employees)	Number of Cos.	Average Employment	End of Year Participants	Average Amount per Company (\$)			Average Amount per Participant (\$)		
				Employer Contribution	Employee Contribution	Admin Expense	Employer Contrib	Employee Contrib	Admin Expense
Over 5000	2,152	21,457	26,837	18,015,129	22,449,966	2,005,890	1,372	1,147	68
1001 to 5000	7,609	2,111	1,801	1,436,371	1,798,418	138,209	807	1,158	68
501 to 1000	7,355	701	581	547,788	691,250	37,943	889	1,257	56
201 to 500	17,905	315	252	246,279	318,416	16,992	976	1,343	64
101 to 200	16,657	144	115	133,327	140,261	8,327	1,213	1,225	66
51 to 100	23,175	71	52	70,357	53,467	3,687	1,467	1,047	67
11 to 50	89,320	24	19	32,218	18,085	2,110	2,525	962	115
6 to 10	40,344	8	6	24,709	4,309	1,481	4,423	642	213
5 or fewer	70,255	3	3	15,360	1,310	1,465	6,520	491	494

Source: Joel Popkin & Co., based on data filed for 1998 from U.S. Department of Labor and Internal Revenue Service Form 5500 and 5500C/R.

Table 10: Company-Sponsored Defined-Benefit Plans from 1998 5500 Forms

Size of Firm (number of employees)	Number of Cos.	Average Employment	End Year Participants	Average Amount per Company (\$)			Average Amount per Participant(\$)			Cost Per Active Employee (\$)
				Employer Contribution	Employee Contribution	Admin Expense	Employer Contrib	Employee Contrib	Admin Expense	
Over 5000	1,176	25,285	19,540	13,420,032	363,955	2,921,035	1,137	20	159	4,140
1001 to 5000	2,314	2,278	1,969	1,120,792	18,501	320,121	667	13	147	1,781
501 to 1000	1,342	713	675	489,516	7,914	108,129	1,157	17	154	2,057
201 to 500	1,937	331	315	281,328	15,222	55,561	1,996	50	218	
101 to 200	1,264	147	158	173,574	3,399	30,897	1,871	21	232	
51 to 100	1,248	74	73	79,024	1,458	16,184	1,663	30	217	
11 to 50	3,706	24	22	52,183	560	7,234	5,335	31	405	
6 to 10	2,490	8	5	47,999	95	3,029	11,396	31	541	
5 or fewer	7,265	3	2	35,845	247	2,912	21,559	39	959	
Addenda:										
Over 5000 ex. 2 firms	1,174	25,304	19,574	13,437,801	364,575	2,925,944	674	20	157	1,074
501 to 1000 ex. 3 firms	1,339	713	677	488,516	7,931	108,309	809	17	143	1,272

Source: Joel Popkin & Co., based on data filed for 1998 from U.S. Department of Labor and Internal Revenue Service Form 5500 and 5500C/R.

Firm Size (number of employees)	Number of Cos.	Average Employment	End of Year Participants	Average Amount per Company (\$)			Average Amount per Participant (\$)		
				Employer Contribution	Employee Contribution	Admin Expense	Employer Contrib	Employee Contrib	Admin Expense
Over 5000	2,034	21,948	16,887	11,245,592	23,448,445	423,338	876	1,735	31
1001 to 5000	7,011	2,100	1,280	1,179,459	1,932,724	42,715	875	1,527	38
501 to 1000	7,000	700	481	479,308	721,200	18,967	915	1,476	48
201 to 500	17,309	315	224	222,470	326,086	11,291	970	1,466	52
101 to 200	15,957	145	107	124,790	145,360	6,207	1,202	1,309	57
51 to 100	22,078	71	51	68,786	55,530	2,916	1,456	1,099	59
11 to 50	85,468	24	19	37,280	18,690	1,870	2,423	996	106
6 to 10	37,524	8	6	22,935	4,553	1,370	4,002	684	192
5 or fewer	61,624	3	3	12,869	1,430	1,272	4,924	550	439

Source: Joel Popkin & Co., based on data filed for 1998 from U.S. Department of Labor and Internal Revenue Service Form 5500 and 5500C/R.

At first glance, the largest companies' cost results for the two types of plans seem to run counter to the obvious preference that firms have shown for wanting to switch to defined-contribution plans.³³ The cost per participant seems to be lower for the defined-benefit plans. However, there are two factors to remember in analyzing these numbers. The first is that these forms are for the plan year 1998. That was a year of good economic growth and was almost at the height of the stock market boom. Consequently, many defined-benefit plans were overfunded compared to their actuarially determined future cost streams and companies were not having to add significant amounts of new money to them. Of the companies with more than 5,000 employees, about 41 percent of those with defined-benefit plans did not make any employer contributions in 1998. Defined-contribution plans, on the other hand, are often based on a matching formula. In those cases, a company makes a contribution that matches some portion of what their employees contribute and are required to make the contribution regardless of how well the assets in the individual accounts are performing. For large companies (more than 5,000 employees) with defined-contribution plans, all but 7 percent made employer contributions in 1998. Also, in some defined-contribution plans the company's contribution is based on profit sharing. In a year when the economy is performing well, such as 1998, it would not be unusual for the sponsors of the plans to make a larger than usual payment.

The other factor to consider in comparing costs per participant is the definition of a participant. Under the IRS definitions, participants include current employees that are participating in the plan as well as retirees who either receive a benefit from the plan or are eligible to receive a benefit in the future. For defined-contribution plans, the number of retiree participants tends to be relatively low since as people leave a company they usually take their vested assets with them. The defined-benefit plans of large companies do not have that type of portability. Consequently, they have a much larger percentage of retiree participants. Therefore, comparing the cost per participant, while consistent across the two types of plans, may not

³³ Aaronson and Coronado (2005) show that coverage rates for defined-benefit plans were in the mid 60 percent range in 1979 and by 1998, the coverage rate had declined to the low 30 percent range. Defined-contribution plans on the other hand had almost the exact opposite experience. It is not clear that cost is the only reason for that change. The Aaronson and Coronado paper provides a list of other changes in the structure of the economy and the workforce that may have contributed to such changes.

provide a true picture of the relative costs of the types of plans. If one divides the company's cost by just the current employees involved in the plan, the numbers for the defined-benefit plans become much higher. For example, firms with over 5,000 employees paid \$1,074 per active employee participant in their defined-benefit plans in 1998 compared to \$1,053 per active employee participant in their defined-contribution plans. When the large difference between these two groups in the percentage of employers that were making contributions is factored in, it becomes clearer why the defined-benefit plans are falling out of favor with the large companies.

Small companies' preference for defined-contribution plans may be based on their flexibility and the lower administrative costs. Employer costs are also clearly higher in the defined-benefit plans of the small companies when compared to the large companies. However, for the smallest companies (less than 10 employees) defined-benefit plans may be used most heavily to save for the owners' or self-employed person's retirement.

Tables 9, 10 and 11 also show that the administrative costs associated with defined-benefit plans are higher per participant than those for defined-contribution plans. While small firms tend to pay more in administrative costs per participant than do large firms in general, administrative costs for defined-benefit plans are often two to three times those for defined-contribution plans on a per participant basis.³⁴ For the small firms, the per participant administrative costs for defined-benefit plans ranged from \$218 per participant (200-500 employees) to \$959 per participant (five or fewer employees). The per participant costs were considerably smaller for large company's defined-benefit plans and were much more consistent, ranging from \$145 to \$160. The administrative costs for large companies' defined-contribution plans were much smaller, ranging from \$30 to \$50. For companies in the 500-199 employee category, the per participant administrative costs were \$50 to \$60. However, for the smallest companies, the administrative costs averaged over \$400 per participant.

One reason that small companies face very high administrative costs is that there appears to be a rough minimum of administrative costs for these plans. The average total payment of administrative costs is nearly the same for companies with five and fewer employees as it is for companies with 6-10 employees and is only slightly higher for companies with up to 50 employees. However, the number of participants usually increases among these groups.

³⁴ While this discussion is about small and large firm administrative costs, it is not necessarily true that the administrative costs are always borne by the firm.

Therefore, there is an advantage to sharing the administrative costs over a larger group of participants.

There are several reasons for this difference in administrative costs between defined-benefit and defined-contribution plans. First and foremost, the defined-benefit product usually involves administration by the plan for a longer period after the employee retires. Also, defined-benefit plans are rarely even partially self-directed, most are managed by professional managers; however, a very large percentage of defined-contribution plans are self-directed.³⁵ Another reason may be in the ability of the defined-contribution plans to be moved when an employee leaves the company. Frequently, the vested money in such accounts is rolled over into IRA accounts or into other pension accounts. This reduces the administrative burden of tracking employees that have left the company.

There are plans designed primarily for small employers and the self-employed that do not require a sponsor to file a 5500 form and therefore are not included in these tables. The two main examples are the Simplified Employee Pension (SEP) plan and the Savings Incentive Match Plans for Employees (SIMPLE). Because no annual reporting is required of such plans, very little is known about them. The IRS was unable to provide a current count of such plans nor provide an estimate of the amount of money that is currently invested in them. However, a recent article in the IRS's *Statistics of Income Bulletin* does provide some information.³⁶ Based on the estimates of Sailer and Nutter, contributions to SEP plans totaled \$10.1 billion in 2000, and contributions to SIMPLE plans totaled \$4.7 billion. About 1.7 million taxpayers reported contributions for SEP plans in 2000, and 1.5 million taxpayers reported contributions for SIMPLE plans. Only part of the total contributions were employer contributions made on behalf of an employee; the rest were made by the employees or by the self-employed. The fair market value of SEP plans at year end 2000 was estimated at \$134 billion; the value of SIMPLE plans was \$10.4 billion.

³⁵ Information on whether or not a plan has a self-directed aspect is provided on the 5500 form for each plan.

³⁶ P. Sailer and S. Nutter. "Accumulation and Distribution of Individual Retirement Arrangements, 2000," IRS, *Statistics of Income Spring Bulletin*, Publication 1136, July 2004.

IVA. Leave Benefits

This section examines the availability of sick and annual leave as a benefit offered by different sizes of firms. The next section estimates the costs to the firm associated with offering those two types of leave benefits.

The Bureau of Labor Statistics estimates that employers paid \$1.68 in leave benefits for every hour worked by civilian employees in September 2004. That accounted for approximately 23 percent of employers' costs for benefits. The BLS survey further breaks that down to an average hourly payment of \$0.78 for vacation pay, \$0.57 for holiday pay, \$0.25 for paid sick leave, and \$0.08 for other paid leave.

Very little analysis has been done of the incidence or the cost of paid leave by firm size. One reason is that data on the subject are scarce. Until recently, very little has been available the Bureau of Labor Statistics' periodic surveys on the availability of certain types of employee benefits in certain types of establishments. The BLS's most recent study is for the period March 2004.³⁷ It showed that in general 77 percent of private sector workers had access to paid holidays and paid vacations, and 59 percent had access to paid sick leave. Like many benefits, access to paid leave is very dependent on an employee's part-time or full-time status. Among full-time employees in private industry, 89 percent had access to paid holidays, 90 percent had access to paid vacations, and 74 percent had access to paid sick leave. The BLS survey does not provide any information by company size but it does provide some information for two groupings of establishment sizes: those establishments with 99 or fewer workers, and those with 100 or more workers. Workers in smaller establishments have less access to all types of leave benefits than do workers in larger establishments. Those with access to leave benefits also tend to have fewer days of benefits than workers in larger establishments.

Another source of information on the frequency of access to paid leave is the household section of the Medical Expenditure Panel Survey (MEPS-HC). Since this survey is primarily focused on determining the availability and use of health care, it asks several questions about the availability and use of sick leave at a person's primary job. It also asks a question about the availability of vacation pay and the availability of a retirement plan at a person's main job. Table 12A shows the incidence of paid vacation time and Table 12B shows the incidence of paid sick

³⁷ "Employee Benefits in Private Industry, 2004," Bureau of Labor Statistics press release, November 9, 2004.

leave for all employees in different firm sizes in 2001.³⁸ Since the data are derived from a household survey, the questions are asked of individuals about their benefits. In particular the question is asked about the individual's main job at the time of the interview and whether that job provides paid vacation leave or paid sick leave. Tables 13A and 13B examine the availability of these benefits by gender.

One weakness of MEPS-HC for the purpose of this study is its incomplete firm-size identifier. The person is asked for the number of employees in the establishment he or she works in and if the company has more than one location. This allows the identification of three types of companies. The first group is identified as "small business"—companies with 500 or fewer employees and no other establishments. A second group is identified as "large business"—firms with an establishment size over 500 employees and with one or more establishments. A third group is labeled "indeterminate"—businesses with establishments of 500 or fewer employees but more than one establishment. This indeterminate group may consist of either large or small businesses (although the largest category in this group (251-500 employees) is probably predominantly large business, while the smallest groups (less than five employees and 6-10 employees) will have large percentages of small businesses. As a group, the indeterminate category's statistics generally fall between the bounds of the other two groups.

IVA.1 Access to Leave Benefits

The data presented on the following tables should be considered as the percent of the employed population that is being covered as compared to the incidence of jobs (since jobs beyond a main job are not part of the analysis) or the incidence among firms (since there is no way of knowing if the individuals participating in the survey work for some of the same firms.)

³⁸ The MEPS panels are questioned five times during a two-year period. Consequently, during the first few months of 2001, panel 5 was being questioned for the third time since that panel had begun and panel 6 was being questioned for the first time. This analysis was based on all the main jobs that were reported by both panels during the first round in the given calendar year.

Table 12A: Share of Employees With and Without Paid Vacation at Their Current Main Job—2001							
Small Businesses by Size of Employment (Those identified as having 500 or fewer employees and having a single establishment)							
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months		
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No	
All ≤ 500	58.5	41.5	32.6	67.4	63.8	36.2	
<5	38.0	62.0	17.6	82.4	43.2	56.8	
6-10	50.8	49.2	27.5	72.5	56.2	43.8	
11-50	60.6	39.4	33.0	67.0	66.0	34.0	
51-100	67.8	32.2	38.7	61.3	73.3	26.7	
101-250	83.8	16.2	67.6	32.4	86.4	13.6	
251-500	78.9	21.1	60.0	40.0	81.6	18.4	
Indeterminate Businesses by Size of Establishment Employment (Those identified as having 500 or fewer employees and having more than one establishment)							
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months		
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No	
All ≤ 500	72.5	27.5	48.7	51.3	77.0	23.0	
<5	63.2	36.8	52.6	47.4	65.6	34.4	
6-10	65.8	34.2	45.5	54.5	71.4	28.6	
11-50	67.5	32.5	41.9	58.1	74.0	26.0	
51-100	72.0	28.0	49.0	51.0	75.6	24.4	
101-250	85.8	14.2	54.7	45.3	89.0	11.0	
251-500	81.4	18.6	65.3	34.7	83.5	16.5	
Large Businesses by Size of Establishment Employment (Those identified as having more than 500 employees)							
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months		
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No	
All >500	87.7	12.3	71.9	28.1	89.4	10.6	
501-1000	87.8	12.2	73.6	26.4	89.3	10.7	
1001-5000	88.2	11.8	74.4	25.6	89.7	10.3	
5001 +	86.3	13.7	62.2	37.8	88.8	11.2	

Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Table 12B: Share of Employees With and Without Paid Sick Leave at Their Current Main Job—2001						
Small Businesses by Size of Employment (Those identified as having 500 or fewer employees and having a single establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	44.8	55.2	24.7	75.3	49.0	51.0
<5	30.2	69.8	13.9	86.1	34.4	65.6
6-10	36.9	63.1	22.2	77.8	40.3	59.7
11-50	44.6	55.4	23.2	76.8	48.9	51.1
51-100	52.8	47.2	33.3	66.7	56.5	43.5
101-250	65.2	34.8	52.9	47.1	67.1	32.9
251-500	65.7	34.3	42.0	58.0	69.1	30.9
Indeterminate Businesses by Size of Establishment Employment (Those identified as having 500 or fewer employees and having more than one establishment)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	63.8	36.2	38.6	61.4	68.6	31.4
<5	54.3	45.7	43.2	56.8	56.9	43.1
6-10	52.8	47.2	35.5	64.5	57.5	42.5
11-50	59.2	40.8	32.6	67.4	65.9	34.1
51-100	67.1	32.9	39.1	60.9	71.5	28.5
101-250	76.0	24.0	49.2	50.8	78.9	21.1
251-500	71.2	28.8	50.4	49.6	73.8	26.2
Large Businesses by Size of Establishment Employment (Those identified as having more than 500 employees)						
Size (number of employees)	All Employees		Newly Employed Within Last Nine Months		Jobs Held More than Nine Months	
	Percent Yes	Percent No	Percent Yes	Percent No	Percent Yes	Percent No
All >500	81.3	18.7	62.0	38.0	83.3	16.7
501-1000	79.7	20.3	62.2	37.8	81.6	18.4
1001-5000	81.3	18.7	64.0	36.0	83.2	16.8
5001 +	84.2	15.8	56.8	43.2	87.1	12.9

Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

Tables 12A and 12B show that employees working for large firms have greater access to both paid sick leave and paid vacations. Over 85 percent of employees working for clearly

identifiable large firms reported having access to paid vacation and 81 percent reported having access to paid sick leave. Access by employees that were not new employees was even greater, almost 90 percent for paid vacations and 83 percent for paid sick leave.

Rates of access to paid vacations for both small and indeterminate size firms with more than 100 employees were similar to those in large businesses. However, access to paid sick leave in those firm-size groups was lower. In small firms with more than 100 employees, about 65 percent of employees reported access to paid sick leave. In the indeterminate category with over 100 employees in the establishment, over 70 percent reported access to sick leave. Many of the companies in this latter group are large companies and probably have similar benefits packages as the large firm grouping. Therefore, it is not too surprising to find the ratio for the indeterminate group falling between the results for the other two groups.

Among clearly identifiable small businesses, the overall access rate for paid vacations is 59 percent. (This rises to 64 percent for employees who have been on the payroll more than nine months.) Access to paid leave is higher than access to sick leave in this firm-size grouping. About 45 percent of employees working for all small businesses report having access to paid sick leave. The rates are lowest among the firms with five or fewer employees. About 30 percent of the employees in that group report having access to paid sick leave. (The rate rises to 34 percent for employees who are not new to the job.) The rate for paid vacations was slightly higher, about 38 percent.

There was not a large difference between male and female access to paid sick leave and vacations. Males had slightly higher access to paid vacations in large companies than did females, but in the very smallest firms females had slightly more access. The rate of access to paid sick leave was virtually identical between the male and female employees working for large companies, and overall the rate was very similar for the indeterminate companies. Among small businesses, women had slightly better access than men—48 percent compared to 42 percent, respectively. However, differences in these rates are unlikely to be solely caused by the gender of the employee. The type of jobs or industries in which these groups are employed in small firms are more likely to be the determining factors.

Table 13A: Share of Employees With and Without Paid Vacation at Their Current Main Job—2001				
Small Businesses by Size of Employment (Those Identified as having 500 or fewer employees and having a single establishment)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	59.1	40.9	57.9	42.1
<5	34.7	65.3	41.6	58.4
6-10	53.5	46.5	47.9	52.1
11-50	62.1	37.9	58.9	41.1
51-100	68.5	31.5	67.1	32.9
101-250	83.2	16.8	84.5	15.5
251-500	80.4	19.6	77.3	22.7
Indeterminate Businesses by Size of Establishment Employment (Those Identified as having 500 or fewer employees and having more than one establishment)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	75.5	24.5	70.4	29.6
<5	69.3	30.7	59.5	40.5
6-10	63.7	36.3	68.6	31.4
11-50	70.5	29.5	65.8	34.2
51-100	75.4	24.6	68.5	31.5
101-250	88.7	11.3	83.5	16.5
251-500	84.9	15.1	79.0	21.0
Large Businesses by Size of Establishment Employment (Those Identified as having more than 500 employees)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All >500	90.1	9.9	85.3	14.7
501-1000	88.6	11.4	87.0	13.0
1001-5000	90.5	9.5	86.0	14.0
5001 +	91.7	8.3	79.3	20.7
Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.				

Table 13B: Share of Employees With and Without Paid Sick Leave at Their Current Main Job—2001				
Small Businesses by Size of Employment (Those Identified as having 500 or fewer employees and having a single establishment)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	41.7	58.3	48.4	51.6
<5	25.8	74.2	35.0	65.0
6-10	36.7	63.3	37.1	62.9
11-50	41.0	59.0	48.8	51.2
51-100	48.8	51.2	57.3	42.7
101-250	63.5	36.5	67.3	32.7
251-500	61.8	38.2	69.8	30.2
Indeterminate Businesses by Size of Establishment Employment (Those Identified as having 500 or fewer employees and having more than one establishment)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All ≤ 500	63.7	36.3	63.8	36.2
<5	60.0	40.0	49.7	50.3
6-10	51.1	48.9	54.2	45.8
11-50	58.2	41.8	60.1	39.9
51-100	65.1	34.9	68.8	31.2
101-250	77.0	23.0	75.2	24.8
251-500	71.7	28.3	70.8	29.2
Large Businesses by Size of Establishment Employment (Those Identified as having more than 500 employees)				
Size (number of employees)	All Male Employees		All Female Employees	
	Percent Yes	Percent No	Percent Yes	Percent No
All >500	80.7	19.3	80.8	19.2
501-1000	79.4	20.6	79.9	20.1
1001-5000	81.2	18.8	81.4	18.6
5001 +	81.8	18.2	81.1	18.9

Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data.

IVB. Cost of Vacation and Sick Leave by Firm Size

The 2001 annual cost of vacation pay and sick pay has been estimated for each of the three firm-size groups detailed above and for new employees and established employees. This latter distinction is important for both the incidence and the cost calculations because new

employees do not always immediately qualify for some of these benefits. Tables 12A and 12B confirm that new employees' access to leave tends to be lower than for employees that have been with the firm longer. The availability of benefits often varies within a company depending on length of service and type of job. Consequently, at any given point in time, there will be people that do not qualify for the benefit for a variety of reasons. This is not a major limitation on estimating the cost to companies for these benefits.

Table 14 shows the estimated average costs for these benefits by the three firm-size groupings. The cost data indicate that large companies pay more in leave benefits per employee than do small companies. Because leave benefits are based on hourly pay, part of this difference is a result of the higher hourly wages reported by those who work in large firms. For employees that have been on the job more than nine months and who report having the benefit, large firms pay almost twice as much for paid sick leave and about 80 percent more for paid vacation time than small firms do. The indeterminate firms fall in between, paying about 35 percent more for sick leave benefits and 23 percent more for vacation benefits than do small firms.

The patterns by firm size and newness to the job are similar for both types of benefits. The costs per person are lowest for newly employed persons both because they tend to have lower average wages and because they are not as frequently covered by benefits. Both the average wage and the incidence tend to increase as business size increases. Thus, the average wage for all employees in large businesses is about \$7 above the average wage for all employees in the small business group. The average hourly wage of employees whose jobs provide sick pay tends to be between \$1.50 and \$3 more than the average for the entire group of employees. This differential holds for people who are new to the job as well and for established employees. Those with paid sick leave tend to be paid a higher average wage than those with paid vacation because vacation pay is a benefit to a larger percentage of the total group.³⁹ The differential between those that have the benefit and the average for all employees is smaller for the large businesses, partly because a smaller percentage of large business employees report that they do not have the benefit.

³⁹ This tends to be true for both average and median wages. While median wages tend to be lower, the differentials are generally maintained. The one exception is vacation pay for newly hired employees. There is not a substantial difference between the average wages paid by small and indeterminate size businesses to new employees although there still is a difference between the average wage of those with vacation pay and all the employees in those size classes.

The average cost of vacation pay is higher than the cost for sick pay. That is, the cost of vacation pay is calculated as the average amount of leave available to the person, whereas the cost of sick leave is estimated on the number of days the employee actually was paid while off sick. (See the methodology section for a more detailed description of how the data were estimated.) The median cost of sick pay for all employees is \$0. This indicates that over half of all employees are either not covered by sick leave or they did not use any paid sick leave during the year investigated.

Because a larger percentage of employees have access to leave benefits among the large firms than the small firms, the cost of benefits per employee (covered and not covered) is noticeably higher among large firms than small firms. Large firms pay over three times more for sick pay per employee and about two and a half times more for vacation benefits. The indeterminate size group again falls between the two others.

In all three groups, the relationship between the cost of benefits to established employees and to new employees is relatively similar. Sick pay costs per employee (covered and not covered) average about three times more for established employees than for new employees regardless of firm size. For vacation pay, the ratio varies from about 2.5 times higher for the largest firms to 3.3 times higher for the smallest firms. Since all firm sizes show about a 30 percent difference between average pay to new employees and average pay to established employees, most of this difference is related to the greater availability of the benefit to established employees and the build-up of available “days” of the benefit to employees with longer tenure.

The cost of leave benefits by gender shows similar patterns for all firm sizes. Males have slightly higher paid vacation costs and females have slightly higher paid sick leave costs. The former may be related to a differential in wage levels as well as the slightly higher rate of availability among males to paid vacation benefits. The latter may reflect women’s somewhat greater likelihood to stay home with sick children and to take relatively longer sick leaves for pregnancy.

Table 14: Estimates of Cost to Businesses of Paid Sick Leave and the Potential Expense of Paid Vacation by Business Size			
	Average Hourly Wage	Cost of Sick Pay	Cost of Vacation Pay
Small Businesses—Average per employee			
All employees (covered and not covered)		\$135	\$825
On job less than nine months	\$12.99	\$50	\$280
On job nine months or more	\$10.31	\$153	\$936
Employees who report having the benefit	\$13.54	\$303	\$1416
On job less than nine months	\$16.06 (SP)/\$15.02(VP)	\$201	\$860
On job nine months or more	\$13.84 (SP)/\$12.94(VP)	\$313	\$1474
	\$16.30 (SP)/\$15.23(VP)		
Indeterminate Size—Average per employee			
All employees (covered and not covered)		\$259	\$1260
On job less than nine months	\$15.50	\$95	\$512
On job nine months or more	\$11.91	\$290	\$1401
Employees who report having the benefit	\$16.21	\$406	\$1734
On job less than nine months	\$18.31 (SP)/\$17.16(VP)	\$247	\$1046
On job nine months or more	\$16.73 (SP)/\$15.32(VP)	\$423	\$1817
	\$18.48 (SP)/\$17.39(VP)		
Large Business—Average per employee			
All employees (covered and not covered)		\$513	\$2228
On job less than nine months	\$20.01	\$162	\$955
On job nine months or more	\$15.66	\$519	\$2363
Employees who report having the benefit	\$20.48	\$592	\$2544
On job less than nine months	\$21.55 (SP)/\$20.81(VP)	\$262	\$1338
On job nine months or more	\$18.12 (SP)/\$17.31(VP)	\$619	\$2647
	\$21.82 (SP)/\$21.11(VP)		
<ul style="list-style-type: none"> Includes imputation of establishment size for those respondents reporting only a size range. 			
<p>Note: Average hourly wages are based on all employees in the group for whom hourly wages could be determined. The average cost of sick pay and vacation pay are for those employees for whom that amount could be reasonably determined. The main reasons for exclusion were: the length of service at the job could not be determined, or the number of hours worked per week could not be estimated accurately. For a few employees who did not report weekly hours, it was not possible to determine a reasonable number of hours worked per week, especially those employees that reported working mostly on commission or similar basis. Most other employees who did not report weekly hours, were assumed to work 40 hours per week unless the employee indicated working part time. Source: Joel Popkin and Company, based on Medical Expenditure Panel Survey data and Bureau of Labor Statistics data.</p>			

V. Conclusions

In general, the employees of small businesses have access to fewer benefits than do the employees of large businesses. The differences in access by firm size vary considerably by type of benefit. Among employees that have been on the job for at least nine months, leave benefits are most commonly available. About 50 percent of the employees of businesses with fewer than 10 employees reported access to paid vacation leave, and 65 percent of all employees of all small businesses reported having such access. Health insurance benefits are less prevalent. Less than 40 percent of the employees of the smallest companies were eligible to enroll in a company health insurance plan. Participation in a private pension plan appears to be the least available benefit; only about one-third of the employees of small businesses reported having access to such plans.

There are signs that access to some of these benefits is declining. While there is little evidence that the share of workers with access to paid leave benefits has changed significantly, health insurance is not as available as it was prior to the 2001 recession. During the booming economy of the 1990s, the availability of health insurance benefits among small firms expanded. However, due to the increasing costs associated with health insurance premiums, the percentage of employees eligible to participate in companies' health insurance plans among all firm-size groupings is lower than it was in 1997.

Because the percent of employees with access to benefits increases as firm size increases, firms' cost of benefits per employee (enrolled and not enrolled) is smallest in the smallest companies and increases relatively steadily to the largest companies. However, the cost per enrolled employee does not increase in a monotonic fashion for health insurance premiums. Health insurance premiums per enrolled employees are usually highest in the very largest firm-size group; but, among the smaller firm-size groupings, the cost per enrolled employee tends to be highest among the smallest companies. The smallest firms also tend to face the highest contributions per participant in retirement plans. However, that seems to be influenced by small business owners using those plans to maximize their retirement savings. The cost per enrolled employee for paid leave benefits, on average, tends

to be lower for small firms. The only benefit for which the rate of change in benefits costs by firm-size was examined was health insurance. Small companies experienced a faster increase in health insurance premiums than did large companies during the period from the mid-1990s through 2002.

Administrative costs associated with pensions tend to be high per participant for small firms. Public policies that reduce those administrative costs are beneficial. The SEP and SIMPLE plans, which reduce the time and cost burden of pension plans by not requiring the same sorts of pension reporting as standard pension plans, are one example of a method of reducing that sort of cost for small pension plans. While the data sources used for this study cannot provide insights on the administrative costs incorporated in health insurance premiums, other studies have found that administrative costs per enrollee are higher in small plans. That would be a likely explanation for the pattern this study found in health insurance premium payments by the smallest firms. Allowing small firms more access to methods of pooling risk and administrative costs in both pension and health insurance could encourage a wider offering of those benefits.

Other factors, often associated with business size, may be an influencing factor in the availability of benefits. One major example is that health insurance is much more likely to be offered in more established businesses than in younger businesses. Since young businesses tend to also be small businesses, that may be one factor that lowers the rate of access to benefits in smaller companies. Companies with more part-time workers are less likely to offer health insurance than those with a high percentage of full-time workers. In addition, the percent of employees that are offered health insurance varies noticeably by industry.

In considering policy options for changing the availability of benefits, it must be remembered that both eligibility and actual enrollment are needed to achieve higher coverage rates. For example to expand the percent of employees of small businesses that are enrolled in health insurance, it is not enough to just induce businesses to make the health insurance plans available to a wider number of employees. Those employees must be able and willing to bear their share of the cost of the health insurance as well. The rapidly

increasing cost of health insurance will continue to be a major impediment to expanding the enrollment rates of employees among small businesses. This is especially true if health insurance premiums continue to rise faster for small businesses than for large businesses. That increases the risk of making a commitment to these health insurance plans to both the employer and employee.

Other changing workforce characteristics may pose challenges to the goal of increasing employment-based access to these benefits. Workers tend to stay with jobs for a relatively short time period. EBRI recently published results of a study that shows median tenure of employees is about five years.⁴⁰ With such short tenures, the portability of pension contributions is an important aspect of the retirement program. Based on waiting periods and hours-of-work thresholds, workers who work temporary or part-time jobs may not qualify for benefits where they work. In seeking new policy options, all these factors must be weighed in what is an increasingly complicated world of benefits offerings.

⁴⁰ Copeland, Craig. "Employee Tenure: Stable Overall but Male and Female Trends Differ," *EBRI Notes*, March 2005.

VI. Methodology

VI.1 Methodology for calculating health benefits costs

Calculating health benefits costs by firm size from the Medical Expenditure Panel Survey data is relatively straightforward. The insurance component of the survey collects, by firm size-class, information about whether or not a company offers health insurance at all, to what percent of employees insurance is offered if health insurance is made available through the firm, the average total premium for three types of health insurance (single plans, family plans, and employee plus one plans), the percent of employees that are enrolled in each type of plan, and the average employee cost of the premium. With that information, it is possible to calculate the firm's share of the total premium for each type of insurance, estimate the number of employees that are enrolled in each type of insurance and produce a weighted average premium paid by the firms in each size class.⁴¹ The average premium amount paid by the firms in each size group is multiplied by the total number of people enrolled in the health insurance plans in that size group to produce a total cost paid by the firms in each firm-size grouping. That total cost can then be divided by the total number of employees in each firm-size grouping to determine the average cost for health insurance per employee (covered and uncovered) in that group.

These data are available by major industry grouping and by several other characteristics of the firm. Those other characteristics include legal form of organization, percent full and part time workers, percent of low-wage workers, unionization of the firm, and age of the firm.

⁴¹ Similar information about the premiums are available for state governments on average and for different sizes of local governments. However, there is no published information on what percent of employees take the three different types of insurance. The AHRQ did a special study for 2000 on the percentage of employees that used each plan type and that was used to make calculate an average weighted cost per employee for 2002 for state and local governments. The MEPS system does not collect any information about the Federal government's average premium payments for health care. However, in its 2003 fact book, the Office of Personnel Management provided information on the average payment by the government for different classes of health insurance users for 2002. A call to OPM produced the number of employees in each of the groupings so that a calculation could be made of the weighted average cost for the Federal government for active employees. It is not separated by type of insurance plan and therefore can only be compared to the total weighted average cost calculated for the other groups.

VI.2 Methodology for calculating retirement costs

Several different sources of information were used for the retirement cost calculations. The share of employees that have retirement plans available to them came from the MEPS household component (HC) data. That survey asks individuals about the availability of certain types of benefits at their current main job. However, since the MEPS survey is primarily focused on the health insurance benefit and how that is used, there is no information available from that survey on the cost to the company of retirement plans.

Information on the cost of the plans was estimated from the form 5500 and 5500C/R filings of individual retirement plan sponsors for 1998. Plan sponsors tend to be companies although in some cases they are sponsored by organizations, such as unions. The main focus of this research was private industry for-profit firms. However, in the final analysis there may be a few nonprofits, such as hospitals included.

Every pension plan that complies with ERISA rules is required to file either a form 5500 or a form 5500C/R each year. These forms provide basic information about the plan, including its sponsor, the type of plan it is, the number of employees covered by the plan, the amount the employer and the employees contributed to the plan during the plan year, and the administrative costs paid for the plan during the plan year. The raw data for every plan that filed in 1998 and 2002 were obtained through a Freedom of Information Act request to the Department of Labor. However, because of a change in the form 5500, the 2002 data did not contain the identifier need to determine the firm size of the plan sponsor. The 1998 data did contain that information and was therefore used to make the calculations of the firms' costs.

The goal was to group private sector pension plans by firm (or firm grouping) and separate those firms into large businesses and small businesses using the firm-size indicator on the form.⁴² Because the cost of benefits plays a different role in profit and nonprofit

⁴² The instructions on both the form 5500 and the form 5500C/R state, "Enter the total number of employees of the employer. Employer includes entities aggregated with the employer under Code section 414(b), (c), or (m). Include leased employees and self-employed individuals." Unfortunately, the directions do not provide more clarification for this line item; therefore, the employment variable may include domestic employees or domestic plus foreign employees. The number of leased employees is not shown separately.

organizations, most nonprofit organizations were excluded from this analysis. This included pension plans run by unions as well as many pension plans sponsored by academic institutions. Most plans run by hospitals were left in the analysis because it was not easy to identify nonprofit and for-profit hospitals.

In order to make calculations per firm, it was necessary to aggregate all the pension plans that belonged to each firm or firm grouping (several large conglomerates file several of their pension plans together using one firm-size indicator for all the plans in the group). Several different screens were applied to the data to obtain the final large and small firm divisions. The first was to look at the form 5500 filers separately from the form 5500C/R filers. The latter form is a simplified version of the 5500 and is filed by plans that have 100 or fewer participants. However, this does not mean that all the plan sponsors that are filing form 5500C/R are small businesses. Many firms have multiple pension plans and several large companies have pension plans that only cover a small subset of their employees. However, virtually all of the smallest businesses file the form 5500C/R.

Unfortunately, in some instances the firm-size indicator was missing. All pension plans with the same EIN were grouped together. If the firm-size indicator was missing from one of the plan filings but present on other filings for the same EIN, the missing information was filled in from the information on other plans.⁴³ In some cases the firm-size indicator was missing and could not be filled in from other plans. For firms that had filed a 5500C/R, the firm-size indicator was imputed based on the average number of participants in the plan. For firms that had filed form 5500, the missing information often could be looked up using public information about the company for 1998. If none of these methods worked to fill in the missing firm size, the plan record was dropped from the calculations.⁴⁴

⁴³ In some cases the different plans for the same EIN would show different firm-size indicators. In some instances, it was clear that the plan size rather than the firm size had been filled in and in other cases the firm-size indicators were only slightly different. In general, the largest firm-size indicator was assigned to all the pension plans filed with the same EIN number.

⁴⁴ Regressions were run to test the accuracy of imputing the firm size from the average plan size using the plans that had filled in both pieces of information as the basis of the test. For the 5500C/R filers this was considered an acceptable way to impute firm size. However, the imputations could not be done this way for the 5500 form filers since the results of the regressions were not reliable enough. This latter result is partly due to the fact that a participant in the plan may not be a current employee of the firm, and that is much more prevalent among the defined-contribution plans of the larger firm groupings than it is among the smaller firms.

Once the missing firm-size information had been calculated, the firm groupings had to be established. The firm-size indicator may include plan sponsors with several different EINs. The plans were sorted by the indicator of sponsor size and those whose employment counts were the same were checked to determine if they were indeed related in a corporate manner. In many cases the names of the plan sponsors indicated that they were a related corporate grouping, such as different divisions of a large auto manufacturer. In other cases it was less clear and the web sites and SEC filings were checked to make sure that only information about related firms was being combined. The 5500C/R filers that had firm-size indicators that showed they might be large businesses were checked against the 5500 filers so that all pension plans for the firm grouping were aggregated together. Once all these groupings were made, the information for each firm (or firm grouping) was aggregated by adding together all the contributions the firm had made to the different pension plans, all the employee contributions that had been made to the different pension plans, all the administrative expenses that had been made for all the pension plans, and all the plan participants. While adding up the participants (and the contributions that are associated with them) may double count some participants, it should not double count any of the contributions. A participant may be eligible for more than one of the firm's pension plans and therefore, the firm may be making more than one contribution for that participant.

VI.3 Methodology for calculating the leave costs

The leave estimates are not directly reported in the survey instrument and were estimated from the responses provided to the MEPS survey. Both sick and vacation pay estimates were calculated from a combination of information from the MEPS HC and information from the BLS' surveys on the incidence of benefits by establishment size.

Sick leave is calculated by using information collected by the HC of the MEPS survey. That survey questions respondents about how many days of work have been missed by the employee due to illness.⁴⁵ In addition, the MEPS survey asks questions about an

⁴⁵ The question is asked during each of the 5 rounds the panel is questioned. The respondent is asked to provide the number of days of work missed due to illness since the end of the last reference period. The estimates for

employee's salary, usual workweek, etc. This allows an estimate to be made for the hourly wage of the employee. The information on the number of days missed due to illness, the average hourly wage of the employee, and the average number of hours per week an employee works can be used to estimate the cost to the company of providing sick pay. While that information would be enough to make an estimate of the cost of sick pay during the given calendar year, information from the BLS' survey of benefits was also used to refine the calculations.⁴⁶ This information was used to determine a likely cap for the number of sick days for which an employer was likely to provide paid coverage. The BLS information provides the average number of days of sick leave an employee. It provides separate estimates for establishments over 100 employees and for establishments with 100 employees or fewer. To apply this information to the MEPS data, the length of time a person had been on the job was calculated and the size of the establishment the person worked for was determined. Then a cap, based on that information and the potential amount of carryover sick leave, was calculated. For example, if an establishment with 100 or fewer employees provides, on average, 7 days of sick leave to a person who has worked there for 3 years then the maximum amount of leave that might be paid for in a year would be 7 days plus the amount that might have been carried over from the previous two years of working. If the number of days a person reported being off of work sick exceeded that amount, the estimate of sick leave costs was capped at the amount paid for to the average number of days available given a person's tenure and establishment size. Also, a person was not generally paid for more than 8 hours a day of sick leave and if the person's average length of workweek was less than 40 hours the hours per day of sick leave that was paid for was reduced accordingly.

The cost of annual leave by firm size is more difficult to estimate. The MEPS data provide the incidence by firm size of a person receiving paid vacation and the approximate

the calendar year were produced by adding these up and correcting for portions of the reference period that fell outside the calendar year.

⁴⁶ Detailed information on sick pay benefits have not been published for the most recent surveys on benefits therefore information was used from the 1996 and 1997 surveys. The distribution of the average number of vacation days available by tenure was taken from BLS' 2003 survey results although there has been little change in these averages since the previous survey.

cost per hour can be estimated. However, unlike the sick pay calculations, the survey instrument did not ask how many days of vacation the employee earns or takes during the period. To make an estimate of earned vacation pay requires using the Bureau of Labor Statistics' survey data on the distribution of vacation days by establishment size by length of service. Since the MEPS survey does identify the start date of the current job, it is possible to determine the length of service of the job in question. The BLS data can be used to assign average vacation days to each person who receives a paid vacation based on the reported establishment size and this length of service variable. Then a cost can be estimated using the average hourly wage and number of days worked in a week. Consequently, the vacation value is an estimate of the potential cost rather than an actual cost since there is no way of estimating the actual number of vacation days a person used during the year

Bibliography

- Aaronson, Stephanie and Julia Coronado. "Are Firms or Workers Behind the Shift Away from DB Pension Plans?" Working paper, February 2005.
- Actuarial Research Corporation. "Study of the Administrative Costs and Actuarial Values of Small Health Plans," SBA Office of Advocacy, January 2003.
- Alexander, Keith and A. Joyce. "Judge Lets Airline Toss Contract," *Washington Post*, January 7, 2005, p. E-1.
- "PBGC to Assume Responsibility for Pilots Pension Plan at UAL," Pension Benefit Guaranty Corporation press release, December 30, 2004.
- Barsky, Carl B. "Incidence Benefits Measures in the National Compensation Survey," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, August 2004.
- Belt, Bradley D. "Testimony before the Committee on Commerce, Science, and Transportation, U.S. Senate," Pension Benefit Guaranty Corporation, October 7, 2004.
- Bender, Keith A. "Characteristics of Individuals with Integrated Pensions," *Social Security Bulletin*, Vol. 62 No. 3, 1999.
- Buckley, John and Robert W. Van Giezen. "Federal Statistics on Healthcare Benefits and Cost Trends: An Overview," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, November 2004.
- Copeland, Craig. "Employee Tenure: Stable Overall but Male and Female Trends Differ," *EBRI Notes*, March 2005.
- Crimmel, Beth Levin. "Health Insurance Coverage and Income Levels for the U.S. Noninstitutionalized Population under Age 65, 2001" Statistical Brief #40, Agency for Healthcare Research and Quality, Health and Human Services, May 2004.
- Crimmel, Beth Levin. "Employee Choice in Employer-Sponsored Health Insurance Plans: 2001," Statistical Brief #29, Agency for Healthcare Research and Quality, Health and Human Services, 2003.

- Edwards, Jennifer, S. How, H. Whitmore, J. Gabel, S. Hawkins and J. Pickreign. "Employer-Sponsored Health Insurance in New York: Findings from the 2003 Commonwealth Fund/HRET Survey," Issue Brief, The Commonwealth Fund, May 2004.
- Farber, Henry and Helen Levy. "Recent Trends in Employer-Sponsored Health Insurance Coverage: Are Bad Jobs Getting Worse?" National Bureau of Economic Research Working Paper #6709, August 1998.
- Fronstin, Paul. "Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2004 Current Population Survey," *Issue Brief*, Employee Benefit Research Institute, December 2004.
- _____. "The Impact of the Erosion of Retiree Health Benefits on Workers and Retirees," *Issue Brief*, Employee Benefit Research Institute, March 2005.
- Fronstin, Paul and Ruth Helman. "Small Employers and Health Benefits: Findings from the 2000 Small Employer Health Benefits Survey," Employee Benefit Research Institute Special Report #35, October 2000.
- Fronstin, Paul, Ruth Helman and Mathew Greenwald. "Small Employers and Health Benefits: Findings from the 2002 Small Employer Health Benefits Survey," Employee Benefit Research Institute Issue Brief #253, January 2003.
- Gabel, Jon and Jeremy Pickreign. "Risky Business: When Mom and Pop Buy Health Insurance for Their Employees," Issue Brief, The Commonwealth Fund, April 2004.
- Glover, Sandra, C. Stoskopf, T. Brown, F. Wheeler, Y. Kim, S. Xirasagar. "Small Business and Access to Health Insurers, Particularly HMOs," Prepared for Small Business Administration under contract SBA H0-98-C0015, August 2000.
- Gruber, Jonathan. "Taxes and Health Insurance," National Bureau of Economic Affairs Working Paper no. 8657, December 2001.
- Kaiser Family Foundation and Health Research and Educational Trust. *Employer Health Benefits 1999 Annual Survey*, Menlo Park, CA, 1999.
- _____. *Employer Health Benefits 2004 Summary of Findings*, Menlo Park, CA, 2004.

- Kaiser Family Foundation and Hewitt Associates. *Current Trends and Future Outlook for Retirement Health Benefits*, Menlo Park, CA, 2004.
- Klein, James. "Looking Backward, Looking Forward: Where is Pension Policy Headed?" Pension Research Council Working Paper WP2004-9, April 2004.
- Monheit, Alan and Jessica Vistnes. "Health Insurance Status of Workers and Their Families," *Research Findings #2* (AHCPR Pub. No 97-0065), Agency for Health Care Policy and Research, Department of Health and Human Services, September 1997.
- Munnell, Alicia, A. Sunden and C. Taylor. "What Determines 401(k) Participation and Contributions?" *Social Security Bulletin*, Vol. 64 No. 3. 2001/2002.
- Perun, Pamela. "The Significance of Integrated Plans," *Benefits Quarterly*, Second Quarter 2003.
- Perun, Pamela and C. Eugene Steuerle. "Reality Testing for Pension Reform," Pension Research Council Working Paper WP2004-10, April 2004.
- Purcell, Patrick J. "Pension Sponsorship and Participation: Summary of Recent Trends," CRS Report for Congress, October 4, 2001.
- Rappaport, Anna. "Variation of Employee Benefit Costs by Age," *Social Security Bulletin*, Vol. 63 No. 4, 2001.
- Sailer, Peter J. and Sarah E. Nutter. "Accumulation and Distribution of Individual Retirement Arrangements, 2000," *IRS Statistics of Income Spring Bulletin*, Publication 1136, July 2004.
- Sommers, John. "Employer Sponsored Health Insurance, Characteristics by Average Payroll for the Private Sector in 2001," Statistical Brief #25, Agency for Healthcare Research and Quality, Health and Human Services, 2003.
- Sommers, John. "Employer-Sponsored Health Insurance for Small Employers in the Private Sector by Census Division, 2001," Statistical Brief #30, Agency for Healthcare Research and Quality, Health and Human Services, 2003.
- Stockton, Kimberly. "Corporate Pension Plan Funding," Vanguard Group Research Analysis, June 2004.
- Thomasson, Melissa. "The Importance of Group Coverage: How Tax Policy Shaped U.S. Health Insurance," National Bureau of Economic Research Working Paper # 7543, February 2000.

- U.S. Department of Commerce. "Health Insurance Coverage Status and Type of Coverage by Selected Characteristics: 2002," Tables of the Census Bureau, March 2003.
- U.S. Department of Commerce. Bureau of the Census's Annual Social and Economic Supplements.
- U.S. Department of Health and Human Services, Agency for Health Care Research and Quality. Medical Expenditure Panel Survey (MEPS).
- U.S. Department of Labor. "National Compensation Survey: Employee Benefits in Private Industry in the United States, 2002-2003," Bulletin 2573, January 2005.
- U.S. Department of Labor. "Employee Benefits in Private Industry, 2004," Bureau of Labor Statistics Press Release, November 9, 2004.
- U.S. Department of Labor. "Employer Costs for Employee Compensation--September 2004," Bureau of Labor Statistics Press Release, Table 1, December 15, 2004.
- U.S. Department of the Treasury. Internal Revenue Publication 535, 2004.
- Wiatrowski, William J. "Medical and Retirement Plan Coverage: Exploring the Decline in Recent Years," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, August 2004.