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ADVANCED ANALYTICAL CONSULTING GROUP

SELF-INSURED HEALTH BENEFIT PLANS

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SUMMARY

Section 1253 of the Patient Protection and Affordable Care Act (ACA) requires a report on self-insured group health plans. Deloitte Financial Advisory Services LLP and its subcontractor Advanced Analytical Consulting Group, Inc. were engaged by the U.S. Department of Labor in its response to the law's requirement to analyze such characteristics as plan type, number of participants, costs, funding mechanisms, and financial health, based on plans' annual Form 5500 filings and financial data on sponsoring firms. We also review the academic literature on self-insured plans. Finally, through an analysis of the data and discussions with subject matter specialists we discuss Form 5500 data quality issues.

As dictated by Section 1253 of the ACA, our primary data source is the information provided by health plan sponsors on Form 5500 filings. For a subset of firms we also use firms' financial data. Our primary findings include:

- In 2008, 29.5% of plans that filed a Form 5500 were self-insured, while 13.2% were funded through a mixture of insurance and self-insurance, resulting in 42.7% of plans filing a Form 5500 having a self-insured component. In contrast, 34.7% of participants in plans filing a Form 5500 were self-insured and 37.5% had a mixture of full-insurance and self-insurance resulting in the majority (72.2%) of participants in plans filing the Form 5500 that had a self-insurance component
- The fraction of mixed-funded or self-insured plans has declined slightly from 45.3% in 2000 to 42.7% in 2008. However, the number of plan participants covered by self-insured plans has increased over this period.
- Most plans with fewer than 100 participants that file a Form 5500 were self-insured. This is presumably due to Form 5500 filing requirements and not reflective of all small plans.
- Among plans with 100 or more participants, the prevalence of self-insurance generally increases with plan size. For example, 26.8% of plans with 100-199 participants were mixed-funded or self-insured in 2008, compared with 76.4% of plans with 5,000 or more participants.
- Larger plans were more likely to have a mixture of funding mechanisms, i.e., some plan components were self-insured, whereas others were fully-insured. For example, 5.4% of plans with 100-199 participants had mixed-funding in 2008, compared with 43.0% of plans with 5,000 or more participants.
- For plans with trusts, median per-participant benefit payments and other expenses of self-insured plans were lower than those of mixed-funded plans. This is particularly the case for plans with fewer than 100 participants. Also, participants in self-insured plans contributed to a greater extent to their health benefit plans than those in mixed-funded plans.
- Multiemployer and multiple-employer plans were more likely to self-insure than single-employer plans. In 2008, 68.0% of multiemployer or multiple-employer plans were self-insured or mixed-funded, compared with 40.7% of single-employer plans.
- Self-insurance varied by industry, with agriculture, mining, construction, and utilities firms having the highest prevalence of self-insurance.
- To a limited extent, quality issues arise in the Form 5500 data. For example, some plans report implausibly many participants.
- Subject matter specialists suggest that some companies express confusion on Form 5500 filing requirements or plan participant definitions.

The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Government position, policy or decision, unless so designated by other documentation issued by the appropriate governmental authority.

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1. LITERATURE REVIEW

This review summarizes academic and industry studies related to self-insured employer-provided health plans. The majority of the U.S. population receives their health insurance through their employer or the employer of a close relative.[1] There are several ways in which plan sponsors (usually the employers) may fund the health insurance plans that they offer to their workers. In a self-insured health plan, the plan sponsor generally directly funds the health benefits for its covered enrollees. Self-insured plans can be financed on a pay-as-you-go basis or through contributions to a trust fund established for the express purpose of paying for the claims of the plan's participants and beneficiaries. The plan sponsor may choose to administer its health plan directly or to retain an outside professional to administer its health plan, typically a Third-Party Administrator (TPA), Administrative Services Organization (ASO), or a broker. Administration of a health plan includes paying claims, resolving disputes, negotiating payment rates, and performing other administrative duties. The payment rates negotiations often involve joining an established network of providers but sometimes involve using a health insurance broker.

In contrast, a fully-insured plan is one in which the employer purchases group health insurance coverage through an insurer that assumes the risk of paying the health-care claims of the participants covered under the health benefit plan and performs the plan's administrative functions.

The distinction between fully-insured and self-insured is not a sharp one. For example, a plan sponsor may choose to purchase stop-loss insurance coverage that insures the plan sponsor (or plan) against unexpectedly large claims. Under a stop-loss insurance plan, the plan sponsor pays the claims of the covered workers up to a specified threshold; these "attachment points" may be set based on a per-participant amount or an aggregate plan amount. In the event that the plan's claims exceed the attachment point, the stop-loss policy reimburses the plan sponsor or plan for any excess claims. A plan sponsor may also purchase a "minimum premium" plan in which the sponsor self-insures a fixed percentage of the estimated monthly claims and an insurance company insures the excess claims. Our method of identifying plans that self-insure does not take stop-loss coverage into account. A self-insured plan that purchases stop-loss insurance is still considered self-insured.

Trends in Self-Insurance

In an annual survey of employers, the Kaiser Family Foundation and the Health Research and Educational Trust gathered detailed information on employer-provided health benefits.[2] This survey helps identify plans that are self-insured. Below we describe some of the key findings and trends that are relevant for our report.

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[1] DeNavas-Walt, C., B. D. Proctor and J. C. Smith, U.S. Census Bureau, Current Population Reports, P60-238, *Income, Poverty, and Health Insurance Coverage in the United States: 2009.* U.S. Government Printing Office, Washington, DC, 2010.

[2] *Employer Health Benefits: 2010 Annual Survey* sponsored by the Kaiser Family Foundation and Health Research and Educational Trust ("KFF study")

Prevalence of Self-Insured Plans

- Nearly six in ten American private and public sector workers covered by employer-provided health care in 2010 were covered under a self-insured plan, up from about four in ten in 1999.[3]
- For state and local governments, the 2010 self-insurance coverage rate of 66% was higher than the overall average coverage rate, but not statistically significantly higher.[4]
- Self-insurance coverage increased with employer size. In 2010, 16% of covered workers at small employers (3 to 199 workers) had self-insurance coverage, compared with 93% of covered workers at very large employers (5,000 or more workers).[5]

Premiums and Coverage

- Average annual premiums in 2010 for single coverage and family coverage
    - Whether for single coverage or for family coverage, workers at small employers (3 to 199 workers) in self-insured plans paid higher (but not statistically significantly higher) premiums than those in fully-insured plans: $5,428 versus $4,972 for single coverage and $13,493 versus $13,203 for family coverage.[6]
    - In contrast, at large employers (200 or more workers) workers in self-insured plans paid statistically significantly lower annual premiums than those in fully-insured plans: $5,001 versus $5,286 for single coverage and $13,903 versus $14,678 for family coverage.[7]
- Among workers at large employers, average family coverage premiums have grown faster over the past decade for fully-insured plans than for self-insured plans.
    - Over the period 2000 to 2005, premiums increased about equally for fully-insured and self-insured plans, by around 72%.
    - The latter part of the decade saw larger increases for fully-insured plans, 35% from 2005 to 2010 versus 26% for self-insured plans over the same period.
    - From 2009 to 2010, average fully-insured premiums increased by $808 while average self-insured premiums increased by $248.[8]
- Workers paid a larger share of their family coverage premiums when their plans were fully-insured, 36% versus 26% for self-insured plans. However,

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http://ehbs.kff.org/. Also see Acs, et al. (1996) for an earlier analysis using other data sources.

[3] *Ibid*, Exhibit 10.1.

[4] *Ibid*, Exhibit 10.3. Unless explicitly stated, the significance threshold is 5 percent.

[5] *Ibid*, Exhibit 10.1. "Small employers" are defined by the number of employees within the employer while "small plans" are defined by the number of participants covered by the plan.

[6] *Ibid*, Exhibits 1.5 for single coverage and 1.6 for family coverage. While the difference is several hundred dollars, it is not statistically significant because of the relatively small sample size for small firms and the wide range of premiums in the survey data.

[7] *Ibid*, Exhibits 1.5 and 1.6.

[8] *Ibid*, Exhibit 1.14.

there was no statistically significant difference for single coverage where the workers' share was 18% for fully-insured and 19% for self-insured plans.[9]
- In summary, the most notable differences are seen at large employers, where fully-insured plans had higher premiums, faster premium growth, and workers paid a larger share of premiums compared to self-insured plans.

Determinants of Employers' Choices of Funding Mechanism

Self-insurance may offer potential advantages to employers, including:[10]

- Control over the design of the benefits program, especially avoidance of state-mandated benefits
- Lower administrative services costs than would be charged by a commercial carrier
- Easier access to utilization and claims data, improving the employer's ability to evaluate health benefit costs and implement cost containment measures
- Improved cash flow generated by keeping funds in-house until needed for payment of claims
- Avoidance of state insurance premium taxes that can range from 1% to 2.5% of premiums paid

In addition, self-insurance may allow employers to achieve equity and efficiency goals through standardization of plans across states (avoiding potential state-by-state insurance law differences in mandated benefits) and through economies of scale that come with offering a single set of plans to all employees regardless of location. If the employer's workforce has fewer or lower cost claims than other employers, the benefits of self-insurance, measured by avoided premiums, may be greater.

The main disadvantage of self-insurance is the financial risk of paying claims and the accompanying risk management challenges. The financial risks are driven by the unpredictability of claims over time.

The net advantage of self-insurance varies across employers. For example, employers with large numbers of employees are more likely to benefit from self-insurance because the aggregate claims experience of large groups can be more accurately forecasted. Employers with multi-state operations facing multiple state-specific insurance mandates might also find self-insurance is a less expensive option and one that more easily allows for equivalent plans for employees throughout the organization.

The academic literature has examined employers' choices between fully-insured and self-insured health plans. Much of the literature has focused on the influence that the preemption from state mandates and premium taxation that self-insured plans have under Employee Retirement Income Security Act of 1974 (ERISA) has on the employer's choice between insurance and self-insurance. The relative benefits for self-insured plans conferred by preemption are driven by state policy variables, such

[9] *Ibid*, Exhibits 6.19 and 6.20.
[10] Source: "Compensation and Benefits Guide, Health Care Benefits." The Bureau of National Affairs, Inc., Benefits Practice Center (2010). http://www.bna.com/products/eb/bpcw.htm (subscription required).

as the types of mandated coverage and the level of premium taxation, insurance market competitiveness, medical costs, and employer characteristics, such as employer size, sector, whether it is a single or multistate operation, the historical number and size of health insurance claims, attitude toward risk, and financial assets allocated to cover expected and unexpected claims. Changes in any of these characteristics might lead employers to alter their funding mechanism. Below, we summarize the findings of a number of studies of trends and determinants of self-insurance.

Marquis and Long (1999) compared the 1993 and the 1997 Robert Wood Johnson Foundation Employer Health Insurance Surveys in the states of Colorado, Florida, Minnesota, New York, Oregon, Vermont and Washington. They reported that the number of employers with self-insured plans declined in all seven states between 1993 and 1997, concurrent with a shift towards employers offering managed-care through their health benefit plans. They also found that, controlling for size of the employer, multistate employers were more likely to self-insure.

Morrisey, Jensen and Gabel (2003) studied the effect of rapid managed-care penetration in the 1990s on premiums paid by medium and large employers. Using data from the 1993 through 1997 KPMG Peat Marwick Survey of Employers, they found that higher levels of Health Maintenance Organization (HMO) penetration coincided with smaller increases in conventional and Preferred Provider Organization (PPO) premiums for self-insured plans.

Brooks and Wong (1997) is an example of an argument for self-insurance having effects beyond avoiding regulations and taxes. The authors used data from a variety of sources including the MEDSTAT Marketscan database and found that self-insured plans in areas with higher HMO penetration paid higher hospital prices than those in areas with lower HMO penetration. In addition, their findings suggested that self-insured plans were poorly positioned to negotiate low-cost managed-care contracts relative to contracts with individual single-care providers.

Jensen, Cotter and Morrisey (1995) developed a model of the employer's choice of health insurance funding that predicted self-insurance becomes more attractive as compliance costs associated with state insurance regulations increase. They assembled two panels of private business establishments covering the early 1980s and mid-1980s.[11] They found only weak evidence linking the expansion of mandates in the early 1980s with conversions to self-insurance, but stronger evidence that premium taxation encouraged switches to self-insurance. They estimated that about two-thirds of new self-insured plans in the early 1980s were driven by state insurance regulation. For the mid-1980s the state regulations were found to have no effect on self-insurance conversions. The authors also found that firms with more employees were more likely to self-insure; medical care prices were negatively correlated with conversions to self-insurance, perhaps because higher prices raise the financial risk of self-insurance; and less competition in the health insurance market was positively correlated with conversion to self-insurance.

[11] The earlier panel was constructed from the Bureau of Labor Statistics' Employee Benefit Surveys of 1981, 1984 and 1985; the later panel is from Health Care Financing Administration's Health Insurance Benchmark Survey from 1984 and Health Insurance Association of America's Employer Health Insurance Survey from 1987.

Jensen and Morrisey (1999) described the spread of state mandates in the 1990s and the concurrent rise in the number of employers choosing to self-insure the health plans they offered their workers. In another paper, Jensen and Morrisey (1990), the authors, using the Bureau of Labor Statistics' Employee Benefits Surveys from 1981 to 1984, estimated a model of hedonic prices for plan characteristics and found that being a self-insured plan contributed a statistically significant increase in premium price.

Gruber (1994) used the 1989 Health Insurance Association of America's Survey of Firms, along with the U.S. Census Bureau's May Current Population Survey supplements for 1979, 1983 and 1988 to examine benefit coverage of various types of plans. Focusing on small employers (fewer than 100 employees), he found self-insured employers were just as likely as fully-insured employers to offer specific benefits. He construed this as evidence that state mandates do not bind, which is further supported by his findings that mandates had little effect on the rate of insurance coverage, and workers at employers that did not offer health insurance had broadly similar characteristics to workers who declined offered health insurance coverage.

Several studies have made use of the Large Employer Health Insurance Dataset (LEHID), collected by a major benefits consulting firm. These data span from 1998 to 2005, have information on 776 employers and 139 geographic markets in the United States, and represent on average 4.8 million employees per year. Dafny (2010) used the LEHID and found evidence that the proportion of employees enrolled in self-insured plans increased from 58% in 1998 to 76% in 2005. Dafny found no evidence that more profitable employers, as measured by after-tax returns on assets, were more likely to switch to self-insurance.

Also using the LEHID, Avraham, Dafny, and Schanzenbach (2009) evaluated the effect of state-level tort reforms over the period 1998 to 2006 on employer-sponsored health insurance premiums. They found that caps on noneconomic damages (e.g., pain and suffering), collateral source reform (which reduces awards if the plaintiff receives public or private insurance benefits), and joint and several liability reform (which limits plaintiffs' ability to go after the party with "deep pockets") each reduced premiums by 1 to 2%. These reductions were concentrated in self-insured plans while fully-insured plan premiums showed no reaction to the tort reforms.

Dafny, Ho, and Varela (2010) estimated a hedonic pricing model, using the LEHID, to conclude that employees prefered self-insured plans over fully-insured plans. The authors found the self-insurance preference to be above and beyond the appeal of lower premium payments (which are controlled for in the model). Given that self-insurance allows an employer to choose not to offer state-mandated benefits, this result suggests that employees valued the other attributes of self-insured plans more highly than they valued the state-mandated benefits that would be available under a fully-insured plan.

Finally, there is little evidence in the academic or industry literature on the influence of employers' financial positions on their decision to self-insure.

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2. DATA SOURCES AND DEFINITION OF SELF-INSURANCE

The quantitative analysis in this report is based on two data sources: Form 5500 filings and annual financial reports. We discuss both sources in turn. We then discuss the definition of self-insured, as used in this report, and point out some of the data limitations.

Form 5500 Data

The ERISA requires companies that sponsor certain employee benefit plans to annually report details on such plans on a Form 5500 ("Annual Return/Report of Employee Benefit Plan").[12] The Form 5500 consists of a main form and a number of schedules, depending on the type of plan. The main form collects general information on the plan, such as the name of the sponsoring company, the type of benefits that it provides (pension, health, disability, life insurance, etc.), the funding and benefit arrangements, and the number of plan participants.[13] The plan benefits may be provided through external insurance contracts. Form 5500 filings must include one or more Schedules A with details on each insurance contract (name of insurance company, type of benefit covered, number of persons covered, expenses, etc.). If the plan operates a trust, a Schedule H or I needs to be attached with financial information. Schedule H applies to plans with 100 or more participants, whereas smaller plans may file Schedule I, which is shorter.

Not all welfare plans need to file a Form 5500. Generally, the form is required for plans with 100 or more participants at the beginning of the reporting period and for plans of any size that operate a trust. Some plans file a Form 5500 even though they are not required to do so. This report excludes such voluntary filers from the analysis. The analysis also excludes plans that were terminated or that had zero participants at the end of the plan year. It includes single-employer, multiemployer, and multiple-employer plans, but not filings by direct filing entities.

Table 1 presents the distribution of plan size, as measured by the number of participants at the beginning of the reporting period for filings in plan year 2008, i.e., for filings with a reporting period that started in 2008. This is the most recent year for which near complete electronic data were available at the time of this analysis. As

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[12] Starting with the 2009 plan year, some sponsors could file Form 5500-SF ("Short Form Annual Return/Report of Small Employee Benefit Plan"). This report analyzes data through plan year 2008.

[13] For the purpose of this report, only health benefits are relevant. However, it is our understanding that sponsors of multiple types of benefits have discretion over what they consider a plan. More than nine out of ten employers consider all their welfare benefits—health, dental, vision, life, et cetera—as a single plan and file a consolidated Form 5500. Similarly, an employer may offer multiple types of health benefits (PPO, HMO) and file a single Form 5500 on which some of the information is consolidated. While multiple benefit types may be consolidated on a single Form 5500, plan sponsors are required to include separate details on each pertinent insurance contract.

defined throughout this report, "participants" may include active and retired participants, but the count excludes dependents.

Table 1: Distribution of Number of Participants in Health Plans (2008)

Participants in plan	Number of plans	Percent of plans	Number of participants	Percent of participants
0	159	0.4%	0	0.0%
1-99	2,465	6.0%	78,059	0.1%
100-199	13,246	32.0%	1,901,918	2.9%
200-499	12,683	30.7%	3,950,347	6.0%
500-999	5,406	13.1%	3,799,942	5.8%
1,000-1,999	3,189	7.7%	4,473,012	6.8%
2,000-4,999	2,318	5.6%	7,193,936	11.0%
5,000+	1,905	4.6%	43,931,425	67.2%
Total	41,371	100.0%	65,328,639	100.0%

Source: Form 5500 filings.

Plans with fewer than 100 participants ("small plans") are not required to file a Form 5500, except if they operate a trust. Small plans in our analysis are thus a select subset of all small plans. While the total number of small plans in the United States is not known to us, only a very small fraction of all small plans is included in our analysis. In contrast, plans with 100 or more participants ("large plans") are generally required to file a Form 5500, so our analysis covers almost all large plans in the United States.[14]

Small plans accounted for 6.4% of our analysis sample.[15] Almost two out of three plans numbered between 100 and 499 participants. Most participants, however, were in the largest plans. Plans with 5,000 or more participants make up only 4.6% of all plans in our analysis, but they accounted for 67% of all participants. Overall, the plans in our analysis relate to the health insurance of over 65 million participants.

Our analysis covers plan years 2000 through 2008. As shown in Table 2, for every plan year, it includes between 40,000 and 46,000 plans which provided health benefits. On average, there were approximately 44,000 plans per year. The number of covered participants ranged from 52.6 million to 67.4 million per year. Where our analysis is based on Form 5500 only, it covers the universe of plans that filed a Form 5500, not a sample. Some parts of the analysis involve financial data from annual reports, which was available for only a subset of plans.

[14] Church plans and governmental plans are not covered by Title I of ERISA and are not included in this study. See 2008 Form 5500 instructions http://www.dol.gov/ebsa/pdf/2008-5500inst.pdf (p. 3).

[15] Plans with zero participants at the beginning of the reporting period may be newly-started plans that enrolled participants during the reporting period. They may also reflect data entry issues; see below.

Table 2: Health Plans and Participants, by Plan Year

Plan year	Number of plans	Number of participants
2000	40,739	52,559,775
2001	43,503	56,266,701
2002	45,092	59,855,465
2003	44,382	60,389,536
2004	43,777	59,889,494
2005	44,571	60,775,951
2006	45,693	65,365,088
2007	45,909	67,445,072
2008	41,371	65,328,639

Source: Form 5500 filings.

Matching with Financial Information

Several research questions seek to understand the relationship between the financial health of a plan sponsor and the plan's characteristics. To conduct this analysis, we matched financial information with Form 5500 plan filing data. This section describes our approach and the number of Form 5500 filers for which we achieved a match.

The financial information for our analysis is sourced from Capital IQ, a provider of financial and other data for companies in the United States and elsewhere. Capital IQ culls Form 10-K filings and other sources to collect data on companies with public financial statements, which generally includes companies with publicly-traded stock or bonds.[16] As of December 2010, its database contained year 2009 financial information for 32,808 companies. Of these, 14,646 companies were public companies.

We extracted fields that capture company characteristics, financial strength, financial health and financial size:

- *Descriptive and Company Information* fields allow for segmentation by company financial characteristics;
- *Cash from Operations* and *Operating Income* to measure resources available at hand to fund various activities, including welfare plan funding;[17]
- *Total Debt* measures the total debt outstanding;[18]
- The *Altman Z-score* is an index for predicting the probability that a firm will go into bankruptcy within two years. The lower the score, the greater the probability of insolvency.

We attempted to match companies that filed a Form 5500 to financial data from Capital IQ.[19] Most Form 5500 filers are private companies without public financial

[16] A Form 10-K is an annual financial report required by the Securities and Exchange Commission (SEC).
[17] Capital IQ defines "Cash from Operations" as the total of net income, depreciation and amortization and other items; "Operating Income" is total revenues net of total operating expenses.
[18] Capital IQ defines "Total Debt" as including such items as short-term borrowings, long-term debt, and long-term capital lease.

statements, so the match is limited. Table 3 shows that we were able to match 5,040 plans, or about 12% of the plans in the 2008 Form 5500 data.[20] This is the set of companies that appear in our "matched" analyses to follow. When considering the number of participants in matched plans, the 5,040 plans cover 29.7 million participants or 46% of all participants across all group health plans. Among the matched plans, 65% are sponsored by public companies, 33% by private companies with publicly available financial data, and 2% by some other ownership arrangement.

Table 3: Number of Matching Plans, by Number of Participants (2008)

Number of participants	Number of plans	Percent of plans	Number of participants	Percent of participants
0	3	0.1%	0	0.0%
1-99	48	1.0%	2,069	0.0%
100-199	691	13.7%	100,535	0.3%
200-499	1,056	21.0%	343,514	1.2%
500-999	831	16.5%	598,404	2.0%
1,000-1,999	701	13.9%	999,269	3.4%
2,000-4,999	761	15.1%	2,439,235	8.2%
5,000+	949	18.8%	25,221,248	84.9%
Total	5,040	100.0%	29,704,274	100.0%

Source: Form 5500 filings and Capital IQ data.

Table 4 shows similar matching information for each of the years we consider in the analysis. We matched more plans in each of the years 2000 through 2007 than in 2008.

[19] We matched by Employer Identification Number (EIN) and by company name. Both are available on Form 5500, but the Capital IQ database does not contain EINs. We obtained EINs through an automated crawl of Form 10-K filings on the website of the SEC. If no match was made using EIN, we attempted to match by company name. Some sponsor names and other values of Form 5500 data fields contained errors, because the data were largely obtained through scans of hardcopy filings. While there are other ways to expand the number of matches, we believe that our approach provides a high level of confidence in the quality of the match.

[20] While this is a small number, many of the companies represented by the plan filings in 2008 are not represented in Capital IQ data because they are private and have no public debt, and, therefore, have no requirement to issue public financial statements. One rough way of gauging the quality of the match is to examine the number of companies in the Capital IQ data reporting 100 or more employees that we matched to a plan. We consider only companies with 100 or more employees as a proxy for eligibility to file a Form 5500 without regard to using a trust. The figures suggest we capture data for approximately 56 percent of the relevant companies in the Capital IQ data.

Table 4: Plans and Participants Matched to Capital IQ, by Plan Year

Plan Year	Number of Plans	Number of Participants
2000	5,843	24,556,967
2001	6,128	26,525,466
2002	6,077	29,464,527
2003	5,912	28,929,145
2004	5,800	28,556,219
2005	5,710	29,116,713
2006	5,722	29,533,981
2007	5,541	30,267,565
2008	5,040	29,704,274

Source: Form 5500 filings and Capital IQ data.

Definition of Self-Insurance

The magnitude of health benefit payments can be subject to uncertainty. Plan sponsors may obtain insurance to protect against that uncertainty or they may self-insure. Form 5500 does not require plan sponsors to explicitly specify the plan's funding mechanism. This section describes how we determined funding mechanisms for the purposes of this report.

The Definition of Funding Mechanism is Driven by Available Data

As defined in this report, funding mechanism is based on information in Form 5500 filings. In some cases, that information is incomplete or internally inconsistent. Given these limitations, the classification in this report should not be interpreted as an official or legal definition. The definition of funding mechanism is driven by available data.

Funding mechanism is derived from Form 5500 questions on funding or benefit arrangement and from details on insurance contracts associated with the plan. Plan administrators should file a Schedule A for every insurance contract that relates to the welfare plan. The classification is based on the following:

- A fully-insured plan should specify that the funding or benefit arrangement is through insurance and it should attach one or more Schedules A with details on the applicable insurance contract.
- A self-insured plan should specify that the funding or benefit arrangement is from a trust or from general assets. There should be no evidence of any health insurance contract.

Many plans file a single Form 5500 for their umbrella welfare benefit plan that provides multiple types of welfare benefits (health, vision, dental, life, etc.), some of which may be fully-insured and some of which may be self-insured. The funding mechanism of the health benefits component of such consolidated plans could typically be resolved. For example, a plan that provides health, dental, and vision benefits may report that it is funded through both insurance and from general assets, and includes Schedules A for dental and vision insurance contracts. Since there is no health insurance contract, the health benefits portion of the plan is classified as self-insured.

However, some plans contain both fully-insured and self-insured health benefits components. We characterize such plans as having "mixed-funding." For example, an employer may offer a fully-insured HMO and a self-insured PPO plan, reported in a single Form 5500 filing. Suppose the funding or benefit arrangement indicates that a plan was funded through both insurance and a trust or general assets, and the Form 5500 filing includes a Schedule A with details of a health insurance contract. This could reflect a mixed-funded plan. It could also be a fully-insured health plan in combination with a self-insured other plan (vision, dental, etc.). We resolved the issue by comparing the number of plan participants with the number of persons covered by the health insurance contract. As explained below, these numbers are not directly comparable, so we applied a safety margin. If the number of persons covered by a health insurance contract was more than 50% of the number of plan participants and the plan did not operate a trust, we classified the plan as fully-insured. Otherwise, we characterized the plan as mixed-funded.[21]

While this approach is subject to some data quality issues (further discussed below), we believe it results in a meaningful characterization of health plans' funding mechanism.

Stop-Loss Insurance

While self-insured plans bear the financial risks of health benefits, some self-insured plans purchase insurance against particularly large losses. As discussed in the Analysis section, roughly one in four self-insured plans report such catastrophic or stop-loss insurance on their Form 5500 filings. However, if the beneficiary of stop-loss insurance is the sponsor rather than the plan and it was not purchased with plan assets, it need not be reported on Form 5500.[22] Also, the stop-loss insurance need not relate to health benefits but could protect other self-insured benefits, such as disability benefits. The true prevalence of stop-loss insurance can thus not be learned from Form 5500 filings alone.

For the purpose of defining self-insurance, we do not account for the presence of stop-loss insurance. A self-insured plan may thus have only limited exposure to financial risks of health benefits.

Form 5500 Data Issues

As noted above, the information on Form 5500 is sometimes incomplete or inconsistent. Some of the issues that affect the definition of funding mechanism are as follows:

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[21] Where possible, our approach requires that the trust paid benefits to plan participants. Some plans may use a trust or a voluntary employees' beneficiary association (VEBA) as a vehicle to pass insurance premiums through to an insurance company. Insofar as such plans did not make benefit payments to participants, they are correctly classified as insured. For plans with fewer than 100 participants, Form 5500 does not ask whether any payments were made to plan participants. It is possible that some such small plans are classified as mixed-funded, even though they are fully-insured.

[22] See the 2008 Form 5500 instructions http://www.dol.gov/ebsa/pdf/2008-5500inst.pdf (p. 22).

- Some self-insured companies have set up a subsidiary that acts as an in-house insurance company and sells health insurance for employees. Such subsidiaries are known as "captive" insurance companies and are subject to all the regulatory rules regarding insurance companies. Plan sponsors purchasing insurance from a captive insurance company would file Schedule A, which does not require that use of a captive insurance company be disclosed. In our classification, such plans would thus be considered fully-insured, even though they are economically self-insured.
- As noted above, we classify plans as having mixed-funding if the number of persons covered by health insurance contracts is less than 50% of the number of plan participants. The two metrics may not be strictly comparable. First, the number of "persons covered" by insurance contracts, as asked on Schedule A, may be interpreted as inclusive of dependents, whereas the Form 5500 instructions explicitly exclude dependents from the term "participants." Second, on plans that provide multiple types of benefits, not all reported participants may in fact be participants in the health benefits component of the plan.
- In some cases, a plan filed a Schedule A for a health insurance contract, but did not specify how many persons were covered by that contract. The plan could also have incorrectly filed a Schedule A for an ASO plan which would not cover any participants. In such cases, we assumed that the majority of participants were covered by an insurance contract and classified these plans as fully-insured.
- Some plans reported a funding or benefit arrangement through insurance, but did not file any Schedule A with insurance contract details. In such cases, we assumed that the plan was fully-insured.
- Some plans reported a funding or benefit arrangement through insurance and filed one or more Schedules A without specifying the type of benefit that the insurance contract covered. In such cases, we assumed that the insurance contract provided health benefits.

Other Form 5500 data quality issues include:

- Some numeric fields do not add up correctly. For example, some filings of Schedule H reported total expenses that were not equal to their expense components. Some reported negative total expenses, but positive expense components.
- Some data fields appeared implausible. For example, in 2008, two plans reportedly served more than 80 million participants each. Similarly, several fully-insured health plans reported expenses well in excess of $100,000 per participant per year. We investigated plans with the largest reported numbers of participants and excluded them from the analysis if the number appeared implausibly large. Also, we reduced the effects of implausible financial metrics by reporting their 25th, 50th, and 75th percentiles instead of average values.[23]
- The electronic Form 5500 files do not contain missing numerical values, even if the filing contained a blank entry. Blank entries were recorded as zero

[23] The electronic Form 5500 files that we used were generated from scans of hardcopy filings. Inspection of some cases suggested that implausible values were often the result of errors in the optical character recognition process. These types of errors will presumably occur less frequently with electronic filings.

valued. We excluded plans with zero-valued expenses and similar metrics from portions of the analysis which relied on such metrics.

- Some fields contained inconsistent values. For example, one plan reported benefit type "LIFE" instead of the code that corresponds to life insurance.

While the data quality is not perfect, the large majority of filings appeared internally consistent. We present two charts which validate the reported number of plan participants in 2008. Figure 1 shows the reported numbers of participants in 2007 and 2008 of plans that were observed in both years. Note that the axes are on logarithmic scales. Each dot represents a plan. As expected, the large majority of dots cluster around the 45-degree line, indicating that the number of participants did not change by much between 2007 and 2008. However, some outliers are present.

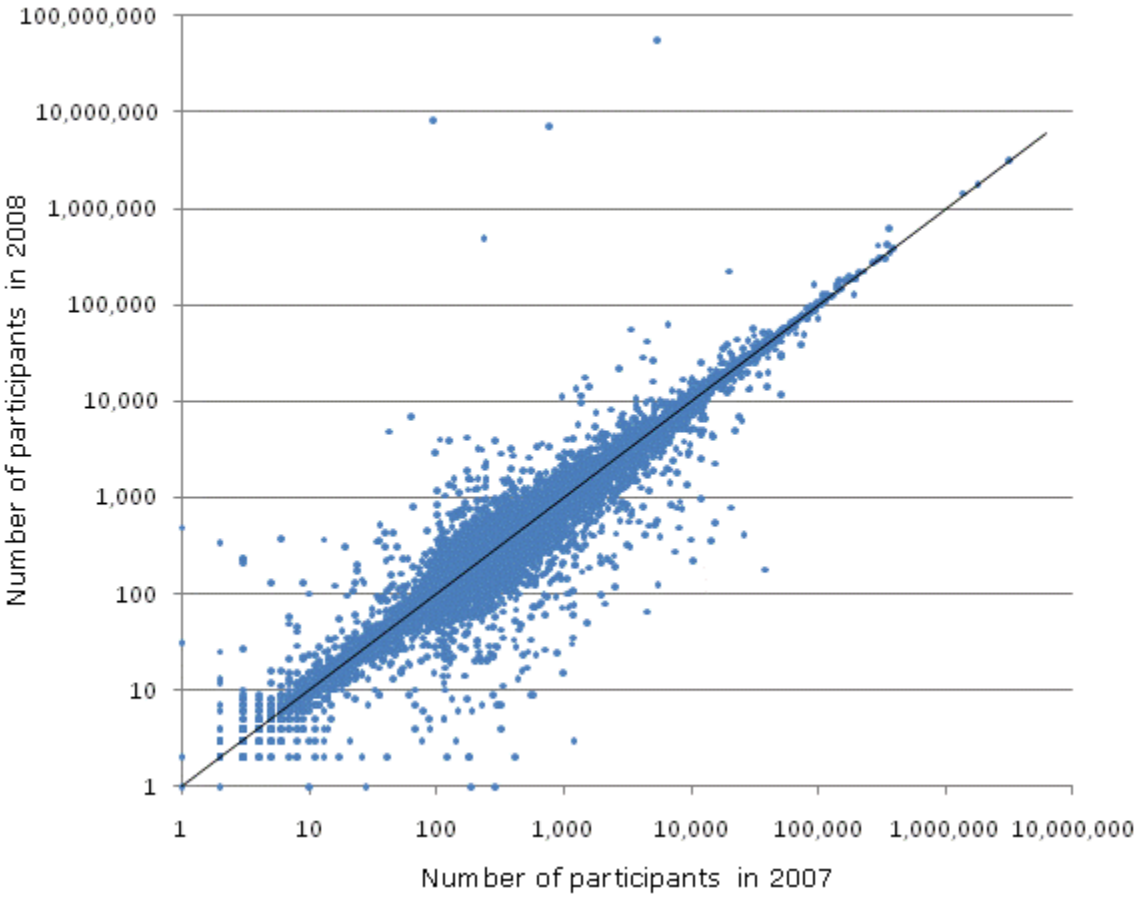

Figure 1. Reported Numbers of Participants in 2007 and 2008 of Plans That Were Observed in Both Years

Similarly, Figure 2 compares the number of plan sponsor employees (from Capital IQ data) and the number of plan participants (from Form 5500 data) in 2008. Each dot represents a health plan that could be matched with Capital IQ data. Note that the axes are on logarithmic scales. Again, as expected, the vast majority of dots cluster around the 45-degree line, suggesting consistency between the Capital IQ employee counts and the Form 5500 participant counts. Most dots are below the 45-degree line, which is consistent with the fact that not all employees are covered by health benefits. A small fraction of plan sponsors filed a separate Form 5500 for each of its

health plans, including for plans that covered only a small portion of their workforce, which may explain some of the outliers below the 45-degree line. Some outliers above the 45-degree line remain unexplained.

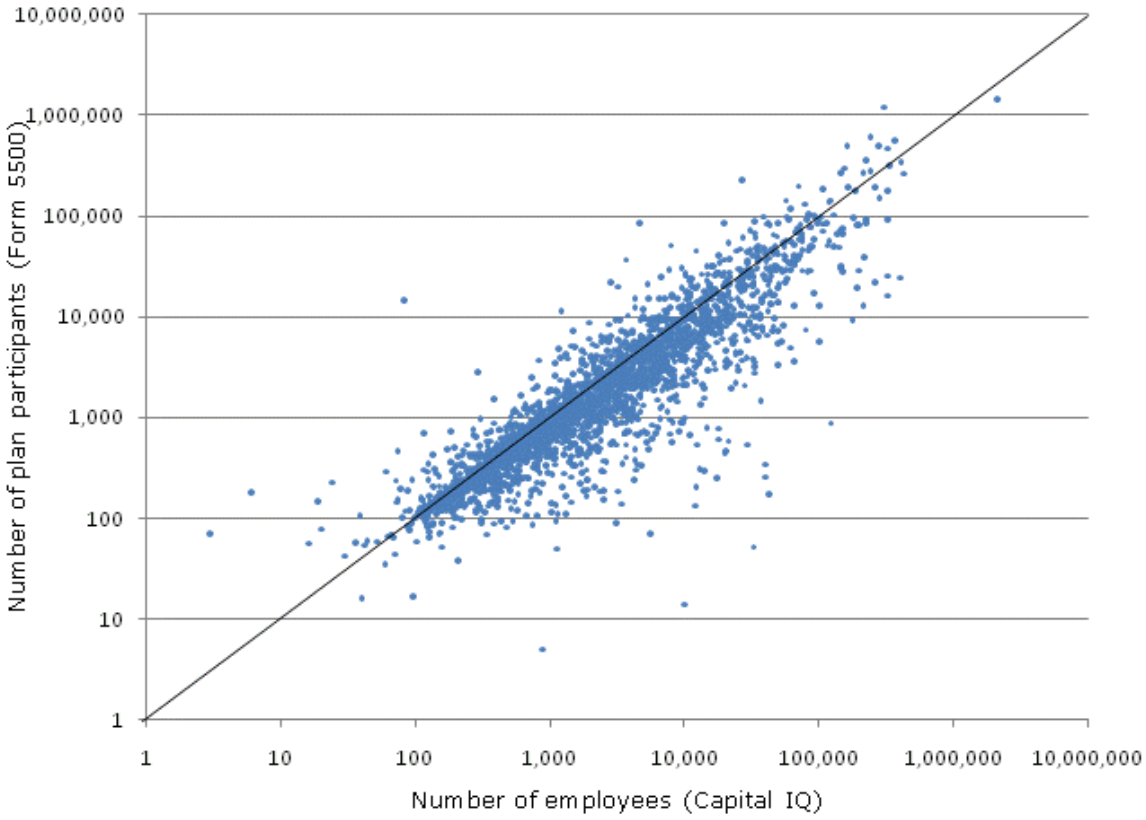

Figure 2. Number of Plan Sponsor Employees per Capital IQ and Number of Plan Participants per Form 5500 (2008)

3. DISCUSSIONS WITH SUBJECT MATTER SPECIALISTS

To help gain a deeper understanding of the type and quality of data collected on a Form 5500, we engaged in discussions with subject matter specialists. These individuals work for a large professional services firm and are responsible for assisting clients in their Form 5500 filing requirements. The specialists have extensive experience with companies of different sizes in a diverse set of industries and with health plans of different funding mechanisms. In the discussion below, we focus on matters related to the accuracy of the information contained in the Form 5500 and the related schedules therein. We note that, as with all sections of this report, the views and opinions below should not be construed as an official Government position, policy or decision, unless so designated by other documentation issued by the appropriate governmental authority.

The subject matter specialists suggested that most of the accuracy issues may stem from plan sponsor confusion about the filing process.

- There are several areas of confusion for plan sponsors on the Form 5500 for self-insured plans and health plans in general. The first is whether sponsors of health and welfare plans (fully-insured or self-insured) are required to file. If a plan has fewer than 100 participants as of the beginning of the year and the plan is fully-insured, unfunded, or a combination of both, there is no Form 5500 filing requirement.[24] Plan sponsors with fewer than 100 employees are often confused as to whether they have a filing requirement especially when they have a mixture of fully-insured plans and self-insured plans, or offer more than one type of benefit. For example, in the case of an employer with 60 employees participating in a HMO plan and 60 employees participating in a PPO plan, it was noted that the onus is on the company to determine if they consider their plans to be two separate "small welfare plans" without a requirement to file or a single large plan with 120 participants which is required to file. The confusion stems from what makes up the "plan" for Form 5500 purposes. In the example above, if they combine the PPO and HMO, they would have over 100 participants but if they consider each separately then they would not have a filing requirement. Many plan sponsors "wrap" their benefits together into one plan document and this enables them to file a single Form 5500. The Form 5500 instructions point this out but indicate that if plan sponsors are not sure how many plans they have, they should consult with a legal counsel or an advisor.
- Some companies who offer both fully-insured and self-insured plans use brokers to prepare their filings. These brokers, who most likely deal only with

[24] An unfunded plan has its benefits paid as needed directly from the general assets of the employer that sponsors the plan. However, a plan that received employee (or former employee) contributions during the plan year or used a trust or separately maintained fund to hold plan assets or act as a conduit for the transfer of plan assets is *not* unfunded. In addition, a plan with employee contributions that is associated with a cafeteria plan under Internal Revenue Code Section 125 may be treated for annual reporting purposes as an unfunded plan if it meets certain requirements.

the fully-insured participants in a plan, may be unaware of the company's participants in a self-insured plan and prepare forms incorrectly.

- In addition, plan sponsors are often confused about what constitutes a "participant" for purposes of determining the filing requirement. The Form 5500 instructions provide some guidance on this issue but some plan administrators do not think it is entirely clear. For example, if an employer offers a health benefit that is voluntary, then employers are confused as to whether they should count individuals who do not opt in as participants merely because they are eligible to participate, even though the instructions explain that in the context of a welfare plan (other than a severance pay plan), such individuals are not counted.
- Employers often go over the threshold of 100 participants and do not realize that they have a filing requirement for many types of health and welfare plans.
- There is also an area of confusion around the difference of "participants" on the main Form 5500 and "covered persons" on its Schedule A. Plan sponsors are often confused that dependents are not reported on the Form 5500 as participants but may be counted on the Schedule A as the number of individuals covered. The Form 5500 instructions explicitly state that dependents are excluded from the number of participants on the main form, but are silent on the issue of dependents among covered persons on Schedule A.
- For health plans, there was confusion around who needs to file Schedule C (Service Provider Information) and who does not. The 2009 revisions to the Form 5500 instructions added guidance for employers on whether they meet the necessary exemptions to file this Schedule which should reduce confusion regarding Schedule C requirements.
- In Puerto Rico, there are employers who fall under the purview of ERISA and are thus subject to Form 5500 requirements. It is unclear to what extent these employers are aware of their disclosure and filing obligations.
- Sometimes companies check the appropriate boxes for a self-insured plan even though they offer just the flexible spending account benefit. It is difficult to distinguish between such plans and self-insured plans that offer medical benefits.

4. ANALYSIS

This section documents the findings of our analysis. First, we present plan and plan sponsor characteristics by funding mechanism, that is, separately for fully-insured, mixed-funded, and self-insured plans.[25] We then restrict the analysis to plans for which external financial information was available and present summary statistics of the companies that sponsor the plans, by funding mechanism.

Health Plan Characteristics

For plan year 2008, Table 5 shows the distribution of funding mechanism. About 30% of plans were self-insured, 57% were fully-insured, and 13% were of mixed-funding. Smaller plans tend to be fully-insured and many very large plans are of mixed-funding, so the funding distribution is quite different for plan participants than it is for plans. About 35% of participants are in self-insured plans, 28% are in fully-insured plans, and 38% are in mixed-funded plans. (More accurately, the health benefits of any individual participant are either fully-insured or self-insured, but the information on Form 5500 does not permit a breakdown of plans into fully-insured and self-insured components. Some of the participants in mixed-funded plans are in a fully-insured component, whereas others are in a self-insured component.)

Table 5. Distribution of Funding Mechanism (2008)

	Unweighted		Weighted by Participants	
	Plans	Percent	Participants	Percent
Fully-insured	23,716	57.3%	18,129,865	27.8%
Mixed	5,462	13.2%	24,524,775	37.5%
Self-insured	12,193	29.5%	22,673,999	34.7%
Total	41,371	100.0%	65,328,639	100.0%

Source: Form 5500 filings.

According to a Kaiser/Health Research and Educational Trust (HRET) study, 55% of covered workers in firms with three or more employees were in self-funded plans in 2008.[26] Our findings are not directly comparable, because we include only a small fraction of plans with fewer than 100 participants and because as many as 37.5% of plan participants are in mixed-funded plans. Given the limitations of Form 5500 filings, our results are broadly consistent with the Kaiser/HRET figure.

Table 6 shows the distribution of funding mechanism by plan size for health plans reporting in 2008. Most small plans appear to be self-insured, but this is due to the select nature of small plans in our analysis. Recall that plans with fewer than 100 participants are included only if they use a trust or separately maintained fund to

[25] As explained above, a mixed-funded plan filed a single Form 5500 for a plan with both a fully-insured and a self-insured health benefit component (e.g., a fully-insured HMO and a self-insured PPO).

[26] "Employer Health Benefits, 2010 Annual Survey." Kaiser Family Foundation and Health Research & Educational Trust.

hold plan assets or act as a conduit for the transfer of plan assets, which is often associated with self-insurance. Small plans aside, the likelihood of self-insurance generally increases with plan size. The pattern is particularly pronounced for mixed-funding, presumably, because larger plans may offer multiple plan options, some of which are fully-insured and some of which are self-insured.[27] The fraction of plans with 5,000 or more participants that bear at least a portion of the financial risks of their health benefits is 76%, compared with 27% among plans with 100-199 participants.

Table 6. Distribution of Funding Mechanism, by Plan Size (2008)

Participants	Unweighted fraction			Fraction weighted by participants		
in plan	Fully-insured	Mixed	Self-insured	Fully-insured	Mixed	Self-insured
0	15.7%	54.7%	29.6%			
1-99	1.3%	34.1%	64.6%	2.1%	44.2%	53.7%
100-199	73.2%	5.4%	21.5%	73.3%	5.3%	21.3%
200-499	66.8%	7.6%	25.6%	65.9%	8.0%	26.1%
500-999	53.8%	13.3%	32.9%	53.4%	13.7%	32.9%
1,000-1,999	43.0%	19.9%	37.1%	42.5%	20.5%	37.0%
2,000-4,999	32.9%	29.7%	37.4%	32.8%	30.1%	37.1%
5,000+	23.6%	43.0%	33.4%	17.9%	46.6%	35.5%
All	57.3%	13.2%	29.5%	27.8%	37.5%	34.7%

Source: Form 5500 filings.

Weighted by plan participants, we find similar patterns. Overall, about 35% of participants are in self-insured plans, 28% are in fully-insured plans, and 38% are in mixed-funded plans.

Table 7 shows the funding mechanism distribution by plan year for health plans from 2000-2008. The total number of health plans in each year is between approximately 40,000 and 46,000. The fraction of plans that were self-insured increased from 26.6% in 2000 to 30.7% in 2003, and has since held approximately constant at around 30%. Weighted by number of participants, the fraction of health plans that self-insure is typically somewhat greater than the unweighted fraction, because self-insurance rates tend to increase with plan size. This is particularly the case for mixed-funded plans.

[27] Sponsors of multiple types of health benefits (PPO, HMO) typically file a single Form 5500 on which some of the information is consolidated.

Table 7. Distribution of Funding Mechanism, by Plan Year

Plan	Unweighted fraction			Fraction weighted by participants		
year	Fully-insured	Mixed	Self-insured	Fully-insured	Mixed	Self-insured
2000	54.7%	18.7%	26.6%	36.7%	36.6%	26.6%
2001	54.6%	17.6%	27.9%	36.5%	36.7%	26.8%
2002	53.8%	15.7%	30.5%	34.0%	37.8%	28.2%
2003	54.2%	15.1%	30.7%	32.8%	37.3%	30.0%
2004	55.0%	15.1%	29.9%	31.2%	38.1%	30.7%
2005	55.6%	14.2%	30.2%	31.1%	37.5%	31.4%
2006	56.5%	13.8%	29.7%	28.6%	37.4%	34.0%
2007	57.3%	13.3%	29.4%	28.3%	37.5%	34.2%
2008	57.3%	13.2%	29.5%	27.8%	37.5%	34.7%

Source: Form 5500 filings.

Table 8 reports summary statistics of per-participant benefit payments and other expenses and the fraction of plan contributions borne by the participant.[28] Since this information is only available for a limited and, potentially, select group of fully-insured plans, they are excluded from this analysis. These figures stem from the Form 5500 Schedule H (Financial Information) of the Form 5500 or Schedule I (Financial Information—Small Plan). Fully-insured and unfunded plans are not required to file a Schedule H or I, so those plans that do file constitute a select subset of plans. In general, we urge the reader to interpret the figures with caution.

The median per-participant total expenses on benefit payments and other items for self-insured plans were $5,821, which is lower than median total expenses of mixed-funded plans, $7,354.[29] This pattern also holds at the 25th and 75th percentiles. Median total expenses among self-insured plans with fewer than 100 participants were particularly low at $2,897 per year (not shown in the table).

At the median, the portion of health plan contributions that is borne by plan participants was lower for participants in self-insured plans (10.7%) than in mixed-funded plans (14.0%). Health plan contributions as defined here typically consist of payroll deductions through which participants share in the costs of health benefits. They do not reflect deductibles or co-payments.

[28] Some health plans that filed a Schedule H or I reported zero or negative total expenses. These plans were removed from this analysis. Others reported implausibly large expenses. To reduce the effects of such outliers, Table 8 reports the 25th percentile, the median, and the 75th percentile of various metrics, rather than average values.

[29] We do not report summary statistics on administrative expenses, even though Schedules H and I ask detailed questions on the administrative component of total expenses, because administrative expenses as reported on Schedules H and I are not comparable across plans with different funding mechanisms. Administrative expenses as reported on Schedules H and I show the extent to which such expenses deplete plan assets. The premium payments of fully-insured or mixed-funded plans may cover additional administrative expenses incurred by the insurance company. (Schedule A asks about such expenses, but only from insurance plans that are experience rated.) Further, administrative expenses may be overstated insofar they relate to nonhealth benefits and understated to the extent a portion is paid from general assets of the sponsor.

Table 8. Characteristics of Health Plans, by Funding Mechanism (2008)

		All	Mixed	Self-Insured
Total benefit payments and other expenses per participant ($)	25 pct	3,102	5,025	1,877
	Median	6,687	7,354	5,821
	75 pct	9,298	9,723	8,815
	# Obs	5,873	2,522	3,351
Participant contribution (% of total)	25 pct	2.1%	3.0%	1.6%
	Median	12.5%	14.0%	10.7%
	75 pct	27.9%	28.7%	26.9%
	# Obs	3579	1730	1849

Note: All includes mixed-funded and self-insured plans. Total benefit payments and other expenses and participant contribution are based on Form 5500 Schedules H and I. Schedules H and I are filed by plans with a trust only, i.e., by a select subset of plans.

Table 9 shows the industry distribution based on the business code that Form 5500 filers provided. We present the percentage breakdown of the funding mechanism for a classification of major industry groups. Plans in the agriculture, mining, construction, and utilities industries tend to be most likely to be mixed-funded or self-insured, whereas the services and wholesale trade industries are the most likely to be fully-insured.

Table 9. Distribution of Funding Mechanism, by Industry (2008)

	Fully-insured	Mixed	Self-insured
Agriculture	42.9%	12.2%	44.9%
Communications and information	57.7%	12.6%	29.7%
Construction	41.1%	23.6%	35.3%
Finance, insurance & real estate	56.0%	15.4%	28.6%
Manufacturing	56.5%	13.4%	30.1%
Mining	41.9%	12.3%	45.8%
Retail trade	59.7%	14.5%	25.9%
Services	61.8%	10.4%	27.8%
Transportation	51.5%	16.0%	32.5%
Utilities	34.0%	21.3%	44.7%
Wholesale trade	62.7%	12.0%	25.2%
Misc. organizations	55.8%	13.0%	31.2%
Industry not reported	59.6%	10.4%	30.0%

Source: Form 5500 filings.

Another dimension of plans to consider is whether the plan is a multiemployer or multiple-employer plan as opposed to a single-employer plan. A multiemployer plan covers employees from more than one employer and is maintained pursuant to one or more collective bargaining agreements.[30] Multiple-employer plans are similar to

[30] 29 U.S.C. § 1002(37). The instructions to Form 5500 refer to the formal definitions of multiemployer, single-employer, and multiple-employer plans found in ERISA. Also see http://www.bls.gov/ncs/ebs/sp/healthterms.pdf.

multiemployer plans in that they cover employees from more than one employer but are not associated with a collective bargaining agreement. Table 10 shows the number of each type of plan in the 2008 Form 5500 data and the proportion in each funding mechanism. The figures demonstrate that multiemployer and multiple-employer plans are much more likely to choose some form of self-insurance than single-employer plans.

Table 10. Funding Mechanisms of Multiemployer and Multiple-Employer Plans (2008)

	Fully-insured	Mixed	Self-insured
Multiemployer or multiple-employer plan	32.0%	30.4%	37.6%
Single-employer plan	59.3%	11.9%	28.9%

Source: Form 5500 filings.

Table 11 examines the presence of stop-loss insurance. The figures in Table 11 also need to be interpreted with caution. If stop-loss insurance identifies the health plan as the beneficiary or it is purchased with plan assets, it needs to be reported on a Schedule A. However, if the employer has purchased the stop-loss insurance with itself as the beneficiary (as opposed to the plan), it need not be reported on the Form 5500. The figures in Schedule A may thus understate the prevalence of stop-loss insurance. For both mixed-funded health plans and self-insured plans approximately one in four report stop-loss coverage in a Schedule A. Weighting by the number of participants reduces those fractions by approximately one-half, indicating that smaller plans are more likely to purchase stop-loss insurance than larger plans or may be mistakenly reporting stop-loss insurance purchased for the benefit of the employer.

Table 11. Fraction of Health Plans Reporting Stop-Loss Insurance, by Funding Mechanism and Plan Year

Plan	Unweighted fraction		Fraction weighted by participants	
year	Mixed	Self-insured	Mixed	Self-insured
2000	27.5%	26.5%	14.6%	14.4%
2001	27.7%	24.9%	17.7%	15.7%
2002	27.8%	22.9%	15.6%	14.8%
2003	28.6%	22.9%	16.9%	14.0%
2004	28.3%	23.8%	21.3%	13.8%
2005	28.5%	23.6%	15.1%	14.0%
2006	27.7%	23.7%	14.5%	20.7%
2007	27.6%	23.3%	14.3%	20.3%
2008	27.7%	23.9%	13.3%	12.3%

Source: Form 5500 filings.

Analysis of 5500 Filers Matched to Financial Data

Focusing on the set of Form 5500 filers that could be matched to financial information in Capital IQ, Table 12 presents information on company size as

measured by revenue, market capitalization,[31] net income and employment. The results show that companies offering fully-insured health plans tend to be smaller on all these dimensions than companies offering self-insured or mixed-funded health plans. Companies offering mixed-funded health plans tend to be the largest.

Table 12. Characteristics of Companies Matched to Form 5500, by Funding Mechanism (2008)

		All	Fully-insured	Mixed	Self-insured
Revenue (in $ millions)	25 pct	218	109	770	379
	Median	985	362	2,708	1,360
	75 pct	4,172	1,577	9,886	5,841
	# Obs	3,903	1,717	857	1,329
Market capitalization (in $ millions)	25 pct	122	60	422	224
	Median	597	289	1,715	919
	75 pct	2,766	1,175	7,639	3,870
	# Obs	3,439	1,539	756	1,144
Net income (in $ millions)	25 pct	-21	-23	-22	-15
	Median	18	5	66	32
	75 pct	162	63	462	220
	# Obs	3,931	1,731	862	1,338
Number of Employees	25 pct	802	412	2,800	1,255
	Median	3,160	1,300	8,100	4,130
	75 pct	13,600	5,700	28,000	16,600
	# Obs	3,676	1,607	815	1,254

Source: Form 5500 filings and Capital IQ data.

Table 13 presents three financial metrics of the financial health of matched companies. The Altman Z Score is an index that uses five financial measures to predict bankruptcy risk. A company with a Z score greater than 2.99 is considered to be in a "Safe" zone, one with a score between 1.8 and 2.99 in a "Grey" zone and a company with score less than 1.80 to be in a "Distress" zone.[32] Companies offering different types of plans appear to have comparable levels of Z scores. Put differently, the risk of insolvency, as measured by a Z score does not appear to be related to the choice of funding mechanism.

When measured on two other metrics of financial health that involve ratios of cash or income to total debt, the results are mixed. At the median, fully-insured firms have about as much cash flow relative to total debt as other firms, but lower operating income relative to debt than mixed-funded or self-insured firms. The distributions of financial metrics are more dispersed for fully-insured firms than for other firms: the 25th percentiles are lower and the 75th percentiles are higher.

[31] Market capitalization is the aggregate dollar value of all common shares outstanding.

[32] Altman, Edward I. (1968). "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy." *Journal of Finance*: 189–209. Also: Altman, Edward I. "The Use of Credit Scoring Models and the Importance of a Credit Culture." http://pages.stern.nyu.edu/~ealtman/Presentations.htm

Table 13. Financial Health of Companies Matched to Form 5500, by Funding Mechanism (2008)

		All	Fully-insured	Mixed	Self-insured
Altman Z Score	25 pct	1.4	1.0	1.7	1.5
	Median	2.7	2.6	2.8	2.7
	75 pct	4.1	4.1	4.0	3.9
	# Obs	2,822	1,282	623	917
Cash from Operations over Total Debt	25 pct	0.08	0.05	0.10	0.10
	Median	0.28	0.28	0.27	0.29
	75 pct	0.92	1.27	0.77	0.85
	# Obs	3,883	1,704	856	1,323
Operating Income over Total Debt	25 pct	0.03	-0.07	0.09	0.06
	Median	0.22	0.18	0.26	0.23
	75 pct	0.72	0.78	0.72	0.68
	# Obs	3,906	1,717	860	1,329

Source: Form 5500 filings and Capital IQ data.

Longitudinal Analysis of Funding Mechanism Switching

The analysis presented in Table 14 takes advantage of the longitudinal nature of the Form 5500 data. Table 14 shows the number of plans that were matched to their filings in the previous year. For example, in 2008 we observed 41,371 plans. Of those, we located the 2007 filing and constructed the funding mechanism measure for 35,819 plans (86.6%). The year-over-year match percentage ranges from 73.6% in 2001 to 86.6% in 2008.

Table 14: Match Rate of Plan Filings to Their Prior-Year Filing, by Plan Year

Plan year	Number of plans in year *t*	Total number of plans in year *t* matched to a plan in year *t-1*	Fraction matched
2000	40,739		
2001	43,503	32,011	73.6%
2002	45,092	34,920	77.4%
2003	44,382	37,032	83.4%
2004	43,777	36,822	84.1%
2005	44,571	37,320	83.7%
2006	45,693	38,364	84.0%
2007	45,909	38,955	84.9%
2008	41,371	35,819	86.6%

Source: Plan 5500 filings.

Table 15 shows the frequency with which plans switched their funding mechanism from one year to the next. For example, 39.4% of plans that were observed in both 2007 and 2008 remained mixed-funded or self-insured, 53.9% remained fully-insured, 3.8% switched from fully-insured to mixed-funded or self-insured, and 2.9% switched to fully-insured. The switching rate has declined over time. In other words, while some migration to alternative funding mechanisms remains, plans appear to adhere to a particular funding mechanism for longer durations than they did in the past.

Table 15: Incidence of Year-on-Year Switching in Funding Mechanism, by Plan Year

	Number of matching plans	Remain mixed or self-insured	Remain fully-insured	Switch to mixed or self-insured	Switch to fully-insured
2001	32,011	39.3%	51.1%	4.9%	4.7%
2002	34,920	40.4%	50.8%	4.8%	4.0%
2003	37,032	41.8%	50.2%	4.0%	4.0%
2004	36,822	40.9%	51.0%	4.4%	3.6%
2005	37,320	40.7%	51.2%	4.2%	3.9%
2006	38,364	40.7%	52.2%	3.7%	3.4%
2007	38,955	39.9%	53.4%	3.5%	3.2%
2008	35,819	39.4%	53.9%	3.8%	2.9%

Source: Form 5500 filings.

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