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## Small Firm Size and Health Insurance: A Private Enterprise Perspective

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### Abstract

This study has two objectives. First, it proffers and then empirically investigates what is being identified as the “small firm hypothesis,” i.e., a hypothesis that the greater the percentage of firms in the U.S. that are “small,” the greater the percentage of the population that can be expected to be without health insurance. The study adopts the percentage of private firms with 20 or fewer employees as the measure/definition of “small firms.” The empirical analysis adopts state-level data and finds, after controlling for a variety of other factors, strong empirical support for the small firm hypothesis. Second, with this as the backdrop, this study seeks to critique public policies in the forms of (1) mandated universal health insurance coverage (mandating) and (2) tax-credit incentive policies intended to reduce the percent of the population without health insurance. The study then compares said policies to a private enterprise perspective and finds no compelling evidence of a market failure in the health insurance market. Mandating and tax-credit policies are not only unnecessary but also would create myriad negative economic effects for the economy and jeopardize the private enterprise system.

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*JEL Codes:* I11, I18, H62

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### I. Introduction

In addition to the extensive attention they receive in the media, health economics issues, in their myriad dimensions, continue to attract increasing attention in the scholarly literature. Indeed, a broad literature addresses numerous diverse aspects of health care in the

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United States.<sup>1</sup> Arguably, however, the U.S. healthcare issue that has received the greatest attention in the scholarly literature in recent years is that of health insurance coverage (Cebula, 2006; Dushi and Honig, 2003; Frick and Bopp, 2005; Newhouse, 1994; Swartz, 2001, 2003; Thurston, 1997, 1999).<sup>2</sup> In point of fact, this issue has increasingly captured the interest of the popular press, political pundits, and politicians, as well as scholars across a variety of academic disciplines. Dushi and Honig (2003, p.252) argue that at least part of this increased attention can be attributed to the decline in health insurance coverage over the last quarter of a century. Interestingly, in 1990, 13.9 percent of the population was without health insurance (U.S. Census Bureau, 2007, Table 144), whereas for the year 1993, Cutler (1994, p.20) observes that "About 15 percent of the population...are uninsured." That percentage increased to 15.4 percent by 1995 (U.S. Census Bureau, 2007, Table 144). More recently, Frick and Bopp (2005) express concern that between 15 and 17 percent of the population was without health insurance in 2000. Even more recently, Bharmal and Thomas (2005, p.643) observe that the *number* of uninsured reached 43.6 million in 2003. Indeed, there are indications of a continuing upswing in the *numbers* of the medically uninsured in the U.S. For example, as of January 24, 2007, it was estimated that 47 million Americans were without health insurance (Owings, 2007).

This study first seeks to provide insights into this issue by empirically investigating what is proffered here as the "small firm hypothesis," namely, that the greater the percentage of private sector firms that is "small," measured here as firms with 20 or fewer employees, the greater the aggregate percentage of the population

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<sup>1</sup> Such studies examine the economics of a broad spectrum of health care related topics, including medical innovation (Burke, Fournier and Prasad, 2007), hospital employment issues (David and Helmchen, 2007), predictability of health care spending (Ellis and McGuire, 2007), cigarette smoking (Kan, 2007), reimbursement for hospital services (Lindrooth, Bazzoli and Clement, 2007), and health care shocks (Wagstaff, 2007).

<sup>2</sup> Studies involving health insurance cover a wide array of perspectives, including the relationship between health insurance and the quality of life (Bharmal and Thomas, 2005), policies to reform health insurance (Cutler, 1994; Gruber, 2003; Harris and Keane, 1999; Holahan, Nichols, Blumberg and Shen, 2003; Owings, 2007), the crowding out of private health insurance by public insurance (Cutler and Gruber, 1996; Kronick and Gilmer, 2002), and the demand for health insurance (Cooper and Schone, 1997; Nyman, 2003).



*without* health insurance benefits, *ceteris paribus*. This specific dimension of the health insurance coverage issue has generally been ignored in the scholarly literature; since roughly 89 percent of all private firms in the U.S. in 2004 had fewer than 20 employees, a significant oversight appears to have occurred. Given (a) the limited ability of small firms to reap the financial benefits of scale economies that larger firms can, (b) the commonly more limited financial capacities of smaller firms (*vis-à-vis* larger ones) to afford to pay the employer-responsibility component of group health insurance benefits for their employees, and (c) that larger firms, because they do have more employees, may have access to a greater variety of more cost-effective health insurance plans than do firms with relatively few employees, it is expected that on average the ability of smaller firms to provide group health insurance benefits for employees will be limited relative to larger firms that tend to have financially "deeper pockets" and potentially cheaper options. The full exposition of this hypothesis is provided in the text.

This study provides a framework that considers the impact that small firm size exercises on the availability of group health insurance to employees and hence on the percentage of the population without health insurance. Furthermore, the study also empirically investigates the impact on the percentage of the population without health insurance of such factors as median family income, average household size, unions, the percentage of the population age 65 and older, the cost of housing, and smoking. To test the strength of the small firm hypothesis, several alternative estimates are provided. In all cases, it is found that the greater the percentage of firms with 20 or fewer employees, the greater the percentage of the population *without* health insurance. Once the small firm hypothesis has been investigated, attention turns to an assessment of two alternative perspectives on the health insurance issue. In particular, the study seeks first to critique public policies in the forms of (1) mandated universal health insurance coverage or simply "mandating" and (2) tax-credit incentive policies intended to reduce the percent of the population without health insurance. The study then considers a private-enterprise perspective that no compelling evidence exists of a market failure in the U.S. health insurance arena and that mandating and tax-credit policies are not only unnecessary but also would create myriad negative economic effects for the economy and the private enterprise system.



## II. A Brief Review of Pertinent Recent Literature

Before providing the framework for and empirical results of the present study, it is relevant to review some recently published literature on health insurance coverage. We begin with a very pertinent observation by Swartz (2003, p.283), who observes that a majority of those without health insurance "...cannot afford to purchase...[it]...unless it is heavily subsidized." Swartz (2003, p.283) elaborates that "Most [such people] do not have access to employer-sponsored coverage and so must purchase...insurance in the non-group market..." where it is usually twice as costly as employer-provided group health insurance. Swartz (2003, p.283) also argues that to an extensive degree the higher health insurance premiums charged in the non-group market, as well as denial of health insurance coverage, both "...reflect market failure due to asymmetric information." For example, health insurance companies clearly cannot know so much about an individual's health status, his or her propensity to seek medical care, or his or her family health history as the individual does. According to Swartz (2003, p.283) due to "...this asymmetry, it is impossible...to set premiums that accurately reflect the nonrandom portion of health-care costs for different individuals." Swartz (2003, p.286) argues that "The non-group health-insurance markets...need...government to spread the costs of extremely high-cost people." Swartz (2003, p.286) contends that the "...rationale for government covering the worst risks exists: it will permit...non-group markets to operate more efficiently and reduce the lack of affordable coverage for many people."

In a study by Dushi and Honig (2003), the focus is somewhat different. In particular, in Table 1 of their study, Dushi and Honig (2003, p.253) provide evidence on gender differences in the propensity to purchase group health insurance when it is available through their employers. Their data reveal that females in the labor force tend to have a lower overall "take-up" rate than males in terms of health insurance purchases: 73 percent of the time for females versus 88 percent of the time for males. Dushi and Honig (2003) argue that some portion (approximately 60 percent) of this male-female take-up disparity is attributable to married women opting to rely on a spouse's health insurance plan. This male-female take-up disparity notwithstanding, when an employer-provided group health insurance plan *is* available, nearly three-fourths of the time women *do* nevertheless take advantage of the option. On the other hand, it



appears that when group health insurance is available through the employer, 12 percent of males choose *not* to take the health insurance opportunity. According to Dushi and Honig (2003, p.255), most of this 12 percent is not attributable to spouses' having health insurance.

In a study by Thurston (1999, p.683), the focus is on the finding that the proportion "...of Americans who are insured through employment-based health plans has experienced a steady decline for...years." Thurston (1999, p.683-4) expands the conventional labor supply model to integrate the "realities" of health insurance benefits. Within the context of this model, Thurston (1999, p.685-6) finds that "...when the relative price of the health benefit is rising, a decrease in employment-based health insurance is consistent with rational worker and employer behavior and is to be expected." Workers simply opt to purchase other goods and services (Thurston, 1999, p.686).

The study by Newhouse (1994) focuses on the propensity of the elderly to purchase health insurance. Newhouse (1994) makes the observation that most of the U.S. population aged 65 and older is covered by Medicare. Newhouse (1994) also stresses that (by age 65) as one's age increases, quite naturally so too do the incidence and seriousness of health problems. Given perceived limitations involved with coverage in the Medicare system, Newhouse (1994, p.7) observes that many elderly persons regard Medicare as inadequate protection to accommodate their needs. Arguably, it is because of the latter consideration that Newhouse (1997, p.7) finds that "...over 80 percent of the Medicare beneficiaries...had some form of supplemental health insurance..."

The empirical study by Frick and Bopp (2005) is concerned with the issue that 15 to 20 percent of the population does not have health insurance. Frick and Bopp (2005) stress that the classic utility-insurance model makes it clear that having an extremely low income can very seriously restrict the ability of family units to afford health insurance. Naturally, the Frick and Bopp (2005) study not only focuses on the effects of poverty on health insurance purchases but also on other factors. Working with pooled cross-sectional/time-series data, the empirical estimation process reveals, among other things, that the percent of the population *without* health insurance is directly related to the percent of the population whose income lies below the poverty level, the percent of the population that is female,



and the percent of the population with only a high school diploma, with the first of these three variables being the most dominant factor.

Finally, a study by Cebula (2006) investigates the percent of the population without health insurance in the year 2000. Several empirical estimates are provided. The most unique finding in the study is that the percent of the population without health insurance is directly related to the percent of the population that is either self-employed or independent contractors. Interestingly, the study also finds that the percent of the population without health insurance is inversely related to median family income and the percent of the population age 65 or older, with the latter finding being consistent with Newhouse (1994).

### III. The Framework

The framework adopted in this study focuses on the affordability (AFFORD) of health insurance and the access (ACCESS) to (availability of) health insurance as the context within which to *explain the percent of the population without health insurance* (PCTWOUT). In particular, the context is the following:

$$\text{PCTWOUT} = f(\text{AFFORD}, \text{ACCESS}), f_{\text{AFFORD}} < 0, f_{\text{ACCESS}} < 0 \quad (1)$$

Within this framework, the household is treated as a utility-maximizing decision-making unit, with maximum utility being pursued subject to a variety of real world constraints, including a broadly interpreted budget constraint. Pursuit of utility-maximization for the household naturally reflects economic, demographic, health-related, and institutional dimensions and considerations.

Consistent with the most basic objective of this study, there is a focus on small firms and the issue of universal health insurance coverage. The ability or inability of firms to provide their employees group health insurance depends upon a number of factors, arguably including in many cases firm size. Pursuant to this possibility, this study investigates the “small firm hypothesis,” i.e., the hypothesis that the greater the percentage of firms in the U.S. that are “small,” the greater the percentage of the population that can be expected to be without health insurance, *ceteris paribus*. Before considering this hypothesis further, it is necessary to define the term “small” firm. The U.S. Census Bureau (2008b, Table 740) identifies three categories of firms at the state level based on the number of



employees: “firms with 20 or fewer employees,” “firms with 500 or fewer employees,” and “firms with more than 500 employees.” In the year 2004, the first of these three categories accounted for roughly 89% of all U.S. firms. Furthermore, pragmatically speaking, firms with 20 or fewer employees are very different in their operations and production processes from the remaining two categories of firms. Accordingly, this category of firms is classified as “small” for the purposes of this study. More specifically, this study defines SMFIRMS as the percentage of private sector firms that has 20 or fewer employees.

The small firm hypothesis investigated in this study has multiple components. First, larger firms, because they do have more employees, may have greater access to a larger variety of cost-effective group health insurance plans than do firms with relatively fewer employees. Second, the commonly more limited financial capacities of smaller firms vis-à-vis larger firms (there are of course exceptions to this) to afford to pay for the employer-responsibility component of group health insurance benefits for their employees would likely reduce the availability of said health insurance at smaller firms (vis-à-vis larger firms). On average, small firms lack the “deep pockets” of larger firms. The limited financial capacities of some smaller firms would perhaps to some degree reflect their limited ability to reap the financial benefits of scale economies that larger firms can. Therefore, the greater the percentage of firms that is categorized as “small,” SMFIRMS, the greater the percentage of the population that can be expected to be *without* health insurance (PCTWOUT), *ceteris paribus*. This would seem especially true in the competitive U.S. economy, where many smaller domestic firms struggle to compete for their very economic survival against not only one another but also larger domestic firms (and, at least in some cases, perhaps even against low-labor-cost foreign firms). In this context, many small firms have insufficient profit margins to underwrite group health insurance for their employees. Furthermore, although the following observation presumably would not typically apply to small firms requiring higher levels of training and/or education such as medical or dental offices, high-tech firms, and engineering firms, to the extent that smaller firms *are* fundamentally service oriented *and* require employees of limited skill, i.e., unskilled or semi-skilled labor, the latter workers may lack alternative sources of employment and be forced by their lack of marketable skills to



accept job conditions in which no group health insurance is provided. The latter phenomenon, if valid, is nothing more than the efficient functioning of a free market system.

Next, it is observed that arguably the most fundamental economic consideration relative to the population's having health insurance is that of purchasing power, which essentially involves resources with which to make purchases. Clearly, household income is one reasonable variable that can be used to reflect family resources. Indeed, Cebula (2006) finds annual median family income (MFI) to positively and significantly influence the purchasing of health insurance. Accordingly, it is expected that the higher the annual median family income (MFI), the *lower* the percentage of the population *without* health insurance, *ceteris paribus*. Clearly, health insurance is being treated as a "normal good."

It should be noted that an *alternative* measure of family economic status or purchasing power is considered in the analysis as well, namely, the poverty rate (POVERTY). The latter variable is defined in this study as the average percent of the population in each state that was at or below the federally defined poverty level during the year. It is expected that, *ceteris paribus*, the higher the percentage of the population that is at or below the poverty level, the greater the percentage of the population that *cannot* afford health insurance (Frick and Bopp, 2005) and hence the greater the PCTWOUT. The variables MFI and POVERTY are not considered in the same estimate because (a) they both are measures of family purchasing power, i.e., income, and, (b) statistically speaking, they are very highly (and negatively) correlated: the correlation coefficient between MFI and POVERTY is ( $-0.72$ ).

Once a family possesses a given set of financial resources (income) with which to make purchases, including that of health insurance, several additional factors may enter the decision-making process. For example, whatever a household's income may be, the size of the household in terms of the number of persons in the household is pertinent. Clearly, the larger the number of family members and other parties residing within a household, the more thinly the household's financial resources will be stretched and the more costly will be the household's insurance premium and related costs, *ceteris paribus*. It reasonably follows that the greater the family size (FAMSIZE), i.e., the greater the number of persons in the household, the lower the probability of the family's being able to



afford health insurance, *ceteris paribus*, and hence the greater the PCTWOUT.

It is hypothesized that the purchase of health insurance coverage is an increasing function of union membership, *ceteris paribus*, presumably in part because the existence of unions and their collective bargaining power allegedly has tended to raise the availability of group health insurance plans (Dushi and Honig, 2003; Swartz 2003, Cebula, 2006). Indeed, historically, the provision of group health insurance has been a common component of labor union-management contract negotiations (Cebula, 2006). In theory, then, the *higher* the percentage of the labor force in a state that is unionized (UNION), the *lower* the degree to which the population in the state will *fail* to have health insurance, *ceteris paribus*. The strength of this hypothesis is increased by the aforementioned arguments found in Swartz (2003, p.283), who observes that many households "...cannot afford to purchase health insurance unless it is heavily subsidized." There is evidence that this subsidy most often comes in the form of employer-provided group health insurance when there is a labor union present (Dushi and Honig, 2003; Swartz, 2003; Cebula, 2006).

Next, there is the issue of age. As a reflection of the findings in Newhouse (1994), in this study the proportion of the population aged 65 or older (AGE65&OVER) is expressly considered as a control variable to avoid omitted variable bias. Recall the aforementioned arguments and data in Newhouse (1994) to the effect that, despite very widespread coverage under Medicare within this age group, most of the people in this age bracket choose to purchase some form of supplementary health insurance because they regard Medicare as inadequate medical protection. Accordingly, in this study, it is hypothesized that the *greater* the percentage of a state's total population that is age 65 or over, the smaller the percentage of that state's total population that is *without* health insurance *per se*, *ceteris paribus*.

A factor that is integrated into the analysis to provide further insights into the availability and/or affordability of health insurance is the *risk-factor* variable SMOKER. The variable SMOKER is defined by the U.S. Census Bureau as the percentage of the population who are smokers during a given year. "Smokers" for any given year are defined as those who are currently smoking every day or some days and who had reported smoking at least 100 cigarettes during their



lifetime. Profit-seeking, risk-averse health insurance companies logically would either refuse health insurance to potential clients who are smokers (limiting availability directly) or impose higher premiums and other financial burdens on them (decreasing affordability). In either case, the higher the SMOKER, the higher the PCTWOUT, *ceteris paribus*.

Finally, it could reasonably argued that the model as developed up to this point is limited insofar as it has omitted any consideration of geographic differentials in either the cost of living or the cost of housing. There exist large interstate differentials both in the cost of living and in the cost of housing (Ashby, 2007), which in turn can create large interstate differentials in the purchasing power and economic status of residents. To account for this factor, the analysis integrates the variable, COH<sub>j</sub>, defined as the index of the overall cost of housing in each state for the average four-person family. Variable COH<sub>j</sub> is an index with a mean value of approximately 100.00 (see Table 1). The choice of COH<sub>j</sub> as a measure of interstate differentials in purchasing power is based on the findings and argument in Ashby (2007, p.686), who shows that the cost of "...housing...is the main driver of cost-of-living differences between states." It is hypothesized in this study that the higher the COH, the higher the PCTWOUT, *ceteris paribus*, because a higher COH reduces the family unit's ability to afford to pay health insurance premiums. This particular variable has not been considered in previous studies of factors influencing the proportion of the population with/without health insurance.

#### IV. Empirical Estimates

Based on the eclectic framework provided above, the percentage of a state's total population that is *without* health insurance coverage, PCTWOUT, is modeled as:

$$\text{PCTWOUT} = f(\text{SMFIRMS}, \text{MFI or POVERTY}, \text{FAMSIZE}, \text{UNION}, \text{AGE65\&OVER}, \text{SMOKER}, \text{COH}), f_{\text{SMFIRMS}} > 0, f_{\text{MFI}} < 0, f_{\text{POVERTY}} > 0, f_{\text{FAMSIZE}} > 0, f_{\text{UNION}} < 0, f_{\text{AGE65\&OVER}} < 0, f_{\text{SMOKER}} > 0, f_{\text{COH}} > 0 \quad (2)$$

Based on (2), the reduced-form equation to be estimated is given by:

$$\text{PCTWOUT}_j = a_0 + a_1 \text{SMFIRMS}_j + a_2 \text{MFI}_j \text{ or } \text{POVERTY}_j$$



$$+ a_3 \text{FAMSIZE}_j + a_4 \text{UNION}_j + a_5 \text{AGE65\&OVER}_j + a_6 \text{SMOKER}_j + a_7 \text{COH}_j + u \quad (3)$$

where:

$\text{PCTWOUT}_j$  = the percentage of the total population in state  $j$  without health insurance coverage, 2005;

$\text{SMFIRMS}_j$  = the percentage of all private firms in state  $j$  with 20 or fewer employees, 2004;

$\text{MFI}_j$  = median annual family income, 2004;

$\text{POVERTY}_j$  = the percent of the population in state  $j$  living at or below the federally defined poverty level, 2004;

$\text{FAMSIZE}_j$  = average number of persons per household in state  $j$ , 2004;

$\text{UNION}_j$  = the percentage of the labor force employed in the private sector in state  $j$  that was unionized, 2004;

$\text{AGE65\&OVER}_j$  = the percentage of the population in state  $j$  that was age 65 and older, 2004;

$\text{SMOKER}_j$  = the percentage of the total population in state  $j$  who were smokers, 2004; and

$\text{COH}_j$  = the index of the overall cost of housing in each state for the average four-person family, 2004.

**Table 1: Descriptive Statistics and Data Sources**

Variable	Mean (Standard Deviation)	Data Source
PCTWOUT	15.3 (3.63)	U.S. Census Bureau (2008b, Table 147)
SMFIRMS	89.3 (1.54)	U.S. Census Bureau (2008b, Table 740)
MFI	53692 (6651)	U.S. Census Bureau (2007, Table 688)
POVERTY	10.1 (2.69)	U.S. Census Bureau (2007, Table 690)
FAMSIZE	2.59 (0.14)	U.S. Census Bureau (2008a)
UNION	7.9 (3.21)	U.S. Census Bureau (2006, Table 649)
AGE65&OVER	12.4 (1.97)	U.S. Census Bureau (2006, Table 21)
SMOKER	20.9 (3.81)	U.S. Census Bureau (2007, Table 192)
COH	100.6 (15.6)	ACCRA (2005)



The study uses state-level data, with Washington, D.C., excluded from the study. The most recent state-level data for the dependent variable, PCTWOUT<sub>j</sub>, is 2005. All of the explanatory variables are expressed in terms of the year 2004 so as to allay concerns about simultaneity, i.e., the dependent variable is *not* contemporaneous with any of the explanatory variables. For each of the 50 states, there is one observation for the dependent variable and one observation for each of the independent (explanatory) variables. Table 1 provides descriptive statistics as well as data sources for each of the variables. Interestingly, as shown in Table 1, the mean value for the variable PCTWOUT is 15.3 *percent*, which is little different from its *percentage* values in 1993 (Cutler, 1994) and 2000 (Frick and Bopp, 2005).

**Table 2: OLS Estimations, Dependent Variable PCTWOUT**

Variable\Estimate	(a)	(b)	(c)	(d)
Constant	-115.2	-103.9	-122.4	-101.7
SMFIRMS	1.231** (4.89)	1.072** (4.43)	1.213** (4.47)	1.012** (3.62)
MFI	-0.00023* (-2.39)	—	-0.0001* (-2.02)	—
FAMSIZE	10.17** (2.67)	8.49* (2.23)	11.99** (2.69)	9.667* (2.15)
UNION	-0.181** (-2.79)	-0.175** (-2.91)	-0.18** (-2.65)	-0.159* (-2.19)
AGE65&OVER	-0.523** (-3.47)	-0.541** (-3.42)	-0.548** (-2.90)	-0.612** (-3.01)
SMOKER	0.465* (2.32)	0.439* (2.38)	0.571** (2.74)	0.435* (2.20)
POVERTY	—	0.482** (3.70)	—	0.472** (3.16)
COH	0.505** (2.90)	0.411* (2.41)	—	—
R <sup>2</sup>	0.67	0.71	0.59	0.65
adjR <sup>2</sup>	0.60	0.64	0.51	0.60
F	9.79	11.91	8.65	12.09

Terms in parentheses beneath coefficients are t-values. In all estimates, the White (1980) heteroskedasticity correction is adopted. \*\* statistically significant at 1% level. \* statistically significant at 5% level.



The results from estimating the two forms of equation (3) by OLS, using the White (1980) heteroskedasticity correction, are found columns (a) and (b) of Table 2. In the estimate found in column (a), the variable MFI is considered in lieu of the POVERTY variable, whereas in column (b), the POVERTY is used in place of MFI.

In column (a) of Table 2, all seven of the estimated coefficients exhibit the hypothesized signs, with five statistically significant at the one percent level and two statistically significant at the five percent level. In addition, the coefficient of determination is 0.67, so that the model explains roughly two-thirds of the variation in the dependent variable. Finally, the F-statistic is statistically significant at the one percent level, attesting to the overall strength of the model.

The estimated coefficient on the MFI variable is negative, as hypothesized, and statistically significant at the five percent level. Thus, there is evidence that the higher the median family income level, the lower the percentage of the population without health insurance. It appears that health insurance is a normal good. The estimated coefficient on the FAMSIZE variable is positive, as hypothesized, and statistically significant at the one percent level. Thus, there is strong evidence that larger family size raises the percentage of the population without health insurance. Arguably, this result is a reflection of diminished affordability of health insurance for larger families (where there are “more mouths to feed” and in, all likelihood, higher health insurance premiums, certainly when compared with one-person or two-person households). The estimated coefficient on the UNION variable is negative, as hypothesized, and statistically significant at the one percent level. This finding constitutes empirical evidence that the greater the percentage of the private-sector workforce that is unionized, the lower the percentage of the population without health insurance. The reason for this may be that a greater degree of unionization among private-sector workers implies a greater degree of access to and affordability of health insurance (Swartz, 2003; Dushi and Honig, 2003; Cebula, 2006). The estimated coefficient on the AGE65&OVER variable is negative, as expected, and statistically significant at the one percent level, implying that the greater the percentage of the population that is within this age bracket, the lower the percentage of the total population without health insurance. This finding would seem to reflect the fact that within this age cohort, supplemental (to Medicare) health insurance is purchased to a high



degree (Newhouse, 1994; Cebula, 2006). The estimated coefficient on the risk-factor variable SMOKER is positive and statistically significant at the five percent level. This result implies that, as hypothesized, smokers face higher health insurance premiums and/or more limited access to health insurance, which in turn would seemingly act to elevate the percentage of the population without health insurance. Next, there is the coefficient on the COH variable, which is positive (as hypothesized) and statistically significant at the one percent level, implying that the percentage of the population without health insurance is an increasing function of the cost of housing. This makes economic sense, since the higher the cost of housing, the more financially strapped the family budget will be and the degree to which the family unit can afford health insurance premiums will be less.

Finally, there is the result for the SMFIRMS variable. This estimated coefficient is positive (as hypothesized) and statistically significant at the one percent level. Thus, in this estimate, strong empirical support exists for the small firm hypothesis, i.e., the greater the percentage of firms that have 20 or fewer employees, the lower the incidence of health insurance and therefore the higher the percentage of the total population that is without insurance. This phenomenon could be the consequence of a number of factors, as described above. In particular, larger firms, because they have more employees, may have greater access to a larger variety of cost-effective group health insurance plans than do firms with relatively fewer employees. Second, the typically relatively more limited financial capacities of smaller firms vis-à-vis larger firms to afford to pay for the employer-responsibility component of group health insurance benefits for their employees would likely reduce the availability of said health insurance at smaller firms (vis-à-vis larger firms). On average, small firms lack the "deep pockets" of larger firms, although of course there are exceptions. The limited financial capacities of smaller firms would likely to some degree reflect their limited ability to reap the financial benefits of scale economies that larger firms can. Therefore, the greater the percentage of firms that is categorized as "small," the greater the percentage of the population that can be expected to be *without* health insurance. This would seem especially true in the competitive U.S. economy, where many smaller domestic firms struggle to compete for their very economic survival against not only one another but also larger domestic firms. In this



context, many small firms simply have insufficient profit margins to underwrite group health insurance for their employees. Furthermore, although the following observation presumably would not typically apply to small firms requiring higher levels of training and/or education such as medical or dental offices, high-tech firms, and engineering firms, to the extent that smaller firms *are* fundamentally service oriented *and* require employees of limited skill, i.e., unskilled or semi-skilled labor, the latter workers may lack alternative sources of employment and be forced by their lack of marketable skills to accept job conditions in which no group health insurance is provided. As observed above, to the extent that the latter phenomenon is the case the market system is operating efficiently.

Consider next column (b) of Table 2. In this case, the POVERTY variable is included in the estimation in place of the MFI variable. In this estimate, all seven of the estimated coefficients exhibit the hypothesized signs, with four statistically significant at the one percent level and three other three significant at the five percent level. The findings for the variables FAMSIZE, UNION, AGE65&OVER, SMOKER, and COH are very similar to their counterparts in column (a). Thus, as in column (a), in column (b) it appears that the percentage of the population without health insurance (PCTWOUT) is an increasing function of FAMSIZE, SMOKER, and COH, while being a decreasing function of UNION and AGE65&OVER. In addition, in column (b), the estimated coefficient on the POVERTY variable is positive (as expected) and statistically significant at the one percent level. This finding implies that the greater the incidence of poverty, the greater the percentage of the population that is without health insurance (Frick and Bopp, 2005).<sup>3</sup> Interestingly, in column (b), the  $R^2$ , adjusted  $R^2$ , and F-statistic values are all higher than their counterparts in column (a). For example, the  $R^2$  rises from 0.67 for the estimate in column (a) to 0.71 for the estimate in column (b), so that the latter model explains more than seven-tenths of the variation in PCTWOUT. Finally, the estimated coefficient on the SMFIRMS variable is once again positive and statistically significant at the one percent level, providing further strong support for the small firm hypothesis.

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<sup>3</sup> The reader may be interested in the fact that the correlation coefficient between MFI and COH is 0.39, whereas that between POVERTY and COH is 0.24.



It was observed in the previous section of this study that the cost-of-housing variable (COH) has not previously been integrated into studies attempting to identify factors influencing the proportion of the population without health insurance. As a test of the robustness of the overall results in columns (a) and (b), as well as a test of whether the exclusion of the COH variable perceptibly influences the findings on behalf of the small firm hypothesis, two new OLS-White (1980) heteroskedasticity-corrected estimations were undertaken; these are provided in columns (c) and (d) of Table 2. Column (c) variables are identical to those in column (a) except for the exclusion of the COH variable, whereas column (d) variables are identical to column (b) variables except for the exclusion of the COH variable.

In column (c), all six of the estimated coefficients have the expected signs, with five statistically significant at the one percent level and the sixth significant at the five percent level. In column (d), all six of the coefficients exhibit the expected signs, with three statistically significant at the one percent level and the remaining three significant at the five percent level. Not surprisingly, given the omission of the COH variables, the  $R^2$  and adjusted  $R^2$  values for the models in columns (c) and (d) are lower than for the models in columns (a) and (b). The F-statistic is higher in column (d), where the variable POVERTY is adopted in place of MFI in column (c). Overall, the findings in columns (c) and (d), despite the presence of the COH variable, are compatible with those in columns (a) and (b). Especially relevant in terms of the objectives of this study are the positive and statistically significant (at the one percent level) coefficients in columns (c) and (d) on the SMFIRMS variable. Thus, all of the estimates provide strong empirical support for the small firm hypothesis.

## V. Discussion: A Private Enterprise Perspective

Pursuant with the first objective of this study, using state-level data, the empirical evidence strongly supports the “small firm hypothesis” that the greater the percentage of firms that are “small,” i.e., have 20 or fewer employees, the greater the percentage of the population that is without health insurance. The small firm issue can be viewed in a broader context, namely, that as of the end of 2005, 15.3 percent of the population was estimated to be *without* health insurance.



Pursuant with the second objective of this study, this final section examines two very different perspectives on health insurance or what might be viewed as “health insurance policy.” The first is a public-policy perspective that takes the position that some form of government policy is needed to address a “market failure” in terms of health insurance in the U.S. (Swartz, 2003), of which the small firm hypothesis findings can be regarded a pertinent component. Within this perspective, the issue of mandating universal health insurance coverage or simply “mandating” is discussed first, and then a tax-credit incentive policy that would make it easier for small firms to obtain group health insurance is presented. An alternative tax-credit policy involving households is also discussed. The second perspective is a private-enterprise perspective that suggests that there is not in fact a major health insurance problem in the U.S. and that the market for health insurance, although imperfect, is not an instance of market failure. This private-enterprise perspective takes the position that no compelling evidence exists for a market failure in the U.S. health insurance industry and that mandating and tax-credit policies are not only unnecessary but would also create myriad negative economic effects for the economy and for the private enterprise system as we know it.

Pertinent to the first perspective examined here, Thurston (1997) and Oxford Analytica (2007) observe that some state legislatures are experimenting with ways to combat what is represented as a rising number of uninsured. One of these experiments is referred to as “employer mandates,” which would *require* all employers, including small firms (which, as shown in Table 1, constituted 89.3 percent of all private-sector firms in 2004), to offer health insurance to their employees. It is perhaps noteworthy that a very comprehensive *state-level* “universal” health care statute has already been considered and continues to be considered in Wisconsin, namely, the “Wisconsin Health Security Act,” also known as 2007 Senate Bill 51.<sup>4</sup> In any

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<sup>4</sup> The Wisconsin Policy Research Institute (2008) characterizes the Wisconsin Health Security Act as the broadest health care reform proposed anywhere in the U.S. To provide the reader with the flavor of this would-be statute, consider that the scope of this initiative would be to cover *all* Wisconsin residents, regardless of pre-existing health condition, age, sex, race, sexual orientation, geographic location, employment, or economic status. Under this Act, *all* necessary medical services for maintaining health or for diagnosis or treatment or rehabilitation following an injury, disability or disease are provided. Long-term care, including home health,



event, mandating could come under formal consideration for implementation at the national level during the next few years.

For the case of small firms, as defined in this study, such a policy of mandating would presumably have little to no effect on those employers that *already* provide group health insurance for their employees. However, even in this case, in the real world there will be some employees who would otherwise decline such insurance and the health insurance premiums that accompany the insurance (Thurston, 1999; Dushi and Honig, 2003; Cebula, 2006). Arguably, there are at least two major reasons for this refusal of group health insurance. First, according to Dushi and Honig (2003), the employee's spouse may already have family health insurance through her/his employer. However, an alternative reason an employee may decline to take health insurance is the simple exercise of choice in a democratic society operating under a private enterprise system. Thus, not only is the individual's freedom of choice being encroached upon by mandating, but so also is the economics underlying that freedom of choice. In other words, individuals sometimes simply prefer not to pay health insurance premiums. Health insurance is but one of a large variety of goods and services in the household's or the individual's utility function, and at the margin sometimes the choice is for something other than health insurance. Indeed, this is demonstrated to some extent by the empirical results for the variable COH in columns (a) and (b) of Table 2.

For those small firms that do *not* already offer group health insurance to their employees, mandating health insurance could have

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nursing home care, and hospice services, as well as alcohol and other drug rehabilitation treatments, are also to be provided. Furthermore, under this Act, it is proposed that this health care system be financed (at least initially) by a 10.5 percent payroll tax on all employers and a 4.0 percent tax on all employees, to be collected by a new state (government) commission (Moberg, 2007). From the viewpoint of the present study, there are very serious concerns about this legislation. One of the many is that since this would be a *state* program, unless other states (especially those closest to Wisconsin) were to adopt similar programs, it would (if implemented) very likely act like a "health insurance magnet," attracting persons with health or impending health-related issues from other states to Wisconsin, potentially *en masse*, possibly resulting in a serious financial crisis for the Wisconsin state government. In addition, the payroll tax involved might induce at least some Wisconsin firms to migrate to another state (or nation). Another private-enterprise issue is that this statute would replace all private-sector health insurance companies in Wisconsin with a single state health insurance program, i.e., private enterprise *per se* would be replaced by public enterprise *per se*.



potentially more serious consequences. Given the commonly limited financial resources of many small firms and the competitive markets in which they operate, the increased costs of meeting mandating requirements would elevate operating costs and reduce profit margins. In some cases, while some firms will be able to financially tolerate such increased costs, others may not. In fact, some firms would, given their already narrow profit margins, be forced into imposing layoffs and, in the worst case scenario, firms would be forced to shut down. In either of the last two scenarios, the irony is that at least some persons employed at these firms would in the end not only be without health insurance but also without their jobs!

*Assuming* that a market failure in health insurance provision exists, mandating universal health insurance coverage would seem a dangerous approach. This is all the more likely since the oversight and administration of a mandating system would hardly be cost-free. Undoubtedly, a federal government bureaucracy with mandating oversight and administration as its charges would be created, further increasing the size of government and elevating government outlays, which in turn would have to be financed either through the raising of taxes and/or through increases in the size of the national debt (increased budget deficits). Finally, mandating might create an incentive for unscrupulous employers to hire people "off the books." In addition, mandating would not appear to make provisions for the unemployed, many of whom fall under the rubric of POVERTY (as defined in this study). Of course, to the extent that mandating represents a serious financial challenge for *small* firms, it also will lead to a decline in private free enterprise success in the U.S. The American public should be made aware of the variety and magnitude of costs it would incur under mandating.

Public policy alternatives to mandating exist, although they too jeopardize private enterprise and carry huge price tags for the economy. For example, there exist potential tax-credit incentive policies that could be afforded to smaller firms, as defined (or even to firms of larger size as well), to encourage them to provide group health insurance for their employees. For example, in lieu of the existing tax *deductions* afforded employers for their share of employer-provided health insurance, a system of federal *income* tax *credits* for *small firms* to offset the *employer's* cost of providing group health insurance to employees could be implemented. Furthermore, the definition of the term *employer cost of health insurance* could be



interpreted so as to include a tax credit for the administrative costs of such health insurance. Such a tax-incentive system would have the merit of imposing little to zero net costs on small firms, while enabling these firms to actually offer the group health insurance option to their employees. These firms in turn might reap a benefit in terms of enabling them to attract better quality employees, which would in turn might increase small-firm productivity and increase the capacity of smaller firms to compete. Thus, in theory, such a policy initiative would have the added merit of creating an environment where small firms could have a greater opportunity to survive if not flourish. Naturally, such a tax-credit policy would be a windfall to those small firms that already offered group health insurance to their employees because these firms would be exchanging tax deductions for tax credits. Clearly, the policy could be expanded to firms with more than 20 employees as well.

In any case, this proposal clearly has the virtue that it would make it easier for small firms to secure health insurance for their employees than a Draconian policy of mandated health insurance. However, one obvious major problem with such a proposal is its cost. The magnitude of the tax credits could be enormous, and the result once again could be higher federal income taxes and/or increased budget deficits, both of which can impose significant burdens on the private enterprise system.

In addition, such a tax-credit system may create an incentive for firms with more than 20 employees but which are nevertheless not "large," e.g., perhaps 30-40 employees, to at least consider becoming two firms, each with 20 or fewer employees, to reap the benefits of tax-credits. Such an outcome might reduce firm productivity and also would raise the cost of the tax-credit system. Of course, this tax-credit policy also amounts to *de facto* subsidies to small firms. This would be objectionable on multiple grounds, including that of unequal treatment of all firms. Naturally, if the tax-credit system were extended to larger firms, the added costs would be an even greater drain on the public coffers; it also would be inefficient to the extent that these larger firms *already* provide employee group health insurance. Moreover, it would be very difficult if not impossible to rationalize such a tax-credit scheme, whether or not it was restricted to small firms, in a private enterprise system. Indeed, proponents of a genuinely private enterprise system would find this policy very



objectionable. Thus, whereas such a program is a potential alternative to mandating, it nevertheless has multiple and arguably serious flaws.

An alternative to offering tax-credit subsidies to *firms* would be to introduce a system of tax credits to *individuals*. In the interest of equity if not efficiency, a health insurance premium tax credit could be set up on a sliding scale, with those having the lowest AGI (adjusted gross income) receiving the biggest tax credits (if they purchase health insurance) and with the tax credit declining (for those actually purchasing health insurance) as the AGI for each tax return increases until, for “very high income” persons, the tax credit would be zero. There are a number of obvious problems with this policy as well. For one thing, most of the population already has health insurance (as shown in Table 1, 84.7 percent, as of 2005). Thus, the vast majority of the population would be receiving a tax credit it actually did not need to be induced to purchase health insurance, rendering the policy extremely inefficient. In addition, such a policy would likely prove to be remarkably costly. Furthermore, once the population became accustomed to it, elimination of the system could prove a politically onerous task. Next, there is the financing problem. From where do the funds come to finance this program? The answer: higher taxes and/or bigger deficits. This price to the U.S. economy would be an enormous one, as would the prices of all of the so-called “solutions” to the lack of universal health insurance coverage.

The financing of such policies through higher income taxation would have quite negative implications for the private enterprise system in terms of larger budget deficits over time, which in turn could have serious consequences, such as higher long term interest rates and other economic distortions, including reduced economic growth (Al-Saji, 1993; Boskin, 1987; Carlson and Spencer, 1975; Cebula, 1995, 1997, 2005; Krueger, 2003; MacAvoy, 2003; Orcutt, 2003). American society must become educated on these price tags. There are no free lunches!

In considering the second perspective, i.e., that of private enterprise, it is important to stress that a public policy of mandating universal health insurance coverage or of tax-credit incentives, whether to firms or to individuals, is in effect predicated on a critical *assumption*. Namely, it is assumed that in the case of the health insurance industry there exists *market failure* (Swartz, 2001, 2003). Several facts would seem to challenge the assumption of market failure in the U.S. health insurance arena. Consider that, based on the



data available for the year 2005, 15.3 percent of the population was estimated to have been without health insurance (U.S. Census Bureau, 2008, Table 147). This statistic implies that 84.7 percent of the population *did* have health insurance. Although a larger number of people are without health insurance than in previous years, the *percentage* of the population without health insurance has not changed a great deal in more than a decade (cf. Fronstin and Snider, 1996/97). Consider the fact that in 1995, 15.4 percent of the population was without health insurance (U.S. Census Bureau, 2007, Table 144). Furthermore, in the more recent years 2003 and 2004, 15.6 and 15.7 percent, respectively, of the population was without health insurance. The point is that in this market, something of an enduring equilibrium seems to exist, with the equilibrium percentage of the population *with* health insurance in the range of 84 to 85 percent. Stated somewhat differently, there appears to be a remarkable stability in the percentage of the population without health insurance. These percentage figures simply describe how this market works.

Clearly, within a private enterprise system, market imperfections do not constitute market failure (Newhouse, 1994; Frick and Bopp, 2005; Cebula, 2006). Indeed, even for those in poverty who do not have health insurance, safety nets such as Medicaid already exist. To be sure, Medicaid has imperfections, such as possibly discriminating against poor adult males (Frick and Bopp, 2005). Although Medicare is not expressly intended for the poor, in point of fact many elderly with limited financial resources depend on Medicare for their healthcare needs. Medicare of course has imperfections as well. But these are systems in place, and imperfections could be corrected with Medicaid or Medicare reform (Frick and Bopp, 2005). There seems to be no need for Draconian proposals in the form of either mandated universal health insurance coverage or tax-credit incentive systems.

So, what's the problem? It may be perfectly natural for some portion, apparently about 15 percent of the population, to not have health insurance coverage, especially since in so many cases people simply *choose not* to purchase health insurance. Consider that health insurance enrollment in the private sector, although it appears to be a normal good (Table 2), is usually a voluntary household decision/choice (Newhouse, 1994; Thurston, 1999; Swartz, 2001; Dushi and Honig, 2003; Frick and Bopp, 2005; Cebula, 2006). In many cases, then, households simply choose to not buy health



insurance, even when they can afford it, possibly opting to allocate their funds elsewhere on other goods or services (including potentially even to savings). Indeed, many households may simply choose to be self-insured and/or to rely on systems in place such as Medicare and/or Medicaid rather than pay for private health insurance. In the case of those age 65 and over, a persistent 19-20 percent choose not to purchase a health insurance supplement to Medicare (Newhouse, 1994; Cebula, 2006). Related to this perspective, Cebula (2006) found that a large percentage of households that file a Schedule C with their Federal Income Tax Form 1040 *choose* not to purchase health insurance. In the Cebula (2006) study, as in that by Ali, Cecil and Knoblett (2001), this filing status, i.e., filing a Schedule C, is treated as a proxy for self-employed persons and independent contractors, persons typically not having health insurance available from their income sources. It is not a great stretch of the imagination to infer that a non-trivial percentage of those without health insurance are *voluntarily* without it (Thurston, 1999; Dushi and Honig, 2003; Cebula, 2006), many of whom may well perceive that the paying of health insurance premiums is unwarranted.

In the final analysis, there is evidence that the greater the percentage of firms with fewer than 20 employees, the greater the percentage of the population without health insurance. In addition, factors such as income, poverty, family size, the cost of housing, unionization, age of 65 years or older, and smoking history influence the percentage of the population without health insurance. Despite this complex combination of factors, the vast majority (roughly 85 percent) of the population has health insurance, a percentage that has endured for more than a decade despite globalization, technology, and many social and economic changes in the U.S. Although there doubtlessly are imperfections in the market for health insurance, just as there are imperfections throughout our world, there is no compelling evidence to suggest a fundamental market failure in the health insurance arena. There may very well exist a need for improvements in Medicaid and/or Medicare. However, there is no established need for the Draconian *mandating* of universal health insurance coverage or tax-credit incentive policies. Such a course of action would generate far more serious negative consequences than their proponents appear to appreciate. Since mandating is actually under active discussion, it should be stressed that many small firms,



the very heart of private enterprise in the U.S., could be on the endangered species list if policymakers fail to recognize the realities associated with such a policy.

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