The Wisconsin Policy Research Institute

WPRI REPORT

Expected Migration Impacts of the Healthy Wisconsin Program

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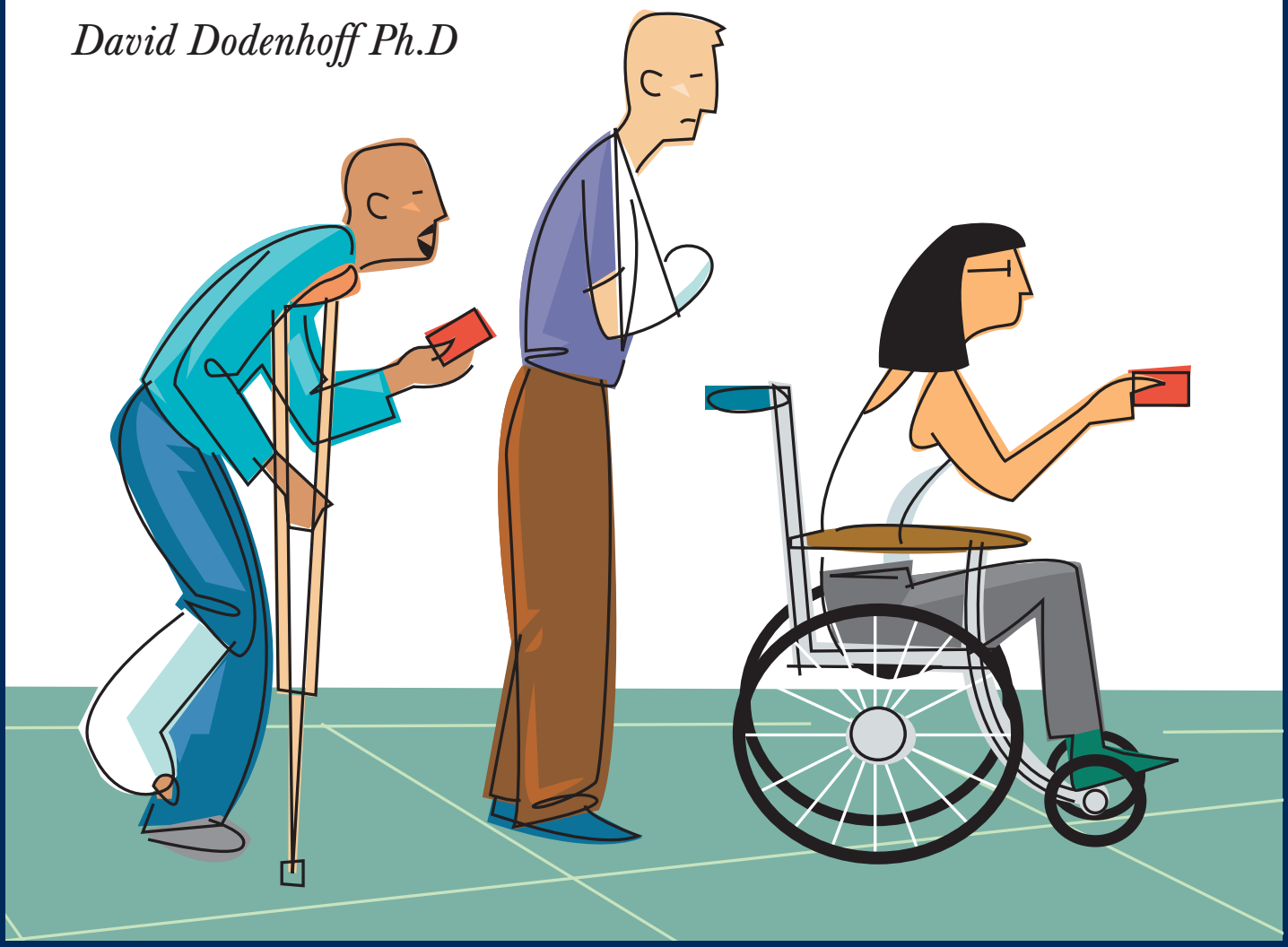

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REPORT FROM THE PRESIDENT:

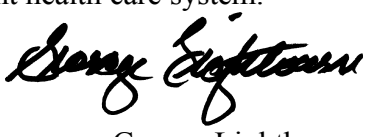
Since the Wisconsin State Senate originally proposed Healthy Wisconsin, their version of a universal health care plan, the Wisconsin Policy Research Institute has expressed skepticism. Recently we have been joined in our skepticism by Governor Doyle who rightly said he didn't think one state could reform health care on its own.

All along we have been particularly curious as to whether Healthy Wisconsin would make Wisconsin a national health care magnet for the uninsured and underinsured. We asked two academics; Richard Cebula Ph.D., a noted expert on migration, and David Dodenhoff Ph.D., to explore the migratory draw of Healthy Wisconsin.

Cebula and Dodenhoff found that, within six years, 142,000 people would move to Wisconsin to take advantage of universal coverage. This would add $550 million to the cost that proponents of the program either didn't anticipate or chose to ignore.

Of course, the analysis that Cebula and Dodenhoff have carefully laid out harkens back to our 1989 analysis of welfare migration. It was true then and it remains true that Americans vote with their feet. They will move to places that offer benefits they find attractive. Once people discover that Wisconsin is offering health insurance to all comers, they will come in great numbers and Wisconsin companies and workers will pick up the bill.

Healthy Wisconsin is bad, expensive policy. We would suggest that, rather then enacting such a costly, poorly conceived new program, our elected leaders should do the hard work of fixing the flaws in Wisconsin's current health care system.



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EXPECTED MIGRATION IMPACTS OF THE HEALTHY WISCONSIN PROGRAM

New And Serious Challenges On The Horizon

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EXECUTIVE SUMMARY

A New Migration Controversy

Calling to mind the welfare migration problem the state was confronted by nearly 25 years ago, Wisconsin stands on the verge of another migration controversy, driven this time by the proposed Healthy Wisconsin program.

This program, if approved, would make Wisconsin the first (and only) state in the nation to provide health insurance coverage to all "permanent" residents. Overnight, this could transform Wisconsin into the residence of choice for the chronically ill, the underinsured, the sporadically employed, and the otherwise uninsurable. The state could become a "health care magnet," attracting large-scale migration each year from other states among individuals and families in need of insurance.

An Ineffective Check on Migration

Could anything stop this wave of health care migration? The program would impose a 12-month residency requirement in Wisconsin before one could qualify for coverage. For those most desperately in need of health insurance, however, a year's wait might seem a bargain. Beyond that, similar residency requirements have already been tested in the courts and have been found to be constitutionally suspect.

The Evidence: Part 1

But would people *really* move to Wisconsin just to get health care, or stay in Wisconsin so as not to lose it? There is considerable support in the economics literature—typically rooted in the Tiebout hypothesis—for the idea that individuals and families "vote with their feet," that is, choose where to live based in part on the package of goods and services offered by state and local government. With the passage of Healthy Wisconsin, the state would offer health care benefits available nowhere else in the United States.

How large a migration effect would there be? This study includes a regression analysis that treats state-to-state migration as an "investment decision," with individuals and families choosing their state of residence on the basis of the following factors:

- cost of living,
- spending on public education,
- growth in employment,
- presence of hazardous waste sites,
- comfort level of the local climate,
- state taxation of income, and
- percentage of the population with health care coverage through any source.

Assuming the Healthy Wisconsin program were to become law in 2009, the regression analysis predicts that between 2009 and 2015, an additional 142,000 people would be drawn to the state by the prospect of readily available health insurance, or would remain in the state so as not to lose their Healthy Wisconsin coverage.

In dollar terms, the **annual**—and currently unbudgeted—cost of adding these 142,000 individuals to Healthy Wisconsin would be $550 million (in 2007 dollars). This figure could be expected to grow rapidly, however, to keep pace with medical inflation, and possibly to accommodate new arrivals with unusually costly health care problems.

The Evidence: Part 2

The study includes a second regression analysis that assesses the determinants of enlistment decisions among members of the military. Because the military offers its own version of "universal health care" (premium-free care for enlistees and their families), it provides a good analog to the universal health care experience upon which Wisconsin seems

ready to embark. To the extent that individuals can be shown to enlist—and therefore dramatically change both their occupation and their geography—based in part on the availability of health care, one can reasonably infer that **many** individuals in need of health care would make the comparatively less consequential choice to move to a new state (Wisconsin) in order to secure health insurance.

The regression analysis indicates that to a high degree of statistical significance, the greater the percentage of the population without health insurance in a given state, the greater the propensity for individuals in that state to enlist in the military, holding other factors constant. Again, this provides strong empirical affirmation of the role health care availability and affordability can play in determining major life choices, such as occupation and, more important for purposes of this study, state of residence.

The Consequences

An influx into the state of Wisconsin of health care–seeking persons, many of whom may have chronic, serious, and costly health care problems, would result in a significant, unbudgeted burden on Wisconsin taxpayers, as well as the possibility of reduced health care quality as measures are taken to help control cost overruns. Troubling on its own, this will be even more problematic in an era of projected multi-billion dollar deficits.

Conclusion

Healthy Wisconsin is undoubtedly well intended, but it could have unadvertised, serious adverse effects on Wisconsin taxpayers, state government finances, and health care cost and quality. This proposal must be rejected by the people of Wisconsin for the health, literal and figurative, of the state and its residents.

I. Introduction to Study

Roughly 25 years ago, Wisconsin found itself at the center of a debate over what was then called "welfare migration." Proponents of the welfare migration thesis argued that Wisconsin was attracting poor families from neighboring states (Illinois in particular) because its welfare benefits were comparatively generous.

One man who believed that Wisconsin was a "welfare magnet" was a state legislator named Tommy Thompson. When Thompson ran for governor against Tony Earl in 1986, Earl chided him for wanting to "reform welfare and make Wisconsin look like Mississippi." Thompson famously shot back: "With you in charge, we're attractin' all the people up here from Mississippi anyway."[1] Thompson went on to win the election and reduce the state's cash payments under the Aid to Families with Dependent Children program (AFDC). In many respects, this was the first shot in the war against welfare as we knew it. Its primary intended effect, however, was much less ambitious than that—to slow down the pace of welfare migration into Wisconsin.

Today, the state of Wisconsin faces the prospect of another migration controversy, driven this time by the proposed Healthy Wisconsin program. This program, if approved, would make Wisconsin the first (and only) state in the nation to provide health insurance coverage to all permanent residents. Some worry that this might make Wisconsin a magnet for "health care migrants," just as it was a magnet for poor families seeking welfare a generation ago. Professor Rick Esenberg of Marquette University Law School recently stated the case this way:

> . . . if, in fact, we are going to offer valuable health care that millions living elsewhere do not have, it seems plausible that some of them will come here to get it. Those who would come here, moreover, are likely to be disproportionately made up of those for whom health insurance is particularly important or difficult to get. In other words, many of our new neighbors, however wonderful they may otherwise be, will be sick or older.[2]

In the health care debate, and in insurance discussions generally, this is known "adverse selection"—individuals who are the most costly to insure are the most likely to seek insurance, other things being equal. The proponents of Healthy Wisconsin would no doubt point to the program's main hedge against adverse selection, a 12-month residency requirement in Wisconsin before one can qualify for insurance coverage. For the chronically ill, the underinsured, the sporadically employed, and the otherwise uninsurable, though, a year's wait for guaranteed coverage might well seem a bargain. Beyond that fact, Professor Esenberg questions the constitutionality of a residency requirement. In particular, he observes that:

> There is a thread of constitutional analysis, expressed by the U.S. Supreme Court, first in a case called *Shapiro vs. Thompson*, and, most recently, in *Saenz vs. Roe*, holding, essentially, that a state may not deny or offer less generous benefits to newcomers. In *Shapiro*, for example, the Court held that the state of Connecticut could not impose a one-year durational requirement for welfare benefits. In *Saenz*, it ruled that California could not, during their first year in California, restrict newcomers to whatever level of welfare assistance they would have received in their old state.

Of course, for this even to be a concern, one has to believe that individuals and families make migration decisions in part on the basis of the availability of government benefits. There is, in fact, considerable support for this proposition in the economics literature. Over a half century ago, Tiebout (1956, p. 418) hypothesized that ". . . the consumer-voter may be viewed as picking that community which best satisfies his preferences for public goods, . . . the consumer-voter moves to that community whose local government best satisfies his set of preferences." As something of an elaboration of the Tiebout hypothesis, Tullock (1971, p. 917) argued that the ". . . individual deciding where to live will take into account the private effects upon himself of the bundle of government services *and* taxes. . . ."

The Tiebout hypothesis has been extensively studied and debated in the economics and finance literature. Two principal paths of inquiry have been followed in this literature: (1) the capitalization of the value of local public goods and services, as well as taxes, as in Oates (1969); and (2) the migration impact of local public goods and services, as well as taxes, as in Cebula (1978) and more recently Cebula and Alexander (2006); Sieg, Smith, Banzhaf, and Walsh (2004); and Banzhaf and Walsh (2008), among others. The most recent (and arguably the most sophisticated) of these studies, that by Banzhaf and Walsh (2008, p. 862), concluded: "Our results are consistent with . . . a simple Tiebout model and affirm . . . that households do 'vote with their feet' in response to local public goods." This conclusion is consistent with the other recent studies by Cebula and Alexander (2006) and Sieg, Smith, Banzhaf, and Walsh (2004).

The purpose of the present study is to investigate the realistic implications, in Tiebout hypothesis terms, of the passage and implementation of the Healthy Wisconsin program. We hypothesize that if consumer-voters do move to those areas that best satisfy their preferences for publicly provided goods, including health care, then one should expect

substantial net in-migration to Wisconsin upon the passage of Healthy Wisconsin. Consider that the scope of Healthy Wisconsin would be to cover *all* otherwise uninsured Wisconsin residents, regardless of pre-existing health condition, age, sex, race, sexual orientation, geographic location, employment, or economic status (notwithstanding the constitutionally suspect residency requirement). Under the program, *all* necessary medical services for maintaining health or for diagnosis or treatment or rehabilitation following an injury, disability, or disease would be provided. Long-term care, including home health, nursing home care, and hospice services, as well as alcohol and other drug rehabilitation treatments, would also be provided.

Implementation of the Healthy Wisconsin program by one state would be tantamount to a real-world experiment under near *ceteris paribus* conditions. Accordingly, an influx into the state of Wisconsin of health care-seeking persons, many of whom may have chronic, serious, and costly health care problems, and many of whom may unable to contribute to the financing of this initiative due to their unemployment status, is to be expected. In addition, Healthy Wisconsin mandates that a state bureaucracy be implemented for program management, oversight, and enforcement—an institutional outlay that cannot be overlooked or dismissed. Indeed, as with most bureaucracies, once established, how plausible is it to believe that it would shrink in size, increase in efficiency, or decline in cost? If anything, as inevitable problems with Healthy Wisconsin occur—including those posited in this study—the bureaucracy will likely agitate for more personnel, more funding, and more authority.

All of this implies that the Wisconsin treasury will face higher and more rapidly growing health care outlays than anticipated due to Healthy Wisconsin. The end result will likely be a significant (albeit unintended) financial burden to Wisconsin taxpayers (households and firms alike) as well as the irony (eventually) of *reduced* health care quality as measures are taken to help control cost overruns.

The logic that leads to this conclusion is in principle undeniable. Such logic is more persuasive, however, when accompanied by actual empirical evidence. Accordingly, this study presents two different sets of such corroborating empirical evidence.

The first takes the form of a traditional migration model. In this model, the household (or individual) treats migration as an investment; however, unlike most similar research, including research addressing the Tiebout (1956) hypothesis, one of the components of the investment-migration decision is the availability of health insurance. In this framework, it is demonstrated that the policy envisioned by Healthy Wisconsin would realistically create an increase in net in-migration to the state. This would unquestionably drive program costs beyond projected levels, creating unpredictable but altogether undesirable consequences for individuals, business enterprises, and state government in Wisconsin.

The second piece of empirical evidence takes advantage of a *de facto* universal health insurance environment *already* in existence in the U.S., namely, within the U.S. military, where enlisted personnel and their dependents effectively receive health care without paying premiums. In this context, it is shown that the availability of what is, essentially, universal health care plays a significant role in individuals' enlistment decisions. By analogy, it can be extrapolated that universal health care in Wisconsin would play a significant role in attracting people from other states in search of health care benefits.

II. First Empirical Analysis: Rational Migration Decision-Makers

Introduction

We have argued above that there are reasons—reasons compatible with the Tiebout (1956) hypothesis—to be concerned that the passage of Healthy Wisconsin might turn the state into a magnet for the sick, the unemployed, the uninsured, and the underinsured. Furthermore, to the extent that individuals falling into these groups already live in Wisconsin, they might remain in the state once the Healthy Wisconsin era begins, rather than leave as other life circumstances might have dictated. Leaving Wisconsin for warmer climates, better job opportunities, or proximity to family and friends would mean leaving behind guaranteed health insurance. However, depending on one's financial and health status, this might be an untenable decision.

If Healthy Wisconsin were to increase migration from other states, or were to suppress out-migration from Wisconsin, or both, the impact on program costs could be significant, perhaps even onerous, for Wisconsin taxpayers

and for other state programs competing for scarce financial resources. The purpose of this section of the study, therefore, is to explore in direct, explicit, empirical terms the possible migration impact of the program, and its related fiscal impact.

The Methodological Approach

Ideally, one would like to have a real historical example from which to work in estimating the migration impact on Wisconsin of an expansion in health care coverage. If, for example, another state had successfully implemented universal coverage, one could observe the migration effects in that state, and then attempt to extrapolate those effects to Wisconsin. No other state has made such a change, however. This means that we will of necessity have to make do with the available data and attempt to sort out the relationship between non-universal coverage and domestic migration, and then extrapolate that to the hypothetical case of universal coverage in a single state.

Although there is extensive empirical literature on the causes and consequences of internal migration, effectively none of it directly addresses the issue of health care migration. To the extent that health care and migration are part of the same scholarly conversation, this tends to occur in research on "job lock"—the phenomenon of workers feeling trapped in a job because they would lose their health insurance if they were to quit. This literature, though, is focused much more on labor market and occupational mobility than on geographic mobility *per se*.

The extremely limited research on health care migration means that the analysis in this portion of the study must be considered exploratory. This does not mean, however, that we will be fumbling around in the dark. Instead, recent research conducted by Cebula and Alexander (2006) can serve as a useful model.[3]

The Cebula and Alexander (2006) model looks at state-to-state migration as an "investment decision," with individuals and families comparing their current location to potential alternate locations on the basis of the following broad categories of variables:

- income and cost of living,
- employment prospects,
- quality of life characteristics, and
- state and local government spending and taxes.

Only if the discounted present value of the net benefit of these variables (combined) in a new location exceeds the discounted present value of the net benefit of their counterpart variables (combined) in the current location will an individual or family unit move. In general, then, and other things being equal, one ought to observe migration *from* places with less relatively desirable values on these variables *to* places with relatively more desirable values.

The analysis presented below adopts much the same basic approach as that in Cebula and Alexander (2006), although it adds health care–related variables to the decision calculus. Specifically, it posits that migration decisions are a consequence of comparing the current location to alternate locations in terms of the following factors:

- cost of living,
- spending on public education,
- growth in employment,
- presence of hazardous waste sites,
- comfort level of the local climate,
- state taxation of income,
- percentage of the population with health care coverage through employers, and
- percentage of the population with health care coverage through Medicaid.

Following for the most part the system in Cebula and Alexander (2006), the model measures and analyses these data on the state level, as if individuals and families choose among alternate states when making migration decisions, rather than among alternate cities within different states. This procedure is dictated both by data availability and by the fundamental question under study here: will individuals migrate from other *states* to the *state* of Wisconsin in order to achieve a greater level of health care security? Accordingly, the most important relationship for purposes of the present analysis is that between domestic migration and the health care variables. Specifically, the model posits

that states with more readily available health insurance will, other things being equal, attract more domestic migrants than states with less readily available health care.

Data Analysis and Results

The relationships discussed in the previous section were explored through the use of OLS, i.e., ordinary least squares regression. (See Appendix 1 for a complete discussion of variables, methods, and results.) The dependent variable used for this empirical analysis was the net domestic migration rate for each of the 48 states in the continental United States, measured as the state's net domestic in-migration over the period from 2000 to 2006 divided by the state's total population in 2000 and then multiplied by 1000. Regressing the net domestic migration rate on the independent variables described above, along with a set of five geographic dummy variables, yields the results shown in Table 1. These results include the coefficient of determination (R^2), as well as the adjusted value of the coefficient of determination (adjusted R^2).

TABLE 1 DETERMINANTS OF NET DOMESTIC U.S. MIGRATION: 2000–2006

Variable	Coefficient	Standard Error	T-Ratio	Significance Level
Cost of living, 2000	-5.476	.721	-7.592	.000
State/local education spending, 2000	.006	.002	2.874	.007
Percentage growth rate in employment, 1996 to 2000	2.274	.867	2.624	.013
State percentage of hazardous waste sites, 2000	2.148	1.793	1.197	.240
State income tax per capita, 2000	-.014	.008	-1.731	.093
Average high temperature in January for state weather stations	.642	.326	1.970	.058
Percentage change in population with health insurance coverage through employer, 1996 to 2000	1.495	.537	2.782	.009
Percentage change in population with health insurance coverage through Medicaid, 1998 to 2000	.380	.180	2.109	.043
Dummy variable indicating top five state in employment growth	36.434	8.520	4.276	.000
Dummy variable indicating bottom five state in employment growth	-40.037	7.791	-5.139	.000
Dummy variable, West South Central state	-19.065	9.588	-1.988	.055
Dummy variable, New England state	59.827	12.302	4.863	.000
Dummy variable, Mountain state	62.622	9.836	6.637	.000
Dummy variable, Pacific state	87.239	14.857	5.872	.000
Dummy variable, South Atlantic state	30.700	8.211	3.739	.001

N = 48
R^2 = 0.91
Adjusted R^2 = 0.87

Table 1 indicates that, with a few exceptions, each of the model variables is significant at the five percent level or beyond, and each has the anticipated sign. (The most noteworthy exception, the hazardous waste variable, is discussed in Appendix 1 of this study.) Higher education spending, greater employment growth, warmer weather, and increased availability of health insurance are associated with greater net migration rates, while a higher cost of living, a higher state income tax, and slower employment growth are associated with lower net migration rates. Furthermore, the model fit is quite good, with an adjusted R^2 of 0.87. The model's prediction error for Wisconsin in

particular is also relatively small.[4] This means that the model is an accurate representation of the determinants of net domestic migration not just for the 48 continental United States as a whole, but also for Wisconsin in particular.

The two main variables of interest, the health insurance variables, strongly indicate a positive association between the availability of health insurance and state net in-migration rates.[5] "To illustrate, let us consider the predicted migration impact of an increase in employer-provided health insurance. Between 1996 and 2000, the percentage of the Wisconsin population with health care coverage through an employer increased by 2.79 percent, from 71.60 percent to 73.60 percent. Let us imagine, though, that the increase had been 5.00 percent instead of 2.79 percent. The model in Table 1 predicts that this difference of 2.21 percentage points would have resulted in an additional 17,700 individuals migrating to Wisconsin or remaining in the state when they otherwise would have left. This adds up to approximately 2,950 additional Wisconsinites per year over the course of six years."

The next question—the one at the heart of this analysis—is what the results in Table 1 indicate about the likely in-migration consequences of Healthy Wisconsin (or some other plan offering universal coverage). Because the analysis in Table 1 employs two separate health insurance variables, addressing both employer-provided and government-provided insurance, it is not ideal for extrapolating to a world of universal coverage. For purposes of such an extrapolation, we have re-estimated the model in Table 1, with two changes. First, the two health insurance variables have been combined into a single variable, representing the increase in the percentage of the population with health insurance coverage through *any* source in the 1997 to 2000 time period. Second, a dummy variable has been added to the model, and has been set equal to one for the state of Wisconsin and zero for all other states.[6] The OLS results for this revised migration model can be found in Table 2.

TABLE 2 REVISED MODEL, DETERMINANTS OF NET DOMESTIC U.S. MIGRATION: 2000–2006

Variable	Coefficient	Standard Error	T-Ratio	Significance Level
Cost of living, 2000	-5.269	.736	-7.160	.000
State/local education spending, 2000	.006	.002	2.866	.007
Percentage growth in employment, 1996 to 2000	1.537	.907	1.693	.100
State percentage of hazardous waste sites, 2000	2.292	1.841	1.245	.222
State income tax per capita, 2000	-.013	.008	-1.603	.119
Average high temperature in January for state weather stations	.921	.294	3.127	.004
Percentage change in population with health insurance coverage through any source, 1997 to 2000	2.589	.877	2.954	.006
Dummy variable indicating top five state in employment growth	45.247	10.360	4.368	.000
Dummy variable indicating bottom five state in employment growth	-41.904	7.705	-5.439	.000
Dummy variable, West South Central state	-24.559	9.440	-2.602	.014
Dummy variable, New England state	56.501	12.555	4.500	.000
Dummy variable, Mountain state	67.043	9.486	7.068	.000
Dummy variable, Pacific state	84.583	14.837	.570	.000
Dummy variable, South Atlantic state	30.590	8.280	3.694	.001
Dummy variable, state of Wisconsin	-12.358	19.631	-.630	.533

N = 48
R^2 = 0.91
Adjusted R^2 = 0.87

Re-estimating the model produces few noteworthy changes. Most of the non-geographic variables retain the same sign and similar effect sizes as in Table 1. The employment growth coefficient, however, shows a large increase in standard error, and a resulting decrease in statistical significance. By contrast, the January temperature coefficient increases in magnitude and has a decreased standard error, resulting in a high degree of statistical significance. The combined health insurance coverage variable is also positive and highly significant, with an effect size larger than the combined effects of the two separate health care variables in Table 1. Finally, the model fit remains very good.

Looking again at the primary variable of interest, health insurance coverage, the challenge is to translate the estimated effect of this variable into a prediction of the impact that universal health care coverage would have on migration into Wisconsin. In 2006, the last year included in the statistical model in Table 2, Wisconsin had a health insurance coverage rate of 91.2 percent.[7] For the sake of simplicity, let us imagine that Healthy Wisconsin becomes law during 2009, and that universal coverage is achieved by the end of that year. This means that Wisconsin's rate of health insurance coverage would have increased from 91.2 percent in 2006 to 100 percent in 2009, a rate of increase of 9.6 percent. Based on Table 2, the expected effect of this change would be to boost the state's net domestic migration rate by a little less than 2.5 percent over the course of the subsequent six years. Between 2009 and 2015, then, this would mean (very roughly) 142,000 more people in Wisconsin than one would otherwise expect.[8] These are people who would be drawn to the state by the prospect of more readily available health insurance, or who otherwise would have left Wisconsin but chose to remain because of health insurance considerations.

This projected boost in net in-migration assumes that the rest of the variables in Table 2—those having nothing to do with health insurance—would remain unchanged. One thing that clearly *would* change under Healthy Wisconsin, however, is the state's tax burden. In order to finance the program, its backers have proposed an increase in taxation on personal income in an amount estimated at $4.27 billion (in 2007 dollars).[9] This added tax burden would, according to the results in Table 1 and Table 2, suppress migration to Wisconsin, and/or encourage migration from Wisconsin. This, in turn, would seem to mitigate some of the estimated in-migration effect of offering universal health care coverage.

Proponents of Healthy Wisconsin, however, have dismissed the impact of the tax increase on Wisconsin families and businesses, arguing quite emphatically that, "THESE PAYMENTS REPLACE THE PAYMENTS FOR PRIVATE HEALTH INSURANCE NOW BEING PAID BY EMPLOYERS AND WISCONSIN RESIDENTS" (emphasis in original).[10] In other words, while taxes may go up, out-of-pocket health care costs will go down, leaving families in effectively the same financial shape as before the implementation of Healthy Wisconsin. An actuarial study of an earlier version of Healthy Wisconsin supported this basic proposition, arguing that the program "would have little effect on the overall amount of health spending paid by families."[11]

If this claim is correct, then the tax increase under Healthy Wisconsin would be effectively a wash, because it will be offset by family savings elsewhere. And if *that* is true, one can argue that the tax increase would not have a dampening effect on Wisconsin's net in-migration rate. In that case, the net in-migration of the 142,000 individuals estimated above needs to be accounted for in program costs. We estimate that these new migrants, once settled and enrolled in Healthy Wisconsin, would add about $550 million in program costs *per year* (in 2007 dollars).[12]

Discussion

Adherents of the Everett Dirksen school of public finance might not consider $550 million "real money," particularly in light of a state budget that is currently around $30 billion per year, and recognizing that at least some portion of the $550 million will be offset by payroll taxes. (This is discussed in more detail below.) A few additional considerations should, however, place the $550 million figure in an appropriate context.

First, the $550 million projection is based on just six years' worth of estimated migration into Wisconsin. There is no reason, however, to expect a cessation of health care migration in subsequent years. Every additional influx of 2,500 migrants would add yet another $10 million annually (again, in 2007 dollars) to the state's Healthy Wisconsin outlay.

Second, even if one assumed *no* growth in the number of health care migrants after a certain point, the cost to the state would almost certainly continue to grow sharply due to health services price inflation. In recent years, the cost of health care has increased faster than the cost of non–health related goods and services—sometimes, in fact, more than twice as fast.[13] In the span of just three years, therefore, with 7.5 percent medical inflation each year, a

$550 million expenditure would grow to roughly $680 million. The only check on such increases would be the rationing of health care services and technology, reduction in provider payments, and/or government mandates on health professional salaries. None of these would bode well for the quality of care.

Third, Governor Jim Doyle recently predicted a budget deficit of as much as $5.4 billion in the next state budget biennium. Barring an unexpectedly rapid and robust economic recovery, revenue dollars will be very scarce in Wisconsin over the next few years. The unbudgeted migration impact of Healthy Wisconsin could turn an already bad situation into a dire one.

Fourth, costs could be substantially higher than estimated if the group of migrants were, on average, relatively less healthy, and therefore more costly, on average, to accommodate in the health care system, than the existing Wisconsin population. Although we have raised this prospect above, and although there is some evidence that the newly insured are greater consumers of health care services than the long-time insured, that evidence is not uniform. Furthermore, there is little data available on the cost of adverse selection, to the extent that it occurs.

It has been estimated, however, that 5 percent of the insured population account for as much as 50 percent of all health care costs.[14] Clearly, it takes only a small number of individuals with relatively costly medical problems to lay waste to cost projections and budget constraints. Furthermore, we know that the greater the percentage of the newly insured who enter an insurance pool with chronic health conditions, and/or who have spent multiple years without insurance, the more expensive their care is likely to be.[15] We also know that roughly 45 percent of non-elderly, uninsured adults report at least one chronic health problem, and nearly 55 percent of the uninsured have spent at least the last 3 years without insurance.[16] Thus, while we cannot confidently state that adverse selection and related cost issues *will* be a problem, we can with confidence declare that this issue *should* be of great concern to policymakers.

Finally, we do need to acknowledge some factors that may mitigate the impact of health care migration. For example, to the extent the population of health care migrants will be gainfully employed in Wisconsin, they and their employers will help defray the costs of program participation through their payroll taxes. However, children covered under Healthy Wisconsin obviously will not be employed, and they currently represent about 20 percent of the uninsured population under age 65. Furthermore, about 20 percent of currently uninsured families have no connection to the workforce at all.[17] Though these families will be asked to pay a percentage of their income to help finance Healthy Wisconsin, that percentage will be less than the combined employer/employee share, and therefore will likely be insufficient to cover costs.[18] Even families that do have income from work—as most uninsured families do—would need annual family earnings of roughly $59,000 to generate payroll tax revenues large enough to offset the cost of Healthy Wisconsin for three people (two parents and a child, for example, or a single parent and two children).[19] Only about 15 percent of the currently uninsured can be expected to have annual earnings of this magnitude.[20]

The state will also have the option, however, of defraying costs by enrolling some new migrants in Medicaid or SCHIP (the State Children's Health Insurance Program). These programs are partially federally funded, and therefore can mitigate some of the financial cost to state government. But even if as many as 20 percent of the 142,000 estimated migrants were income-eligible for these programs and enrolled in them, the state would still be on the hook for $440 million per year for new Healthy Wisconsin enrollments, *plus* the state-funded portion of costs for those who enrolled in Medicaid or SCHIP.[21]

***

Because of what we have referred to as the "exploratory" nature of the empirical analysis presented above, it is important to address potentially unwarranted assumptions and alternate interpretations relative to our results. The less technical, more intuitively accessible issues are discussed beginning in the next paragraph. The more technical issues—those related to the nuts and bolts of the regression models presented above—are covered in Appendix 1. This Appendix discusses issues related to model specification, excluded variables, outliers and influential cases, multicollinearity, and other potential sources of model bias. While the discussion does produce some caveats to the foregoing analysis, it does not change its basic conclusions.

Turning now to potential objections to the analysis conducted above, one might argue the health insurance variables included in the regression models do not represent what they appear to represent. Consider, for example, the variable measuring the percentage change in employer-provided health insurance. As indicated above, states that have higher rates of growth in the percentage of people with employer-provided insurance coverage also have higher rates of domestic migration (other things being equal). It might be the case, however, that the employer-provided insurance variable is really a measure of job quality. Jobs that provide health care coverage may and typically do (U.S. Census

Bureau, 2008, Tables 633, 634) also provide other attractive benefits such as retirement plans, generous leave time allotments, telecommuting options, and so on. Perhaps, then, increases in overall job quality—rather than increases in the availability of health insurance through employers, per se—are *really* what is at work in Tables 1 and 2.

To test this proposition, we re-ran the model in Table 1 with state-level measures of job quality and change in job quality over time, along with measures of average earnings over several years, point-in-time earnings, and earnings growth over time (the latter variables as a proxy for job quality).[22] In no case did these variables diminish the estimated impact or statistical significance of the original employer health insurance variable. From these results, we conclude that the employer health variable has an independent impact on domestic migration, one that is not merely a proxy for job quality.

Another potential objection to the results in Table 1 involves the Medicaid variable. As with employer-provided insurance, one might argue that the Medicaid measure serves as a proxy for another variable—specifically, state spending on government programs overall. The argument here is that states with relatively expansive Medicaid programs are likely to have expansive policies in other areas, too. To the extent that people act on these kinds of considerations when making migration decisions—as we have argued they do—they might be responding to a state's broader spending commitments, including but not limited to Medicaid. Arguably, then, by failing to include that broader commitment of government resources in our model, we may have created a spurious correlation between the Medicaid variable and the domestic migration variable.

We would note, of course, that we *did* include a measure of education spending in our model. This can be construed as a measure of states' commitment to education in particular, but reasonably also as a measure of states' propensity to fund public policy programs generally. Beyond this, though, we can add a third measure to the model: per capita state funding for parks and recreation. This measure is desirable because:

(a) it can be considered somewhat of a discretionary/"luxury" category of spending, as opposed to more traditional spending areas such as education, health, and public safety; and

(b) it represents a substantively distinct measure from the education and Medicaid variables.

When we included the per capita parks and recreation spending variable in the model, however—both as a point-in-time variable for 2000, and as a percentage change variable from 1996 to 2000—we found that the variable exerted little impact on the model as a whole, and no impact on the size or statistical significance of the Medicaid coefficient. From this statistical test, at least, one can conclude that the Medicaid coverage variable is not merely serving as a proxy for some broader measure of state fiscal generosity.

One final objection to our analysis is that the regression results reported in Table 2 of this study—unlike the Cebula and Alexander (2006) model on which it is based—did not include corporate income taxes in the measure of taxes per capita. That is, only taxes on personal income were included in the present study. Financing for Healthy Wisconsin, however, depends in part on a multi-billion dollar payroll tax increase on employers. Theoretically, these added taxes would have a significant dampening effect on migration, providing additional, substantial mitigation of the migration-encouraging effects of universal health care.

The reader should note that this argument can be paraphrased as follows: "If Healthy Wisconsin passes, you won't get a bunch of people moving to Wisconsin for health care. Employers won't want to pay the tax, and workers won't want to live in a place where paychecks are low because employer costs are high." This is equivalent to saying that program spending will be held in check through the loss of businesses and human capital.

Beyond this, the actuaries hired to evaluate the cost of the program rejected the argument that the program's tax increases would have any meaningful impact on employer relocation or expansion decisions: "Although there would be some small reductions in employment for minimum wage workers, most of the pressure on employer compensation costs would be absorbed by the wage changes."[23] In other words, employers will respond to the increase in taxes not by downsizing, or relocating, or expanding to states other than Wisconsin, but simply by reducing wages. (As noted above, including measures of wages and wage growth in the regression model had no impact on estimated migration rates.)

Furthermore, what would appear to be a multi-billion dollar employer tax increase under Healthy Wisconsin really is not. This is because employer-provided insurance would effectively end under the program, relieving employers of the associated costs. Although they would have to pay increased payroll taxes under Healthy Wisconsin, the combined effect of reduced health care costs and increased payroll taxes would, according to actuaries, result in a cost savings for most employers.

It is true that firms that do not currently provide health insurance would see their costs rise. The net effect would be an added employer cost of about $389 million per year in 2007 dollars.[24] This amount, while highly consequential for the businesses involved, would not change the basic findings on the health care "magnet" effect that we described above. Furthermore, and as already noted, if program actuaries are correct, most firms would simply pass on these added costs in the form of reduced employee compensation or a reduced growth rate thereof over time.

III. The Alternative Empirical Evidence: the Health Care Incentive to Enlist in the Military

Introduction

The analysis in the preceding section demonstrated the potential hazards associated with Wisconsin's unilateral enactment of a system of universal health care. For readers who are still not persuaded, the current section provides further compelling evidence of the risks associated with such a policy.

In this section, we address a previously-ignored issue, namely, whether the unavailability of health insurance among the civilian population acts as an incentive for persons to enlist in the military. This analysis is motivated by the simple fact that, for enlistees and their immediate families/dependents, the armed services' health care program is a *de facto* equivalent to universal health care, an equivalent that exists nowhere else on a large scale. Thus, it is a near-perfect analog to the universal health care system that Wisconsin is considering under Healthy Wisconsin.

The empirical analysis includes a variety of control variables and takes the form of a panel data study for the years 2003 through 2006, the only years to date for which all of the variables in the model are both available and dependable. The results demonstrate that the greater the percentage of the civilian population without health insurance, the greater the rate of enlistment in the armed forces, other things being equal. If a decision as significant as committing oneself to military service is driven in part by the availability of health care, shouldn't we expect a relatively less momentous decision—the choice of one's home state—to be driven by health care considerations to an even greater extent?

In the interest of relevance, the study period runs from 2003 through 2006, thereby including considerations of the wars in Iraq and Afghanistan. To empirically test our hypothesis, a cost-benefit framework is considered, one in which the percent of the civilian population without health insurance, along with factors such as income, percent of the population with a "veteran" status, the fatality rate associated with military service, and college education are treated as arguments in the enlistment decision process. We use state-level data for all 50 states and conduct a panel data analysis for the 2003 through 2006 period.

Review of Recent Literature

Before providing the framework and results of our analysis, we review some of the recent published literature on health insurance coverage on the one hand, and on military enlistment on the other hand. Beginning first with the former literature, Swartz (2003, p. 283) makes the observation that, simply put, many of those who do not have health insurance ". . . simply cannot afford to purchase it. . . ." Continuing along this line, Swartz (2003, p. 283) states that most of those households that

> . . . do not have access to employer-sponsored coverage . . . must purchase . . . health insurance in the non-group [individual] market . . . where insurance is typically twice as expensive [to the household] as employer-group coverage. . . .

Therefore, the likelihood of purchasing health insurance is lower than otherwise: a simple application of the law of demand.

In another study, that by Dushi and Honig (2003), the focus involving health care insurance 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. Their data reveal that, overall, females in the labor force tend to have a lower "take-up" rate than males in terms of health insurance plans: 73 percent of the time for females, versus 88 percent of the time for males. Dushi and Honig (2003) argue that some significant por-

tion 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 a health insurance plan is available through the employer, nearly three-fourths of the time women *do* take advantage of the option. Moreover, unions increase health insurance availability.

Focusing upon a different perspective, namely, the propensity of the elderly to purchase health insurance, is the study by Newhouse (1994). Newhouse (1994) makes the observation that most of the U.S. population age 65 and older are covered by Medicare. Newhouse (1994) also stresses that as one's age progresses, so does the incidence of health problems. Given the limitations on Medicare coverage, Newhouse (1994, p. 7) observes that many elderly persons regard Medicare coverage as insufficient to meet their needs. Indeed, apparently because of the latter consideration, Newhouse (1994, p. 7) finds that ". . . over 80 percent of Medicare beneficiaries . . . had some form of supplemental health insurance, with a third having individually purchased insurance."

The study by Frick and Bopp (2005) is concerned with the fact that between 15 and 20 percent of the U.S. population do not have health insurance. Frick and Bopp (2005) observe that the classic utility-insurance model makes it patently clear that having a very low income can seriously restrict the ability to purchase health insurance. The Frick and Bopp (2005) study not only focuses on the effects of poverty on health insurance purchases, but also on other factors. Frick and Bopp (2005) deal with pooled cross-sectional/time series data, with the empirical estimation process revealing the following: the percent of the population *without* health insurance is an increasing function of 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.

Regarding the motivation to enlist in the military, four relevant studies warrant reference. To begin, Seeborg (1994) conducts a provocative study based on data derived from the National Longitudinal Survey of Youth, in which he concludes that the probability of enlistment is directly related to minority and poverty status, while controlling for ability and a number of other socioeconomic background variables. In addition, the Seeborg (1994) analysis of poverty transitions shows that a very large percentage of enlistees in the early 1980s who were living in poverty at age 17 had escaped poverty by 1990, i.e., that the military can serve as a mechanism for upward economic mobility for disadvantaged youth.

Segal, Bachman, and O'Malley (1999) study the differences in the propensity to enlist of various subgroups of potential enlistees into the U.S military. The analysis furthers the idea that black youth regard the military as a vehicle for upward social and economic mobility. Hence, black youth are more likely to enlist in the military compared to white youth. Furthermore the presence of a military parent, military grandparent or a military sibling within the family is found to increase the propensity of a potential enlistee to enlist. This is consistent with recent studies such as Kleykamp (2006), indicating that the institutional and cultural presence of the military within an area has a significant influence on the decisions made by youth.

Warner, Simon, and Payne (2003) conclude that civilian job opportunities are the key determinant for high school graduates when pondering the decision to enlist. Although post-high school educational opportunities and access play a role in such a decision, it was overall economic opportunity that was the most significant factor in an enlistment decision, especially among rural youth.

A relevant, recent study by Kleykamp (2006) highlights three areas of influence on military enlistment: individual educational goals; the institutional presence of the military in communities (as observed above); and race and socioeconomic status. The study was conducted in the state of Texas and based on individual survey data. The study analyzed the relative risk ratios associated with each choice made by a potential enlistee.

Framework of Analysis

The framework adopted in this section treats the decision to enlist in the U.S. military as the result of a cost-benefit analysis. In particular, the decision to enlist in the military, D^{enlist}, is predicated upon the *expected net benefits* of enlistment, ENB^{enlist}. The latter is treated as a positive function of the *expected gross benefits* of enlistment, EGB^{enlist}, and a negative function of the *expected gross costs* of enlistment, EGC^{enlist}, such that:

$$ENB^{enlist} = f(EGB^{enlist}, EGC^{enlist}),\ D^{enlist}_{EGBenlist} > 0,\ D^{enlist}_{EGCenlist} < 0 \qquad (1)$$

Naturally, as evidenced in the studies referenced in the literature review above, there are a number of variables

that typically are expected to exercise an influence over enlistment rates. To address these, we focus first on the EGB^{enlist}:

$$EGB^{enlist} = g(\text{economic benefits, family/cultural benefits}) \qquad (2)$$

The central hypothesis being empirically tested in this study is that the greater the percentage of the population without health insurance [UNINS], the greater the propensity to enlist [ENLIST] in the U.S. military, *ceteris paribus*. This hypothesis is based on the fact that those enlisted in the U.S. armed forces, along with their immediate families (spouse, children) receive free medical care provided through the military. Given the increased proportion of the U.S. population without health insurance or with inadequate insurance, free medical care provided by the armed forces should attract potential enlistees, i.e., increase the EGB^{enlist}. Alternatively stated, the higher the percentage of the population without insurance (UNINS), the greater the expected economic benefits associated with enlistment, *ceteris paribus*. This is because enlistment brings with it health care without health insurance premiums. Thus, the higher the percentage of the population without health insurance, the greater the EGB^{enlist} level.

In addition, the "family/cultural benefits" of enlistment are expected to be greater in an environment that has a higher presence of persons who are military veterans (Kleykamp, 2006; Segal, Bachman, and O'Malley, 1999). This is because enlistment is viewed as a socially approved and admired behavior and receives positive psychological reinforcement, encouragement, and approval in environments with a higher percentage of the population consisting of veterans (PVET). Thus, the family/cultural benefits from enlistment are an increasing function of PVET, *ceteris paribus*. Hence, (2) becomes:

$$EGB^{enlist} = g_{(UNINS,\ PVET)},\ g_{UNINS} > 0,\ g_{PVET} > 0 \qquad (3)$$

The level of EGC^{enlist} is expected to be a function of the opportunity costs of enlistment. These opportunity costs can be measured by income from non-enlistment sources (measured here broadly as per capita gross state product, PCGSP), or by improved employment options afforded by having earned a higher degree of formal education, e.g., having completed a bachelor's degree or higher (BACH). Accordingly, in principle paralleling Warner, Simon and Payne (2003) and Seeborg (2003), based on opportunity-cost reasoning, it is hypothesized that EGC^{enlist} is an increasing function of PCGSP or BACH, *ceteris paribus*. Furthermore, it is also assumed that risk-averse behavior would treat a greater degree of risk in the form of per capita fatalities in Operation Iraqi Freedom, PCFATAL, as elevating EGC^{enlist}, *ceteris paribus*. Hence, the EGC^{enlist} is expressed:

$$EGC^{enlist} = h\ (\text{PCGSP or BACH, PCFATAL}),$$
$$h_{PCGSP} > 0 \text{ or } h_{BACHELOR} > 0,\ h_{PCFATAL} > 0 \qquad (4)$$

Substituting from (3) and (4) into (1) yields the following:

$$ENB^{enlist} = f\ (\text{UNINS, PVET, PCGSP or BACH, PCFATAL}),$$
$$f_{UNINS} > 0,\ f_{PVET} > 0,\ f_{PCGSP} < 0 \text{ or } f_{BACH} < 0,\ f_{PCFATAL} < 0 \qquad (5)$$

Empirical Analysis: Preliminary Evidence

Based on the model in (5) above, the following equation will be estimated using panel data for the period 2003 through 2006, with j referring to the observation for the j^{th} state:

$$ENLIST_j = a_0 + a_1\ UNINS_j + a_2\ PVET_j + a_3\ PCGSP_j$$
$$\text{or} + a_3\ BACH_j + a_4\ PCFATAL_j + u \qquad (6)$$

Each of the variables in the equation is formally defined in Table 3, which also includes the data source for each variable. The term a_0 is the constant term, and u is the stochastic error term. The model uses state-level data; included in the analysis were all 50 states, with Washington, D.C. being excluded as an outlier, as found in so many other studies (Cebula and Alexander, 2006).

TABLE 3 DEFINITIONS AND SOURCES OF DATA FOR EACH VARIABLE

Variable	Definition (Source)
ENLIST	Number of army enlistees in each state per 1,000 of the 18-24 year old population in each state (National Priorities Project Database, Recruiting data: http://nationalpriorities.org/)
UNINS	Percentage of state population without any form of health Insurance (U.S. Census Bureau, 2003; 2004; 2005; 2006; 2007)
PVET	Percentage of state population classified as veterans (U.S. Census Bureau, 2003; 2004; 2005; 2006; 2007)
PCGSP	Per capita gross state product (U.S. Census Bureau, 2003; 2004; 2005; 2006; 2007)
BACH	Percentage of state population with a bachelor's degree or higher (U.S. Census Bureau, 2003; 2004; 2005; 2006; 2007)
PCFATAL	Per capita fatalities in Operation Iraqi Freedom, total yearly fatalities from the state/total state population (Iraq Coalition Casualties Count Database, Fatalities Data: http://icasualties.org/oif/)

[All variables are collected at the state level for each year through the time period 2003 to 2006]

Table 4 provides the results of two empirical estimates reflecting the two variations on the basic model, both of which are Panel Least Squares (PLS) estimates with White (1980) heteroskedasticity-corrected standard errors. Terms shown in Table 4 in parentheses beneath coefficients are t-statistics.

TABLE 4 PLS ESTIMATIONS, DEPENDENT VARIABLE ENLIST 2003-2006

Variable/Estimate	(a)	(b)
Constant	-0.069 (-0.71)	+0.27 (+0.63)
UNINS	+0.04 (+15.99)	+0.036 (+10.24)
PVET	+18.23 (+20.41)	+17.17 (+11.23)
PCGSP	-0.0000127 (-7.16)	-------
BACH	-------	-0.0215 (-2.17)
PCFATAL	-4.2 (-2.28)	-12.23 (-8.43)
R^2	0.49	0.50
Adjusted R^2	0.47	0.49
F	45.83	48.08

In Table 4, six out of eight of the estimated coefficients on the explanatory variables exhibit the expected signs and are statistically significant at the *one* percent level, with the remaining two variable coefficients being statistically significant at beyond the *five* percent level with the expected signs. The coefficients of determination (R^2 values) range from 0.49 to 0.50, with the model thusly explaining roughly half of the enlistment rate. Furthermore, the F-statistics are both statistically significant at far beyond the one percent level, attesting further to the overall strength of the model.

It appears, based on the findings shown in Table 4, that the enlistment rate is an increasing function of the military environmental factors as proxied by variable PVET, whereas it is a decreasing function of opportunity costs as measured by either PCGSP *or* as measured by having completed a bachelor's degree. Furthermore, the enlistment rate is clearly and consistently also a decreasing function of the fatality risk factor, PCFATAL, presumably a reflection of rational risk-aversion behavior. The greater the likelihood of a fatality as a consequence of having enlisted, the less the incentive to enlist.

Finally, and from the viewpoint of this study most importantly, it is observed that the coefficient on the UNINS variable is positive and highly statistically significant in both estimates. This provides strong empirical support for the hypothesis that the enlistment rate is an increasing function of the percent of the population *without* health insurance. In particular, the higher the percentage of the population *without* health insurance (UNINS), the greater the expected economic benefits associated with enlistment, *ceteris paribus*. This is because enlistment brings with it health care without health insurance premiums.

Although these results are (to be conservative) preliminary, it appears quite plausible that enlistment rates are positively impacted by this "fringe benefit"—that is, health care—of service in the U.S. armed forces. Significantly, this fringe benefit of military "employment" is a nearly exact analog to universal health care in Wisconsin, as would be seen with the implementation of Healthy Wisconsin. If the availability of health care can influence a decision as consequential as military enlistment, it is reasonable to infer that the enactment of universal health insurance under Healthy Wisconsin would result in increased migration from other states. We would expect this particularly from those states with the *lowest* percentages of health insurance coverage, and from those states that are geographically *closest* to Wisconsin (the latter because closer proximity reduces the costs, both pecuniary and nonpecuniary, of moving). The end result would be a surge in the number of persons on the health care rolls in Wisconsin, a surge in the actual costs of implementing and maintaining Healthy Wisconsin, and higher Wisconsin taxes to help offset the rising costs. All of this could put a strain on the medical infrastructure of the state and, ironically, lead to a deterioration of the quality and availability of medical care in Wisconsin.

Table 5 provides means and standard deviations for the variables in Table 4, enabling one to further interpret the findings in more specific terms. Qualitatively speaking, the empirical findings in this section of the study clearly constitute a substantive reason for Wisconsin lawmakers and the citizens of Wisconsin to be extremely concerned about enactment of the Healthy Wisconsin legislation. The result could be an economically, if not also physically, unhealthy long-term outcome.

TABLE 5 MEANS AND STANDARD DEVIATIONS OF VARIABLES IN SYSTEM

Variable	Means	Standard Deviation
ENLIST	1.6146	0.431
UNINS	14.3945	3.4646
PVET	0.085	0.012
PCGSP	36,704.00	7,357.00
BACH	26.604	4.8305
PCFATAL	0.004366	0.003465

IV. Conclusion

There is compelling evidence that passage of Healthy Wisconsin, well intended though it may be, will realistically convert the state of Wisconsin into a health care "magnet." The present study uses two very different empirical analyses to demonstrate the real-world significance of this magnet effect. The first analysis employed state-to-state migration model estimations to demonstrate the power that this health care magnet could exercise in attracting persons with unmet health care coverage needs from other states, while discouraging Wisconsinites with health care coverage needs from leaving the state. The second analysis demonstrated that the premium-free health care benefit availed to all military members and their dependents acts as a very statistically significant factor in inducing persons to enlist. Indeed, this effect is so strong as to elicit both geographic migration *and* occupational change. As we have noted in the text, it is only a small logical step from here to the conclusion that adoption of Healthy Wisconsin will likewise produce a significant migration effect.

One question we have not addressed to this point is the most likely geographic sources of the expected migration. Table 6 indicates the states with the highest percentage of their populations without health care insurance, and therefore the greatest potential incentive for individuals and families to seek health care elsewhere, other things being equal. The table also lists states adjacent to Wisconsin that are likely, because of their close proximity, to be a prime source of health care migration to Wisconsin. Given the high degree of geographic mobility of Americans, none of the states listed should be considered "too far" to present a problem. Moreover, the state of Illinois, which was so relevant to the welfare magnet controversy 25 years ago, seems poised to be embroiled in a migration controversy all over again.

Table 6 States Likely to Serve as a Source of Health Care Migration to Wisconsin

States with highest percentage of population insured	Percent uninsured (2006-07 average)
Texas	24.8
New Mexico	22.7
Florida	20.7
Louisiana	20.2
Mississippi	19.8
Arizona	19.6
California	18.5
Nevada	18.4
Oklahoma	18.4
States closest to Wisconsin	**Percent uninsured (2006-07 average)**
Illinois	13.7
Michigan	11.0
Iowa	9.9
Minnesota	8.8

Note: Wisconsin's average is 8.5 percent uninsured.

The conclusions presented above are based not only on the robust empirical findings derived in this study, but also on a significant literature in economics and public policy that repeatedly supports the Tiebout (1956) hypothesis. Rational consumer-voters do, indeed, "vote with their feet" (Banzhaf and Walsh, 2008; Alexander and Cebula, 2006; Sieg, Smith, Banhaf, and Walsh, 2004; Vigdor, 2002; Tullock, 1971).

Thus, there is ample reason to believe that Healthy Wisconsin will produce a large migration effect, and will impose a serious burden on the citizens of the state of Wisconsin. More specifically, in the context of an already challenging, difficult fiscal climate, unbudgeted program costs due to migration could result in further tax increases, cuts in other programs, and/or cost control measures that inevitably will significantly affect the quality of Wisconsin's health care.

Before closing, we simply allude to one more cost associated with the Healthy Wisconsin proposal. It was observed earlier in this study that a new government bureaucracy would be created under the proposal. Can anyone really know the costs or growth in costs associated with such a bureaucratic system? Clearly, no one has a crystal ball to answer this question. But, aside from the obvious initial costs of implementing this aspect of the Healthy Wisconsin proposal, and aside from the inevitable "natural" growth in the size of this bureaucracy as the age of Wisconsin residents increases over time (requiring more oversight and direction), it should be noted that at least two additional thrusts in growth of the costs from this new bureaucracy need to be considered (although such would be outside the scope of the present study). These are, as follows: (1) the growth in salaries, expenses, and infrastructure (buildings, vehicles, and so forth), as well as personnel, associated with establishing and maintaining the bureaucracy; and (2) the political influence of this bureaucracy to "feather its own nest" on the one hand and to insulate itself from extinction on the other. In other words, this dimension of the Healthy Wisconsin proposal could impose profound pecuniary costs on the residents of Wisconsin, perhaps in ways that cannot be easily foreseen but perhaps in ways that will cost Wisconsinites dearly.

Knowing all of the above, we close this study with two facts, and a question for policymakers in Madison. First, only small minorities of the Wisconsin public support the principles embodied in the Healthy Wisconsin proposal.[25] Second, more than 90 percent of the state's total population already has health care coverage. Given these facts, why would the state legislature support the radical, risky departure from the status quo represented by the Healthy Wisconsin proposal?

Appendix 1. Details of the Regression Analysis

Table 1 from the text is replicated below so that it may serve as the basis for the discussion in this appendix.

Table 1 Determinants of net domestic U.S. migration: 2000–2006

Variable	Coefficient	Standard Error	T-Ratio	Significance Level
Cost of living, 2000	-5.476	.721	-7.592	.000
State/local education spending, 2000	.006	.002	2.874	.007
Percentage growth rate in employment, 1996 to 2000	2.274	.867	2.624	.013
State percentage of hazardous waste sites, 2000	2.148	1.793	1.197	.240
State income tax per capita, 2000	-.014	.008	-1.731	.093
Average high temperature in January for state weather stations	.642	.326	1.970	.058
Percentage change in population with health insurance coverage through employer, 1996 to 2000	1.495	.537	2.782	.009
Percentage change in population with health insurance coverage through Medicaid, 1998 to 2000	.380	.180	2.109	.043
Dummy variable indicating top five state in employment growth	36.434	8.520	4.276	.000
Dummy variable indicating bottom five state in employment growth	-40.037	7.791	-5.139	.000
Dummy variable, West South Central state	-19.065	9.588	-1.988	.055
Dummy variable, New England state	59.827	12.302	4.863	.000
Dummy variable, Mountain state	62.622	9.836	6.637	.000
Dummy variable, Pacific state	87.239	14.857	5.872	.000
Dummy variable, South Atlantic state	30.700	8.211	3.739	.001

N = 48
R^2 = 0.91
Adjusted R^2 = 0.87

The Dependent Variable

The dependent variable in the empirical migration analysis was defined as each state's net domestic migration in the period from 2000 to 2006 divided by its population in 2000, and then multiplied by 1000. The source for the migration data was U.S. Census Bureau, "Table 4: Cumulative Estimates of the Components of Population Change for the United States, Regions and States: April 1, 2000 to July 1, 2006 (NST-EST2006-04)." The source for the 2000 population data was U.S. Census Bureau, *Statistical Abstract of the United States: 2001*, Table No. 18, p. 21.

Independent Variables

Data sources and additional comments/explanations related to the independent variables in Table 1 are as follows:

The source for the state cost of living index was the Research and Information Services Department, American Federation of Teachers/AFL-CIO, *Survey and Analysis of Teacher Salary Trends: 2001*, Table I-7, p. 19.

The source for the state and local education spending variable was U.S. Census Bureau, *Statistical Abstract of the United States: 2001*, Table No. 242, p. 153.

The percentage growth in employment variable was calculated as the percentage growth in the following ratio between the years 1996 and 2000:

(number of employed adults in State X/population in State X)

The source for the number of employed adults was U.S. Census Bureau; *Statistical Abstract of the United States*; various years; table entitled, "Characteristics of the Civilian Labor Force, by State." The source for the 1996 population data was U.S. Census Bureau, "Time Series of Intercensal State Population Estimates: April 1, 1990 to April 1, 2000," retrieved online at: http://tinyurl.com/5vcru9.

The source for the average employment rate variable was the same as the source for the percentage growth in employment variable.

The source for the state percentage of hazardous waste sites variable was U.S. Census Bureau, *Statistical Abstract of the United States: 2001*, Table No. 365, p. 220.

The source for the measure of individual income taxes per capita was U.S. Census Bureau, *Statistical Abstract of the United States: 2003*, Table No. 455, p. 299. The source for the 2000 population data (used to translate taxation figures to a per capita basis) was the same as the source used in calculating the dependent variable.

The source for the average high temperature in January variable was U.S. Census Bureau, *Statistical Abstract of the United States: 2005*, Table No. 377, p. 230. The measure for each state was calculated as a straight average of the temperatures reported for all of the listed weather stations in that state.

The source for the percentage change in the population with employer health insurance was U.S. Census Bureau, "Table HI4: Health Insurance Coverage Status and Type of Coverage by State—All Persons: 1987 to 2005," retrieved online at: http://www.census. gov/hhes/www/hlthins/historic/hlthin05/hihistt4.html. The variable was calculated as a percentage change in percentages. For example, if 50 percent of a state's population was covered by employer insurance in 1996, and 45 percent of the state's population was covered by employer insurance in 2000, this was recorded as a 10 percent decrease in coverage.

The source for the variable measuring the percentage change in the population covered through Medicaid was the same as the source for the employer health insurance variable. The Medicaid variable was also calculated in the same way.

(The optimum measurement periods for the two health insurance variables [1996–2000 for employer health insurance; 1998–2000 for Medicaid] were determined through trial and error in the regression model.)

The "top five" and "bottom five" employment growth dummy variables were constructed by identifying the five states with the highest and lowest rates of employment growth, respectively, in the 1996 to 2000 period. The source for this information was the same as the source for the employment growth variable described above.

Finally, the geographic dummy variables were defined as indicated below:

- West South Central: Arkansas, Louisiana, Oklahoma, Texas
- New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
- Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
- Pacific: Alaska, California, Hawaii, Oregon, Washington
- South Atlantic: Delaware, Florida, Maryland, North Carolina, South Carolina, Virginia, West Virginia

The decision to use geographic dummy variables was based on an examination of the residuals from preliminary regression models. The distribution of studentized residuals in these models was in some cases multi-modal, and in some cases non-normally distributed, suggesting the possibility of excluded qualitative variables. The decision on which dummy variables to include was a product of extended trial-and-error, which focused on both model fit and the desirability of the resulting error distribution. Removing the geographic dummy variables from the model reduces model fit but does not materially affect the magnitude or significance of either of the health insurance variables.

Excluded Variables

The Cebula and Alexander (2006) model referred to in the text included variable measures for toxic waste and household income. The final models estimated in this paper did not. When included in preliminary models, these variables were not statistically significant, did not improve model fit, and did not have a noteworthy impact on the values or significance levels of the other included variables. In short, including these variables would have served no purpose other than to unnecessarily introduce multicollinearity and reduce the available degrees of freedom. Accordingly, the toxic waste and household income variables were excluded from the final regressions.

Linearity in Relationships

Examination of the partial residual plots from the regression presented in Table 1 indicated that relationships between the independent variables and the dependent variable were linear, or were nearly so. Accordingly, no variable transformations were necessary.

Hazardous Waste Variable

As indicated in Table 1, not only was the coefficient on the hazardous waste variable non-significant, it also had the opposite sign (positive) from the one expected. This was most likely the result of multicollinearity between the hazardous waste variable and other model variables. Regressing the hazardous waste variable on the other model regressors shows a statistically strong relationship between hazardous waste sites and cost of living, education spending, and four of the five geographic dummy variables (all but the West South Central variable). As an illustration of the impact of these relationships, if one removes the cost of living variable from the equation used to produce Table 1 and then re-estimates the equation, the hazardous waste coefficient becomes negative and statistically significant. (The cost of living variable has the strongest inter-correlations, by far, of any of the regressors in the model. Regressing cost of living on the other independent variables produces an adjusted R-squared of .75.) The sign on the hazardous waste coefficient is also reversed when one removes any of the four geographic dummy variables referenced above. Removing the education spending variable, however, leaves the hazardous waste coefficient positive and statistically significant. Finally, the net effect of removing all of these variables at once is to leave the hazardous waste coefficient large, negative, and highly statistically significant.

The most reasonable conclusion from this aspect of the empirical analysis is that the hazardous waste variable is negatively related to internal migration. The failure of the variable to carry the expected sign in Table 1 was most likely a product of multicollinearity.

Outliers and Influential Cases

In a small sample such as the one used to produce Table 1, one should attempt to determine the extent to which individual observations may exert undue influence on the model results. Assorted measures bearing on this issue are discussed below.

All but one of the standardized residuals from the Table 1 model had an absolute value of two or less, a result consistent with generally “well behaved” data and minimal influence from outlying observations. The one outlying case, New York, will be examined in more detail below. The studentized residuals also appeared to be consistent with minimal outlier influence; only two observations had an absolute value greater than two. These two cases were Nevada and New York. A handful of other cases, though, also had studentized residuals large enough to suggest a possible need for further examination. They were as follows: Arizona, Colorado, Delaware, Kansas, Louisiana, and Wyoming.

The maximum Cook’s distance value in the model was .532, which again suggests the lack of any particularly influential individual cases. We may, however, want to explore further the top five percent of cases, measured according to their Cook’s distance values: Arizona, Nevada, and New York.

The average leverage value among the cases in the regression was .313. One case in the dataset, Oregon, had a leverage value greater than twice this amount, and so may merit further examination.

Only two of the standardized DFBetas for the health insurance variables had an absolute value greater than one. These were associated with the cases of Arizona and Nevada. A handful of other cases, however, had DFBetas large enough to indicate a potential need for further examination: Arkansas, Kansas, Louisiana, Massachusetts, North Carolina, Virginia, and Wyoming.

Finally, the standardized DFFits for the following cases were large enough that they, too, may require additional examination: Arizona, Colorado, Louisiana, New York, Nevada, and Wyoming.

Based on the foregoing measures and results, it appears that the most potentially problematic cases in terms of outsized influence are Arizona, Colorado, Kansas, Louisiana, New York, Nevada, and Wyoming. If we remove these cases from the regression one at a time, and in various combinations, we find that the employer insurance coefficient and standard error are generally stable, whereas the Medicaid coefficient can be rendered larger and more highly significant, or can be reduced to near-zero and rendered statistically insignificant (depending on which cases are omitted and which are included).

Unfortunately, one can draw only limited inferences from these results. The reason lies in the nature of the dependent variable, which measures in-migration *to* an individual state *from all other states*, and out-migration *from* that state *to all other states*. Dropping a single case from the analysis, therefore, has an impact on the dependent variables in a number of other cases. Unfortunately, it is not possible to measure that impact.

Consider the case of Louisiana. In the 2000-2006 time period, Louisiana had the lowest value on the net migration variable used in this analysis. This was primarily attributable to Hurricane Katrina, which increased Louisiana's net out-migration by 1900 percent in the span of a single year. Because of the extraordinary nature of this event, one might be justified in wanting to remove Louisiana from the dataset. (We did so, in fact, in some of the specifications designed to test for the influence of outlying cases.) Unfortunately, to properly take Louisiana out of the equation, literally and figuratively, one must also attempt to determine the final destinations of those who left Louisiana for other states in the 2000-2006 period and remove them from the other states' net migration figures. Furthermore, one must assign to some other state the individuals who migrated to Louisiana during the 2000-2006 period.

Even if the data were available to attempt these two pieces of analysis—which they are not—the computational costs would be significant.

We are left, then, without the ability to determine the extent to which the Medicaid results in Table 1 are the product of particularly influential observations. If removing assorted variables from the regression equation had resulted in highly stable Medicaid coefficients and standard errors, we could have some confidence in the robustness of the Medicaid results. Because this was not the case, however, we must draw confidence from: a) the absence of serious "red flags" in the standard diagnostics discussed above; and b) the robustness of the employer health insurance results.

Multicollinearity

None of the standard multicollinearity diagnostics suggested any glaring problems with inter-correlations among the insurance variables and the other model variables. As an added check, however, the model in **Table 2** was re-estimated 13 times, excluding one of the non-insurance variables in each estimation. This provided evidence on the stability of the insurance variable coefficients and standard errors under alternate model specifications.

In eight of the 13 specifications, the Medicaid variable remained positive and statistically significant at the .05 level or beyond. If we extend the acceptable significance level to .06, the Medicaid variable was positive and significant in nine of the specifications.

The variables that, when removed from the equation, most significantly reduced the magnitude of the Medicaid coefficient, increased its standard error, or both, were as follows: cost of living, education spending, employment growth, and the Pacific state dummy variable. When these four variables were included as regressors in an equation with the Medicaid variable as the dependent variable, three of the four showed statistically significant relationships, each in the expected direction. For example, the cost of living variable showed a strong, positive relationship with the Medicaid variable. One implication of this is that when the cost of living variable is dropped from the full equation to test for multicollinearity issues, the standard error on the Medicaid variable increases. Furthermore, because

the cost of living variable and the Medicaid variable are related to net migration in opposite ways, omitting the former from the equation results in a smaller coefficient on the latter. The combined effect is to render the Medicaid coefficient statistically insignificant.

A similar effect was observed, albeit to a smaller degree, with both the education spending variable and the Pacific state dummy variable. The employment growth variable, however, did not follow this basic pattern. Dropping that variable from the equation diminished the size of the Medicaid coefficient and increased its standard error, though the employment variable appears to be only weakly related to the Medicaid variable.

Turning to the employer-provided insurance variable, its coefficient was positive and statistically significant at the .05 level in 9 of the 13 specifications. Again, if one extends the statistical significance cut-off to .06, the number rises to 10. In three cases, dropping variables from the equation reduced the magnitude of the employer insurance coefficient, increased its standard error, or both, to the extent that it no longer achieved conventional levels of statistical significance. The relevant variables were: cost of living, the mountain state dummy variable, and the Pacific state dummy variable. When these variables were excluded from the equation, however, in no case was the significance level on the employer insurance coefficient larger than .112. Furthermore, in each case the magnitude of the coefficient was reduced by a relatively small amount, whereas the standard error was increased by a considerably larger amount. This result is consistent with relatively low, but still mildly consequential, levels of multicollinearity between the employer insurance variable and the three specific predictor variables mentioned above.

What can we conclude based on the foregoing discussion? Though neither of the health insurance variables had coefficients or standard errors that were as stable as one would like, there is no reason to doubt that the employer insurance variable, at least, is related to the migration variable in a positive, substantively, and statistically meaningful way.

The Medicaid variable is more of a question mark, for a few reasons. First, the exercise of excluding certain variables from the regression equation had a much more noticeable impact on the Medicaid variable than on the employer insurance variable. Second, although that impact can be explained in part as a result of multicollinearity between the Medicaid variable and some of the excluded variables, there is no way to determine whether that multicollinearity was strong enough on its own to render the Medicaid variable statistically insignificant. Third, multicollinearity was clearly *not* the problem when the Medicaid variable was reduced to statistical insignificance by dropping the employment growth variable. That variable was only weakly related to the Medicaid variable.

Thus, while there is more evidence *for* a Medicaid/migration relationship than *against* one, that relationship cannot be taken as settled on the basis of the analysis in this paper. That relationship will need to be confirmed—or refuted—in future studies that adopt formal empirical tools of analysis.

Appendix 2. Discussion of Employee Payroll Tax Effects on Migration

Based on arguments made by the proponents of Healthy Wisconsin, the text did not treat the program's projected tax increase as a potential inhibitor to individual and family migration to the state. The logic was that the increase in taxes would be offset by a decrease in out-of-pocket health care expenditures. For discussion purposes, however, this Appendix presents data on the migration impact of the tax increase as if it *were not* offset by a decrease in other health care spending.

The latest year for which dependable Census data on state income tax receipts are available is 2005. If we apply the state *income tax per capita* figure for Wisconsin from that year (approximately $980 per person) to a 2009 population projection of 5,713,955, we can come up with a rough projection of individual income tax payments in Wisconsin in 2009: $5.60 billion. As noted above, under Healthy Wisconsin one would expect the state to collect an *additional* $4.27 billion (very roughly, and not adjusting for inflation) in income tax revenue from individuals. Adding this to the $5.60 billion already estimated produces a total of $9.87 billion. Dividing that amount by our 2009 population projection gives an *updated per capita income tax figure* for Wisconsin of approximately *$1,700*.

According to the results in text Table 2, this near doubling of the state's per capita income tax from 2005 would be expected to reduce net in-migration after 2009 by a little less than one percent. More precisely, because of the tax increase, by 2015 there would be about 53,000 fewer people in Wisconsin than one would otherwise expect. This would partially offset the expected population increase of 142,000 presented in the text. If one includes this tax impact in the analysis, the net expected population change resulting from in-migration to Wisconsin due to the Healthy Wisconsin program would be about 89,000. At an annual cost of $3,834 per person, this population would ultimately add about $340 million to program costs per year, in 2007 dollars. As program costs rose—as they are expected to do at about the rate of medical inflation—so too would the $340 million figure.

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NOTES

1. Norman Atkins, "Governor Get-a-Job; Tommy Thompson," *New York Times Magazine*, January 15, 1995, accessed online at: http://tinyurl.com/3gzu6x on September 26, 2008.

2. The source for the cited portions of Prof. Esenberg's article in this section is Rick Esenberg, "Making Wisconsin the Health Care Migration Capital," Wisconsin Policy Research Institute, *Wisconsin Interest*, Winter 2008, pp. 1, 2.

3. Cebula and Alexander (2006) updates earlier studies supportive of the Tiebout (1956) hypothesis.

4. The studentized residual for Wisconsin is -.56. The studentized residual distribution as a whole has a mean of .01, a standard deviation of 1.04, a minimum of -1.76, and a maximum of 2.71.

5. The results for the Medicaid variable, however, are less stable and robust than one would like. See our discussion in Appendix 1.

6. The inclusion of this dummy variable ensures that the model's predicted net domestic migration rate for Wisconsin in the 2000 to 2006 time period is equal to the state's actual net domestic migration rate during this period.

7. U.S. Census Bureau, Historical Health Insurance Tables, Table HIA-4. Health Insurance Coverage Status and Type of Coverage by State, All People: 1999 to 2006, available online at: http://www.census.gov/hhes/www/hlthins/historic/hihistt4.html.

8. This is based on a 2009 Wisconsin population estimate of 5,713,955, which was interpolated from Wisconsin Department of Administration, Division of Intergovernmental Relations, Demographic Services Center, *Wisconsin Population 2030*, March 2004, Table 1, p. 3. The model says nothing, however, about the rate at which the newcomers would arrive. They could, in theory, all arrive in year one, be "backloaded" to year six, arrive in equal numbers every year for six years, or any combination in between.

9. The Lewin Group, *The Wisconsin Health Plan (WHP): Estimated Cost and Coverage Impacts*, June 4, 2007, p. ii. See also The Lewin Group and AARP Wisconsin, "Healthy Wisconsin (HW): Your Choice, Your Plan - Cost and Coverage Impacts," June 17, 2007, p. 12, available online at: http://advwisc.3cdn.net/fcb8fe57b75f99d4b8_ium6b9egg.pdf.

10. Institute for One Wisconsin, "Healthy Wisconsin: Your Choice, Your Plan - Summary of Health Care Plan," undated, p. 2, available online at: http://www.onewisconsinnow.org/page/-/pdf/healthy_wis__summary.pdf.

11. Lewin Group, *Wisconsin Health Plan*, p. 74.

12. This figure was calculated as follows. First, an annual per-person cost of $3,834 was calculated on the basis of Lewin Group figures presented in Lewin Group and AARP Wisconsin, "Healthy Wisconsin," pp. 9, 12. These pages present data on projected total spending and total population coverage under Healthy Wisconsin. Dividing the former figure by the latter produces an estimate of spending per person. The $3834 figure was then multiplied by the projected number of migrants, 142,000, to produce an annual total of $544,428,000.

13. Pricewaterhouse Coopers' Health Research Institute, Behind the Numbers: Medical Cost Trends for 2009, June 2008, available online at: http://pwchealth.com/cgi-local/hregister.cgi?link=reg/numbers2009.pdf.

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15. The University of Minnesota State Health Access Data Assistance Center, Pent-Up Demand for Health Care Services Among the Newly Insured, August 2005, p. 11, available online at http://www.ahcccs.state.az.us/Grants/SHADAC/SHADAC_FINAL_REPORT.pdf.

16. The Henry J. Kaiser Family Foundation, The Uninsured: A Primer, October 2008, Figure 6, p. 6, and Amy J. Davidoff and Genevieve M. Kenney, *Uninsured Americans with Chronic Health Conditions*, The Urban Institute, May 2, 2005, p. 4.

17. The figures in this and the preceding sentence are drawn from Kaiser Foundation, *The Uninsured*, Figure 4, p. 4.

18. Lewin Group and AARP Wisconsin, "Healthy Wisconsin," p. 6 puts this group's share at 10 percent of Social Security wages.

19. The cost for Healthy Wisconsin for a family of three was estimated at three times the $3,834 annual cost identified in note 12 above, or $11,502. The projected per-family, out-of-pocket maximum payment under Healthy Wisconsin, or $3,000, was deducted from the $11,502 to produce a figure of $8,502. Finally, the $59,000 figure was calculated by determining the earnings level at which a 14.5 percent payroll tax—the maximum currently envisioned for Healthy Wisconsin—would offset the remaining $8,502 in costs.

20. This figure was interpolated from Kaiser Foundation, *The Uninsured*, Figure 4, p. 4.

21. The Lewin Group study estimates that about nine percent of Wisconsinites are currently enrolled in Medicaid or SCHIP, and that about 14 percent would be under Healthy Wisconsin.

22. State job quality measures were derived from Tom R. Rex, *Job Quality in Arizona Compared to All States*, W.P. Carey School of Business, Arizona State University, June 2005.

23. Lewin Group, *Wisconsin Health Plan*, p. 85.

24. The Lewin Group and AARP Wisconsin, "Healthy Wisconsin," p. 16.

25. Wisconsin Policy Research Institute, The Wisconsin Citizen Survey, p. 13.

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