Research Report

Job Lock and Employer-Provided Health Insurance: Evidence from the Literature

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Acknowledgments

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About the Future of Work@50+

This report is part of the Future of Work@50+ Initiative. This is a multiyear initiative that examines the challenges and opportunities facing older workers. For other reports and information, visit: http://www.aarp.org/futureofwork.

AARP's Public Policy Institute informs and stimulates public debate on the issues we face as we age. Through research, analysis, and dialogue with the nation's leading experts, PPI promotes development of sound, creative policies to address our common need for economic security, health care, and quality of life.

The views expressed herein are for information, debate, and discussion, and do not necessarily represent official policies of AARP.

List of Acronyms

ACA   Affordable Care Act

CBO   Congressional Budget Office

COBRA   Consolidated Omnibus Reconciliation Act of 1985

EPHI   Employer-provided health insurance

GDP   Gross domestic product

HIPAA   Health Insurance Portability and Accountability Act

PSID   Panel Study of Income Dynamics

SIPP   Survey of Income and Program Participation

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Executive Summary

Most people younger than age 65, the age of Medicare eligibility, get health insurance through either their jobs or a family member's job. Consequently, workers may be reluctant to give up jobs that provide health insurance. The need for health insurance can affect a worker's decision to look for a new job, start a business, retire, or temporarily leave paid employment to care for a young child or a frail family member. Not being able to find another job that provides health insurance or to afford insurance in the individual market may lead workers to stay at a job even when it is a poor fit.

This issue of "job lock" has taken on a new dimension now that the main part of the Affordable Care Act (ACA) has come into effect. The health care marketplaces that began operating at the start of 2014 are radically transforming the individual market. In principle, the exchanges make health insurance accessible and affordable to most workers, which should eliminate most of the effects of job lock on the labor market.

This paper reviews the research conducted over the past 2 decades on job lock and related labor market distortions resulting from employer-provided health insurance (EPHI). This examination should provide a basis for assessing the likely labor market impacts of the ACA.

The research examined in this review focuses on three types of labor market distortions caused by job lock:

- workers remaining in jobs where they are not satisfied because of the fear of not being able to get EPHI at a new job (or not being able to buy or afford it in the individual market);

- a reduction in entrepreneurship because workers are reluctant to take the risk of losing EPHI to start a new business; and

- increased labor force participation and hours by workers who would prefer to work fewer hours or retire, but who cannot buy insurance in the individual market at an affordable price.

KEY FINDINGS

The bulk of the examined research provides evidence that job lock has affected the labor market in all three areas.

Changing Jobs

Substantial evidence shows that the need for EPHI reduces job turnover, leaving workers in jobs where they are not satisfied or their skills are not fully utilized. While earlier research on this issue was inconclusive, more recent research provides more evidence for the existence of job lock. Part of the reason for inconclusive results in some earlier research is likely due to the limited sample size in these studies. Also, the size of any job-lock effect almost certainly has grown substantially over the past 3 decades as the cost of health insurance has risen sharply relative to the median wage. As a result, any job-lock effect would have been much smaller in the 1980s (the period analyzed in many early studies) than at present, and any job-lock effects would have been more difficult to detect in the data.

The likely range of a job-lock effect is a reduction in turnover—the rate at which people leave jobs—of 15–25 percent among workers with EPHI. With normal turnover for prime-age workers (people ages 25–54) in the range of 15–20 percent per year, this job-lock effect implies a reduction in annual turnover of around 4 percentage points among prime-age workers with EPHI.[1] The group affected by this job lock includes workers with EPHI who do not have access to insurance through an alternative source, such as a spouse's insurance. This group primarily consists of single people and workers whose spouses do not have EPHI. Roughly 44 percent of people ages 25–54, or just under 56 million people, have EPHI (United States Census Bureau, 2013). Most of the people in this group do not have a spouse with EPHI. Therefore,

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1   The research on turnover has mostly focused on prime-age workers.

if access to non-employer-based insurance through the ACA ended job lock among this group of workers, roughly 2 million additional job changes would occur in the course of a year. It is likely that job lock also affects the willingness of workers ages 55–64 to find new jobs. However, this group has been excluded from most of the research, primarily because job transitions are often associated with retirement.

Starting Businesses

There is compelling evidence that EPHI-related job lock discourages workers from starting new businesses. As with the research on job turnover, earlier research on self-employment was inconclusive. However, recent studies with very large samples have found compelling evidence that EPHI discourages workers from turning to self-employment. In this case, it is plausible that the reduction in transitions to self-employment is in the range of 15–25 percent among workers who have EPHI. In recent years, close to 11 percent of workers, or roughly 16 million people, were self-employed (Hipple, 2010). The research findings suggest that ending job lock could increase this number by approximately 2–4 million people.

Deciding to Retire or Work Part Time

The research also finds evidence that the need for EPHI has a substantial impact on the labor supply of several distinct groups in the population. Research has focused on the labor supply of three groups: near retirees, married women, and workers with health conditions or disabilities. Several studies found that older workers who have not yet reached the age of Medicare eligibility may stay in the labor force longer than they would if they had access to insurance outside of employment. A second set of studies, focusing on married women, provides evidence that some parents with young children would opt to work fewer hours or to take time out of the labor force altogether if they had access to insurance outside of their jobs. Finally, research findings indicate that many workers with serious health conditions were more likely to work part time or leave the labor force if they had access to insurance outside their employment. Other groups that have not been the focus of research—such as Medicare-eligible workers whose spouses have not yet reached the age of Medicare eligibility, caregivers to family members other than children, and

fathers of young children—may also be expected to reduce the number of hours they work as a result of being able to get insurance through a source other than their employers.

LIKELY EFFECTS OF THE ACA

The research covered in this review suggests that insurance market reforms from the ACA should have substantial labor market impacts. A substantial increase in turnover is likely, because workers will no longer feel the need to remain at jobs solely because they provide health insurance. An increase in new businesses is also expected, as workers no longer need to fear losing health insurance if they start businesses.

In addition, noticeable labor supply effects are likely. Many older workers, especially those in bad health, will opt to retire early or possibly seek less demanding jobs with shorter hours. The same will be true of workers who are suffering from serious health conditions who formerly needed to work to remain insured. And some younger workers are expected to reduce hours or take time out of the labor force to be with young children.

Some early evidence suggests that we are already seeing these effects. In the first 4 months of 2014, the number of people who were voluntarily employed part time was up by 250,000 compared with the same months in 2013. Consistent with the improving labor market, the number of people involuntarily working part time was down by 560,000 over the same period.

Growth in the number of older workers also appears to be slowing, which is consistent with a scenario in which some people of pre-Medicare age decide to retire earlier because they can get health insurance through the marketplaces. The number of workers ages 55 and over grew 2.3 percent in the first 4 months of 2014 compared with the same months in 2013; in contrast, the growth in the number of older workers averaged 4.2 percent in the prior 3 years.

By contrast, employment growth among workers ages 25–34 has increased. In the first 4 months of 2014, employment for people in this age group increased by 2.1 percent from a year earlier, compared with an average annual increase of just 1.1 percent over the prior 3 years. These data are erratic and the health insurance marketplaces were operational for 4 months at the time this

paper was written, so it is far too early to draw any firm conclusions at this point. But the evidence to date seems consistent with predictions of labor market effects based on prior research. We may see some withdrawal of older workers from the labor market.

Reducing the number of people in the labor force may have a modest negative impact on gross domestic product (GDP)—that is, the size of the economy. However, in a period when the economy is operating below its full employment level of output, the voluntary exit of some workers from the labor force may create job openings for people who would otherwise be unemployed or underemployed. It is important to note that most of the reduction in GDP due to people opting to leave the labor force would be from the wages that these workers would be foregoing. Since they have chosen to leave the workforce, presumably this loss in output is a gain to the workers most directly affected. The reduction in labor supply should also lead to a marginally positive impact on the wages of other workers, since a reduced supply of labor would generally lead to a higher price of labor. In addition, there may be some positive effects on the economy from productivity gains as some workers move to jobs that are a better match for their skills and preferences.

While the structure of subsidies in the ACA will inevitably lead to some distortions, as do the taxes that pay for them, the reduction in EPHI-related job lock will eliminate a major labor market distortion. The research on the topic suggests that the benefits from reforming the individual insurance market will be substantial.

I. Introduction: Why Job Lock Could Be a Problem

Most people in the United States who are under age 65 get health insurance through either their job or a family member's job. As a result, workers may be especially reluctant to give up a job that provides health insurance. The need for employer-provided health insurance (EPHI) may lead workers to remain at a job even if it is a poor fit for their skills or interests. In some cases they may put off plans to start a business. Other workers may delay retirement if their job is the only way they can be assured of getting health insurance for themselves or their families. In other cases, the need for health insurance may lead workers to stay at a job when they would prefer to care for children or other family members. Many circumstances can cause workers to feel they need to stay at a job with employer health insurance because they cannot otherwise obtain affordable health insurance for themselves or for family members—a situation often referred to as "job lock." An important goal of the Affordable Care Act (ACA) is to establish a well-working market for individual (that is, private, non-employer-provided) health insurance so that workers would not suffer from insurance-related job lock.

A large body of research addresses the extent to which EPHI has affected workers' decisions about employment during the past 3 decades. The issue largely stems from serious problems in the market for individual health insurance. The basic problem from the standpoint of the market is that people have different states of health. Most people are relatively healthy with low medical expenses. However, a substantial number of people have serious medical conditions that are expensive to treat. If insurers charge everyone the same price based on average costs, then some healthy people may opt not to be insured and pay their expenses out of pocket. This raises the average cost for the pool of people who are insured, which would require further increases in prices. The result is

that insurance is likely to be very expensive even for healthy people. To try to address this problem, insurers in the individual market have historically used medical underwriting, a practice in which they estimate individuals' risks of incurring health care costs and use that information for pricing, to exclude preexisting conditions from coverage, or to deny coverage to individuals with high risk. As a result, many individuals were not able to obtain or afford insurance in the individual market. There is no way around this problem in the individual market unless everyone is in the insurance pool regardless of their health. (The individual mandate in the ACA is a way to bring everyone into the pool.[2])

EPHI provides workers and their families with a way to avoid the problems in the individual insurance market. From the standpoint of workers, having EPHI is a real positive, but it also might mean that they may be reluctant to leave a job with EPHI and give up the protection of employer-provided insurance. This is where job lock becomes an issue. Workers may stay at a job when in principle they have better alternatives, simply because they do not have another way to obtain insurance for themselves or their families.

HEALTH INSURANCE AS PART OF WORKERS' PAY

It is worth distinguishing the notion of job lock (which stems from the problems with the individual market discussed above) from the point that health insurance is a valuable benefit to workers. EPHI is part of a worker's compensation package. In principle, the cost of EPHI to the employer is just like the worker's wage. In this sense, economists typically view EPHI and wages as interchangeable from the standpoint of employers (e.g., Lluis and Abraham, 2013). If they were not paying out money for health insurance, then employers would be willing to pay the same

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2   The problems in the individual market are discussed in Powell and Goldman (2014) and American Academy of Actuaries (2009).
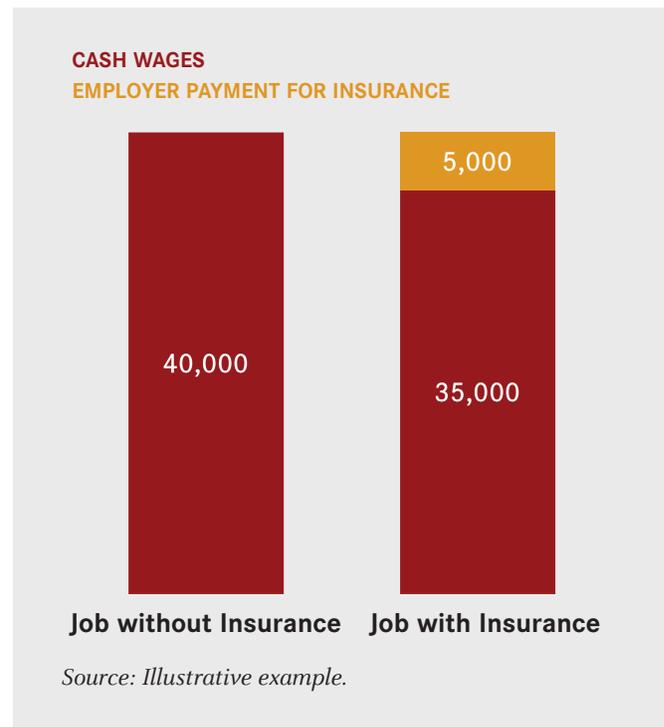
money to workers as wages. Effectively, the cost of EPHI is seen as coming out of wages.[3]

A worker would naturally choose a job that provides EPHI over a job that offers the same wage without EPHI, since the job with EPHI is effectively offering higher pay. In this case, choosing the job with EPHI is not a case of job lock; it is simply a case where workers prefer higher-paying jobs to lower-paying ones. The issue of job lock is one where workers feel tied to their jobs because they do not believe they can get affordable insurance in the individual market, even if they were offered a pay package equal to their wages plus the cost of the EPHI to their previous employer, as shown in figure 1.

THE AFFORDABLE CARE ACT AND JOB LOCK

One of the main goals of the ACA is to address the problems in the individual insurance market discussed above. The requirement that individuals must have insurance is intended to end the problem created when healthier people do not buy insurance. By including healthy individuals in the insurance pool, average costs and premiums will be lower than if the insurance pool was skewed so that less healthy people disproportionately had insurance. The ACA also makes insurance more affordable by making subsidies available to some people with low and moderate incomes who buy insurance through a state or federal marketplace. The ACA also requires that insurers accept all applicants, regardless of their health, which addresses the problem of insurers in the individual market not being willing to sell policies to people they anticipate will have especially high medical expenses. Further, the ACA requires that all applicants of the same age buying a specific plan be charged the same rate.[4] The ACA is expected to substantially reduce the problem of job lock. If workers know that they or their family members will still have access to good insurance even if they leave their jobs, EPHI will no longer

FIGURE 1

Pay at Jobs with and without Employer-Provided Insurance

CASH WAGES
EMPLOYER PAYMENT FOR INSURANCE

5,000

40,000

35,000

Job without Insurance   Job with Insurance

Source: Illustrative example.

be a reason to remain at a job if better options become available.

With the main provisions of the ACA taking effect at the beginning of 2014, now is a good time to evaluate the research on job lock in order to gain insights into the law's likely impact on the labor market. This paper reviews the research related to three main types of health insurance-related job lock identified in the literature.

The first type of job lock ties a worker to a particular employer when preferable employment opportunities might be available elsewhere. This sort of job lock manifests itself in the form of a lower rate of job turnover than would otherwise be seen.

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3   While economists would argue that the cost of EPHI on average comes out of wages, this does not mean that it always comes 100 percent out of wages. Employers do not typically lower workers' wages. If the cost of health insurance rises unexpectedly, an employer will not generally lower their workers' pay to adjust for the increase. Instead, it might take several years for wages to adjust to offset the cost. Also, workers with EPHI who are getting paid at or near the minimum wage cannot have their wages pushed below the minimum if the cost of insurance increases. And nondiscrimination laws, which require that employers offer the same benefits to all of their workers, may lead to situations where some workers receiving EPHI do not have a corresponding reduction in their pay.

4   The ACA does allow differences in premiums based on age. The average premium for people ages 55–64, the oldest pre-Medicare age grouping, is roughly three times the average for workers in their twenties. Premiums also differ by location, and plans may charge a higher premium to people who smoke.

The second type of job lock discourages workers from starting new businesses. In this situation, because workers fear the risk that they or family members might go without insurance if they left a job with EPHI, they put off plans to go into business for themselves.

The third type of job lock prevents people from either not working or working fewer hours. In this type of job lock, people are effectively working more than they would if they could otherwise obtain affordable health insurance. People in diverse situations may fall into this category: older workers who would opt to retire or shorten their hours if they or their spouses could get insurance from another source; parents with children and individuals who are caregivers for spouses or parents, who would prefer to work fewer hours or to take time out of the labor force if they were not dependent on EPHI; and workers with serious health conditions or disabilities who would work less if they were not dependent on EPHI.

This paper reviews the key research on job lock conducted over the past 2 decades and uses these findings to assess the likely impact of the ACA on the job market. The research relies primarily on data from the early 1980s to 2012.

ISSUES AFFECTING THE EXTENT OF JOB LOCK IN THE PAST 3 DECADES: CHANGES IN THE ECONOMY

Substantial changes have occurred in both the labor market and public policy over the 3 decades that provide most of the data for the research on job lock. These changes affected the extent to which job lock is a problem.

The first set of changes results directly from the rapidly escalating costs of health care relative to wages, which have made EPHI substantially more valuable over the past 3 decades. Figure 2 shows average premiums in employer-provided plans for both an individual plan and a family plan as a share of average annual earnings for production and nonsupervisory workers. The category of production and nonsupervisory workers accounts for more than 80 percent of the workforce. This category is used in the figure because the wage data series for this category goes back further than the series covering all workers. Also, production workers' average pay is close to the overall median pay for all workers, which

means that it provides a good measure of a typical worker's pay over this period.

As the figure shows, the ratio of premium costs to earnings has risen sharply over the past 3 decades. The most recent data imply that the cost of a single worker's premium is 16.7 percent of the average pay for production and nonsupervisory workers, while the cost of a family premium is 46.4 percent of the average pay. Although workers are responsible for a substantial portion of this cost (around 20 percent of the cost of individual plans and 25 percent

FIGURE 2
Premiums for Employer-Provided Health Insurance as a Share of Annual Earnings

SINGLE PREMIUM AS A SHARE OF PAY
FAMILY PREMIUM AS A SHARE OF PAY
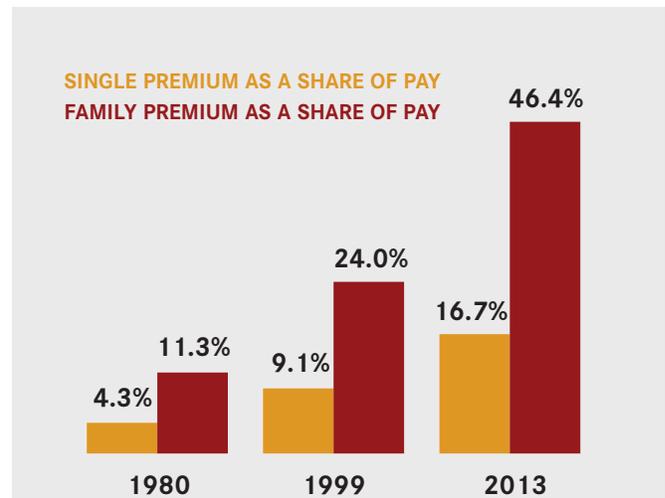
Source: Author's estimates based on data from the Kaiser Family Foundation and Bureau of Labor Statistics. The premium amounts are the total of the employee's and employer's contributions.

Note: Figure 2 takes the average premium for employer-provided plans for single and family coverage, as shown in the Employee Health Benefit Survey, slide 3 (Kaiser Family Foundation and Health Research Education Trust, 2013). The annual wage is calculated by taking the average weekly wage for production and nonsupervisory workers and multiplying it by 52. This series comes from the Current Employment Situation Survey and is available at the Bureau of Labor Statistics website. The figure for the premiums for 1980 was obtained by calculating the average annual nominal growth rate of premiums between 1999 and 2013 (7.7 percent); assuming that premium costs had grown at the same pace for the prior 2 decades, the 1999 premium costs were divided by 4.08 (1.07719) to estimate the 1980 average premium.

of the cost of family plans, according to Kaiser's estimates), the employer's contribution in 2013 was nonetheless quite large relative to a typical worker's pay. By comparison, the cost of an average plan for individual workers would have been just 9.1 percent of average pay in 1999 and 4.3 percent in 1980. The costs of a family plan in these years would have been 24.0 percent and 11.3 percent of annual pay, respectively. Even if the employee's share of premium costs rose over the 1980 to 2013 period (the Kaiser data show relatively little increase in employees' share from 1999 to 2013), the value of the health care benefits relative to wages rose enormously during this time.

Of course, the real issue with job lock is not the size of the employer's contribution to the insurance premium, but rather the guarantee of being able to have insurance. Even if workers or covered family members develop a serious illness or chronic condition, they can expect to be covered under their employer's insurance as long as they keep their jobs. In principle, the employer's contribution is offset by lower wages; however, the value of this guarantee is not. This is what really is at issue with job lock. The problem of job lock would not exist if the pay differential between working at a job without EPHI and working at a job with EPHI was equal to the cost of buying equivalent insurance in the individual market—and if this insurance were available to be purchased (that is, the individual was not denied coverage because of a pre-existing condition). If that were the case, workers would have little concern about leaving a job with EPHI and simply using the extra pay at a job without EPHI to buy insurance in the individual market.[5]

However, because of the problems in the individual insurance market discussed earlier, even healthy workers have often not been able to get insurance in the individual market for an affordable price. The problem is far more serious for less healthy workers or workers with family members with serious health problems. These workers will almost always have to pay more

for insurance in the individual market than their employer will pay for comparable group insurance. With the cost of premiums rising sharply relative to pay over the past 3 decades, the gap between what an employer pays for a worker's insurance and what the same worker pays in the individual market has almost certainly increased sharply as well.[6] The sharp rise in the cost of insurance relative to wages would make job lock a considerably more serious problem in recent years than it was in the 1980s.

The other factor that would also make job lock a more serious problem in later years than earlier years is the sharp reduction in the percentage of jobs that had EPHI. Between 1979 and 2010 the share of jobs that offered EPHI fell by 12.9 percentage points, from just under 70 percent in 1979 to less than 57 percent in 2010 (Schmitt and Jones, 2012). The drop over this period was much sharper for men than women, with a 16.4 percentage-point drop for men compared with a 7.3 percentage-point drop for women. At the start of the period, more than 75 percent of employed men worked at jobs that provided health insurance. For men who left or lost a job with health insurance, they could be reasonably confident that any new job they got would also offer insurance. By 2010, with fewer than 60 percent of the jobs held by men offering insurance, they would have much less basis for confidence that a new job would come with insurance. The decline in the percentage of jobs with EPHI for women means that they would also be less confident that a new job would come with EPHI at the end of this period than in the early 1980s.

The fact that EPHI became a considerably less common feature of employment over the past 3 decades is an important factor increasing the extent of job lock in the labor market, making workers less likely to give up a job with EPHI. The reduction in the share of jobs with EPHI together with the sharp rise in the ratio of premiums to wages likely made job lock a much more

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5   Employer-provided health insurance also has the benefit of economies of scale compared with individual insurance. In addition, the rules on the taxation of benefits have generally favored EPHI, although this has changed with the cost of self-purchased insurance now deductible in many cases.

6   It is not easy to develop a good estimate of the cost of plans in the individual market because the nature of the plans themselves has changed substantially. The coverage, copayments, and deductibles of average insurance plans issued in 2014 would be very different from a plan issued in 1984. Furthermore, the availability of insurance will also vary, as many people would simply not be able to buy insurance because of pre-existing conditions.

serious issue at the end of the period than at the beginning.

ISSUES AFFECTING THE EXTENT OF JOB LOCK IN THE PAST 3 DECADES: CHANGES IN POLICY

While changes in the economy over the past 3 decades have almost certainly made job lock a more serious problem in recent years than in the early 1980s, a number of measures have been taken at both the state and federal levels to lessen the problem of job lock and to extend insurance coverage. At the federal level, two measures enacted in the past 3 decades have the goal of making it easier for workers to keep their coverage if they leave a job where they receive EPHI. The first of these laws is the Consolidated Omnibus Reconciliation Act of 1985 (COBRA). This measure requires most companies that offer employer-provided insurance to allow workers who leave their jobs to continue coverage for themselves and their family for up to 18 months after termination.[7] The law requires that the former employee pay the cost of coverage, in addition to an administrative fee of up to 2 percent of the premium price.

The impact of COBRA on job lock has likely been limited. The take-up rate has generally been under 20 percent (Bovbjerg et al., 2010).[8] The usual reason workers give for turning down the option to continue coverage under COBRA is the cost. Workers who had most or all of the cost of their premiums covered by their employers suddenly are liable for up to 102 percent of the cost. In addition, they may face this jump in premium costs at the same time they are losing their paychecks, in the case of workers who are being dismissed from their jobs. For this reason, it is not surprising that most workers do not continue their coverage.[9]

While the cost of continuing insurance after job loss may limit the usefulness of COBRA for many workers, COBRA has likely eased the transition to other employment for workers who either have serious health conditions themselves or have covered family members with serious health conditions. These are the workers who would be expected to be most affected by job lock. The prospect of being guaranteed access to insurance for 18 months after leaving a job would presumably reduce their fears over being left without coverage. The workers who have taken up COBRA obviously benefited from having this option, since they chose to take advantage of it.

A second federal measure that was expected to reduce job lock is the Health Insurance Portability and Accounting Act (HIPAA), which was signed into law in 1996. HIPAA limits the ability of group insurers to exclude coverage for pre-existing conditions to 12 months for normal enrollment and 18 months for late enrollment. For workers who lose jobs where they have insurance and then face a period of time without insurance, if they eventually find a new job with EPHI, the new insurer is required to cover any pre-existing conditions after a period of no more than 18 months. This period is shortened to 12 months if the new hire enrolls in insurance at the first opportunity. This period can be further reduced if a worker maintains insurance in the period before his or her new employment.

As is the case with COBRA, HIPAA likely provides some limited amount of additional security to workers or covered family members with serious health conditions. It means that workers who maintain health insurance coverage after leaving a job can count on having pre-existing conditions covered if they again receive employer-provided insurance. Here again the benefits are likely to be limited, since, to

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7   COBRA applies to all firms with more than 20 workers. The coverage also extends beyond just workers who leave their jobs. Family members who were covered on an employee's policy are able to continue coverage if the employee dies. The same is the case with a covered spouse and dependent children after a divorce. Also, a worker who loses eligibility because of a reduction in hours is allowed to continue coverage.

8   Gruber and Madrian (1994) did find a substantial effect on job lock from the introduction of state-level COBRA-type measures in the 1980s. They found that the option of maintaining insurance after leaving an employer increased the turnover rate by approximately 10 percent, offsetting roughly 40 percent of the estimated job-lock effect. This finding can be reconciled with later work finding a limited effect from COBRA by noting the sharp increase in the cost of insurance over the past quarter century. While many workers may have been able to afford to continue to pay an insurance premium after leaving a job in the mid-1980s, the number who were in a position to do so in the years just before the passage of the ACA was likely considerably smaller.

9   Bovbjerg et al. (2010) shows take-up rates increased by as much as 100 percent as a result of the subsidies in the American Recovery and Reinvestment Act of 2009.

maintain coverage after leaving a job, a worker is required to pay for the insurance out of pocket. In addition, the guarantee of coverage for pre-existing conditions matters only for workers who are able to find other jobs that offer EPHI. If the factor motivating job lock is the fear of not being able to find another job offering insurance, then the guarantee provided under HIPAA is of little relevance.

It is also worth noting that HIPAA does not protect an employer from rate increases. A small business considering hiring a person who it knows to have serious health conditions could expect to see its insurer raise its rates if this person were included in the pool, providing a substantial disincentive for businesses to hire people with serious health conditions.

In addition to these two measures taken at the federal level, a number of states have attempted to reform their individual insurance markets in ways that should reduce job lock. The most important reform is the adoption of community rating, where insurers are not allowed to discriminate based on pre-existing conditions. Beginning in the early 1990s, a number of states imposed some form of community rating on its insurers. (No state has pure community rating where any condition would be covered from the day a person signs up for insurance, since this would create an enormous problem of adverse selection under which people wait until they have a serious medical condition before paying for

insurance.) If a state had both mandatory issuance (insurers would have to issue policies to anyone who applied) and community rating, then it could alleviate the fears that could lead to job lock for workers in that state. If the system of community rating worked as intended, then a substantial segment of the workforce would not need to fear the loss of EPHI. However, the cost of individual insurance in these states rose considerably in the years after the adoption of community rating as a result of adverse selection, which meant that the individual insurance market still provided a poor substitute for EPHI.[10]

While the efforts on the policy side undoubtedly have had a limited positive effect in reducing job lock over the years since 1980, the economic changes going in the other direction likely had a larger impact in the opposite direction. With the cost of employer premiums almost quadrupling relative to the typical worker's wage, health insurance would have been a far more important expense to workers at the end of this period than the beginning. Furthermore, with EPHI becoming a far less standard feature of employment, workers had much greater cause to fear that a new job would not come with health insurance in 2013 than in 1983. For these reasons, it is likely that job lock would have been a considerably more serious problem toward the end of the period examined in this literature than at the beginning. This is consistent with the findings in the research, which show more unambiguous evidence of job lock in the 2000s than in the 1980s.

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10 See Sloan and Conover (1998) for a discussion of states' experience with regulations on community rating.

II. The Impact of Job Lock in Preventing Workers from Changing Jobs

The most heavily researched and disputed form of job lock is the extent to which EPHI discourages workers from moving to new jobs. While it is easy to show that workers with EPHI are less likely to move to another job than workers who do not have EPHI, this does not prove that EPHI is preventing workers from moving. Two factors make the issue much more complicated.

First, EPHI tends to be associated with better jobs. Jobs that offer EPHI on average pay more than jobs that do not offer it. Jobs that offer EPHI are also more likely to offer other benefits like pensions and paid leave. It would hardly be surprising to find that workers are less likely to leave good jobs than bad jobs. As a result, researchers have to find ways to control for other aspects of jobs in order to isolate the impact of EPHI on job changes. What we are interested in learning is whether a worker is less likely to leave a job offering EPHI that is in other ways identical to a job that does not offer EPHI.[11]

Second, workers are not identical in their willingness to move and take risks. Some workers may be comfortable frequently moving between jobs. These workers may also not especially care whether a job offers EPHI. They may be willing to pay for insurance in the individual market or to simply go without insurance. If we took a snapshot of the labor market, we would find that the workers who change jobs frequently are also less likely to have insurance. However, this could quite plausibly be explained by differences in the workers rather than the effect of EPHI in deterring job changes.

Because of these basic problems, no simple method can test the extent to which EPHI discourages people from changing jobs. In order to accurately measure the extent to which EPHI prevents people from changing jobs, it is necessary to find ways to control for both the quality of the job and differences between workers. Economists working in this area have been struggling with these problems for more than 2 decades, as summarized in table 1.

EVIDENCE

The extensive literature on job lock in the case of turnover comes to conflicting conclusions. This conflict is likely because many studies used data from the 1980s, when a job-lock effect would not have been as strong. Also, methodological reasons exist for questioning several of the studies that do not find job lock. In this respect, it is worth noting that one of the more recent studies (Hamersma and Kim, 2009) finds strong job-lock effects using data from the late 1990s and early part of the past decade. Based on this more recent study and on methodological problems in many of the studies not finding job lock, it is reasonable to conclude that EPHI has been an important factor discouraging workers from changing jobs.

The main way that economists have sought to avoid the analytic problems caused by the factors noted earlier—that jobs offering EPHI tend to be good jobs and that workers who especially value EPHI may also value stability—is by examining differences in turnover between workers who have access to insurance through a spouse and those who do not. Madrian (1993) was among the first to conduct a study using this approach. The study compared differences in turnover rates for married men ages 20–55, depending on whether they could obtain insurance through their spouses. The study looked only at voluntary turnover, under the assumption that layoffs or dismissals were not under the control of the worker, and therefore had little bearing on the issue of job lock. The data set used for this study was the National Medical Expenditure Survey for 1987.

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11   This means that the job that does not offer EPHI has higher pay equal to the premium paid by the employer that does offer EPHI. This means that the total compensation is identical.

TABLE 1
Job Lock Studies—Methods and Results

Author	Purpose of Study	Data Set	Sample	Results	Evidence of Job Lock?
Anderson, 1997	Examines incidence of employees leaving a job in order to obtain EPHI	National Longitudinal Survey of Youth (NLSY), 1989, men ages 20–27	5,305 "job spells" (observational unit is a single job spell)	• Finds a substantial negative effect of EPHI on job turnover • Finds evidence for a job push effect, which could bias upwards the results from Madrian, 1993	Yes
Berger, Black, and Scott, 2004	Measures job lock using health status	Survey of Income and Program Participation (SIPP), 1987 and 1990	Males and females, over 18,000 workers; ages 20–55	• No evidence for job lock due to EPHI • Job lock does not reduce wages	No
Buchmueller and Valletta, 1996	Measures job lock, addresses potential omitted variable bias in Madrian	SIPP, 1984–85	1984 wave; 4,208 men, 3,362 women; ages 25–54	• Mixed evidence for job lock among single men and men in dual-earner households, strong evidence for job lock among single women • In cases where they did find job-lock effects, found a reduction in job turnover of 30–50 percent	Yes
Gilleskie and Lutz, 2002	Tests evidence for job lock following Anderson, 1997	NLSY, 1989, 1990, and 1992	4,422 males, for 10,700 person-year observations	• Madrian's results on job lock do not hold up when full set of job quality variables are introduced • Integrating "offered insurance" and benefits variables greatly weakens the coefficient for EPHI	No
Hamersma and Kim, 2009	Examines effect of changes in Medicaid eligibility on job changes	SIPP, 1996 and 2001 panels; working parents, ages 20–54, with incomes between 50–200 percent of poverty level.	16,838 observations on 3,836 men, and 20,781 observations on 5,582 women	• Finds strong evidence that eligibility for Medicaid increased job turnover	Yes
Holtz-Eakin, 1993	Replicates Madrian, 1993, using PSID data	Panel Study of Income Dynamics (PSID), 1984	5,037 prime-age workers	• No evidence of job lock • Third-party reviews voice concerns over viability of PSID data, sample sizes of statistical tests of workers with health issues	No
Kapur, 1998	Includes a variable for health status as proxy for EPHI need	National Medical Expenditure Survey (NMES), 1987	Sample includes 2,920 prime-aged (20–55), employed married men	• No evidence for the job-lock thesis; "sick" variable has positive sign, but not significant; low coefficients • Replicates Madrian tests with "sick" variable—results not significant	No
Kapur, 2004	Examines hiring discrimination against those with health conditions	NMES, 1987	14,000 households	• Some evidence of employment discrimination against workers with existing conditions among firms with EPHI in NMES data	N/A
		Medical Expenditure Panel Survey (MEPS), 1996	10,500 households	• MEPS data show this effect only for "denial" health conditions	

TABLE 1 CONTINUED

Author	Purpose of Study	Data Set	Sample	Results	Evidence of Job Lock?
Madrian, 1993	Examines extent to which EPHI reduces job turnover	NMES, 1987	2,978 married men, ages 20–55; civilian workers employed	• Married men with EPHI exhibited 25–30 percent less job mobility than similar men with access to EPHI through a spouse; in absolute size, EPHI associated with a reduction in annual job turnover from 16 percent to 12 percent	Yes
Monheit and Cooper, 1994	Analyzes both job lock and job push effects together	NMES, 1987	7,758 wage earners, 1,217 of whom changed jobs; ages 25–54	• Results confirm job lock findings in Madrian, 1993 • For men and women, single and married, less likely to change from EPHI to non-EPHI job, more likely to change from non-EPHI to EPHI jobs	Yes
Okunade and Wunnava, 2002	Analyzes job lock using alternate approach to tenure	NLSY, 1996	949 white men, 766 white women; ages 28–35	• Substantial and significant job-lock effect, both men and women • For men, EPHI associated with 17.5 percent longer tenure for men, 24 percent for women—compared with workers without EPHI	Yes

Note: For a detailed discussion of research papers, see section I of online Appendix at http://www.aarp.org/futureofwork/.

The main test in this study found substantial evidence of job lock, with workers who could not get insurance through their spouse 15–25 percent less likely to leave their jobs than workers who could get insurance through their spouses. This translated into a reduction in annual turnover rates from 16 percent to 12 percent. The study also applied two other tests that formed the basis for much further research. It tested whether having a pregnant spouse had more effect on the turnover rates of men with EPHI than men without EPHI. It also tested whether EPHI had more impact on turnover rates of men with large families than men without large families. Both of these tests worked on the theory that EPHI would be more valuable to workers with more need for health insurance, and therefore would more likely lead to job lock. Supporting this view, the study found that EPHI had more effect on turnover rates among men with pregnant spouses or with large families than on men without pregnant spouses and with small families.

Figure 3 shows the patterns of job tenure over time for workers with and without EPHI based on the findings in Madrian's study. As the figure illustrates, the study's results imply that the share of workers who stay at the same jobs for 5 years would differ by more than 10 percentage points depending on whether they are dependent on the jobs for insurance.

Several studies used methodologies similar to Madrian's, but with different data sets, and corroborated her findings to varying degrees.

For example, Anderson (1997) used a sample of men ages 20–27 in the National Longitudinal Youth Survey from 1989 to examine the impact of EPHI on mobility. This study found similar results to Madrian in that EPHI discouraged workers from leaving their jobs, but it also found evidence that men with pregnant wives were more likely to leave a job without health insurance than other men. This implied that EPHI was not only causing people to stay at jobs longer than they would otherwise, but also encouraged some workers to leave jobs with which they might have otherwise been satisfied.

Monheit and Cooper (1994) used the National Medical Expenditure Survey from 1987, the same data set as Madrian's study, but posed a somewhat different question. The study used education, experience, and other worker characteristics to predict the likelihood that they would be able to get insurance at a new job. It then tested whether workers who could expect to lose insurance if they changed jobs were less likely to leave their jobs than workers who could expect to gain insurance if they changed jobs.

Table 2 shows the results of this study. In each case where a worker would be expected to gain coverage, the probability of turnover increased; whereas in every case where a worker would be expected to lose coverage, the probability of turnover decreased. This analysis strongly supports the evidence of job lock found in Madrian (1993).

THE EVIDENCE AGAINST EPHI LIMITING JOB CHANGES

A number of studies have reached the opposite conclusion from the studies discussed above. The first and most important in this group is a study by Holtz-Eakin (1993) that used the Panel Study of Income Dynamics (PSID) to detect evidence of job lock by looking

FIGURE 3
Percentage of Prime-Age Married Men Who Stay at Same Job

Source: Madrian (1993) and author's calculation.
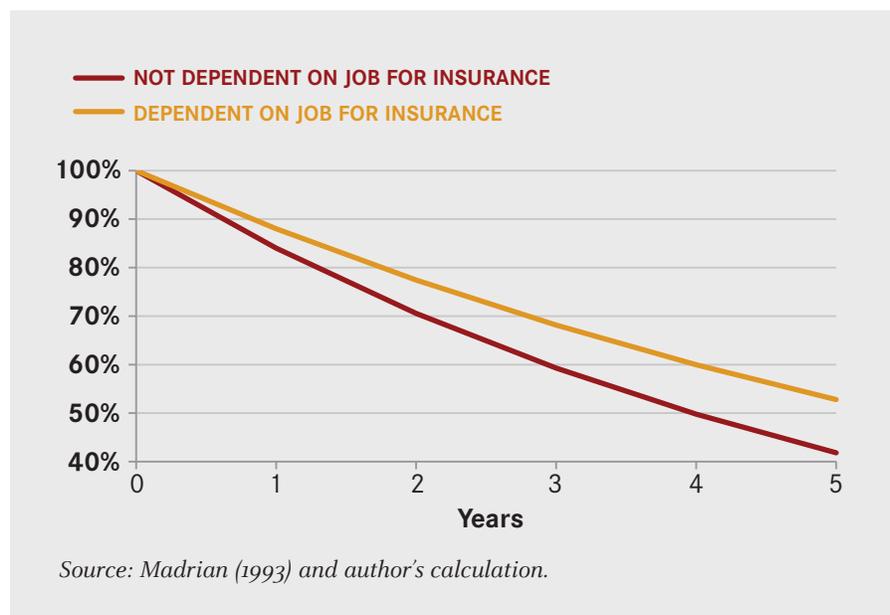
at job changes in 1984. The data set featured 5,037 prime-age workers (ages 25–54). Using the PSID, the study applied tests similar to the one in Madrian (1993). It looked at 1- and 3-year transition rates (defined as having a new employer), comparing the transition rates for those with and without EPHI, and then looking at the differences in transition rates between workers with and without spouses with EPHI.

In this analysis Holtz-Eakin did not find any evidence of job lock. In the key test taken from Madrian, looking at 1-year transition rates, Holtz-Eakin found the expected positive relationship on turnover for men who both had EPHI and had a spouse with EPHI, but the relationship was not close to being statistically significant. In the tests with women workers, Holtz-Eakin found a negative relationship between turnover and having both EPHI and a spouse with EPHI; this result was the opposite of the job-lock effect, although it was not statistically significant. The study also performed these tests using 3-year transition rates and again found no evidence of job lock.

Holtz-Eakin then examined the interaction between a series of health-related variables and EPHI, such as poor health status, deteriorating health status between 1982 and 1984, and children. In principle, this tested whether people with

TABLE 2
Percentage-Point Change in Annual Rate of Job Change

Marital Status	Gender	Group	Percentage-Point Change
Married	Men	Expecting to Gain Coverage	6.0
		Expecting to Lose Coverage	-2.7
	Women	Expecting to Gain Coverage	4.5
		Expecting to Lose Coverage	-5.0
Single	Men	Expecting to Gain Coverage	8.9
		Expecting to Lose Coverage	-4.5
	Women	Expecting to Gain Coverage	7.8
		Expecting to Lose Coverage	-5.8

Source: Monheit and Cooper (1994).

special need for health insurance were less likely to leave jobs that had EPHI than other workers with EPHI. In some cases the study found that people with EPHI who were likely to have special need for insurance were actually more mobile than people without these needs. In no cases did Holtz-Eakin find a statistically significant relationship that supported the job-lock view.

Taken at face value, the study's findings indicate that EPHI-related job lock is not an important factor in the labor market; however, several aspects of the study are troubling. First, most of the tests did not find that EPHI was associated with lower transition rates even before controlling for other factors.[12] This result is disturbing because virtually all the research on this topic has found that EPHI is associated with lower turnover rates. The question economists have been trying to answer is whether EPHI *causes* lower turnover. The fact that this study did consistently find that EPHI was associated with lower turnover suggests that the sample or the data may have been flawed.

Two obvious issues could have affected Holtz-Eakin's findings. First, the PSID data did not allow the study to distinguish between voluntary transitions and involuntary transitions. Since the latter would not have been related to EPHI, if a substantial share of transitions was involuntary, it would have been considerably more difficult to detect a job-lock effect with Holtz-Eakin's data.[13] His sample was also not representative of the population as a whole,

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12   The coefficient of the EPHI variable in the married male regressions was significant at the 1.0 percent level for both 1-year and 3-year transitions. For single males the coefficient was significant at the 5.0 percent level for 3-year transitions. All of the coefficients in the other regressions were insignificant.

13   In the Bureau of Labor Statistics Job Opening and Labor Turnover Survey, more than 40 percent of separations were typically involuntary in nonrecession periods. By not distinguishing between voluntary and involuntary turnover, it would have been far more difficult to detect a job-lock effect, if it existed.

with a rate of EPHI close to 50 percent, as opposed to 70–80 percent for the same age group in other surveys.[14]

In addition to noting other problems with the PSID for measuring turnover, Gruber and Madrian (2002) also pointed to problems with the set of tests that sought to measure the extent of a job-lock effect for people who had special need for EPHI due to bad health.[15] First, this group was small, with less than 3.0 percent of men or married women reporting poor health in either 1984 or 1986. (The share for single women was slightly over 5.0 percent.[16]) In addition, this group tended to have erratic employment patterns (poor health can force people to leave employment). For these reasons, it is not clear whether the statistical tests based on health status in this paper were useful.

The findings of the Holtz-Eakin study argue against the existence of any substantial EPHI-related job-lock effect. However, enough issues exist about the peculiarities of the PSID in the context of examining job changes that it is difficult to view these results as compelling.

Several other studies—for example, Kapur (1998) and Berger, Black, and Scott (2004)—also found little or no evidence of a job-lock effect, especially when looking at turnover patterns among workers with serious health issues. These studies are subject to the same criticism as the Holtz-Eakin study in that relatively few prime-age workers had serious health conditions and these conditions themselves may have been a factor forcing workers to give up jobs.

One limitation of this whole set of studies is that they relied on data from the 1980s, when the lower cost of health insurance and the greater availability of EPHI likely would have made job lock less important than in more recent years.[17] For

this reason, the findings of studies that used data from the end of the 1990s or later would be more relevant to the current labor market situation.

DOES MEDICAID ELIGIBILITY AFFECT JOB LOCK?

Hamersma and Kim (2009) used the changes in state Medicaid eligibility cutoffs to measure the impact of access to Medicaid coverage on job changes in the years 1996–2005. The study used a sample of working parents ages 20–54 with children at home, with initial incomes of between 50 percent and 200 percent of the poverty level. The analysis used the 1996 and 2001 panels from the Survey on Income and Program Participation (SIPP).[18]

The tests in the analysis measured the likelihood of workers leaving their jobs. The logic of the test was that, when the income cutoffs were raised, a larger percentage of people in the survey would be eligible for Medicaid and therefore not dependent on EPHI. If EPHI was associated with job lock, then increased Medicaid eligibility would lead to an increase in turnover. The tests controlled for a variety of individual characteristics, as well as state unemployment rates. The study performed separate tests for men, married women, and single women. In each case, one set of tests was restricted to workers who reported having EPHI; a second set analyzed workers without EPHI.

The changes in Medicaid eligibility had no significant effect on the rate of turnover for either men or married women with EPHI; however, the study found a significant positive effect on turnover rates for unmarried women with EPHI. The implied effect was roughly a 4 percent increase in turnover rates for every $100 increase in the monthly threshold. This finding was robust to a variety of alternative specifications.[19]

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14   This point is made in Buchmueller and Valletta (1996).

15   Gruber and Madrian (2002) noted research showing that the definition of turnover in the PSID was not consistent and that the use of different definitions can lead to very different results for tests using turnover as the dependent variable.

16   Interestingly, Holtz-Eakin (1993) showed that nearly all (92.9 percent) married women reported a deterioration in health between 1984 and 1986. That finding does not seem plausible, suggesting a flaw with the sample or the data.

17   Some of the data in Berger, Black, and Scott (2004) are from the early 1990s.

18   This gives a total sample of 16,838 male observations (on 3,836 individuals) and 20,781 female observations (on 5,582 individuals).

19   There is no simple way to calculate the implied effect on the turnover rate in the larger labor force because this study is focused on a relatively narrow group of moderate-income workers. Also, since the changes in eligibility are relatively limited, it is not clear that the effects would be linear. In other words, we cannot assume that an increase in eligibility cutoff of $1,000 would have 10 times the impact of increase in the cutoff of $100.

The analysis also constructed a sample of workers without EPHI to determine if access to Medicaid affected "job push," with workers leaving jobs without insurance in order to get health insurance through Medicaid.[20] The analysis found no evidence of a significant effect on job changes for either single or married women. However, the coefficient for men was marginally significant and negative, implying a reduction in turnover of 3.0 percent for each $100 increase in monthly eligibility limits (that is, men were less likely to leave a job without insurance when it was harder to get Medicaid). In an alternative specification, the impact of Medicaid eligibility had greater statistical significance, although the estimated size of the effect was somewhat smaller.

This analysis provided a simple and interesting test for job lock. It is reasonable to expect that the impact of changes in Medicaid eligibility on turnover would have been tempered to some extent by the lack of information. Specifically, not all workers would have been immediately aware of a change in their eligibility status, so the measured effect in this analysis was likely smaller than what it would have been if the workers knew immediately of their access to insurance at a point in time. This would imply that the actual impact of insurance not related to employment on mobility (increasing it in the case of single women with EPHI and decreasing it in the case of men without EPHI) is likely to be larger than is shown in this analysis. Also, since job change in this analysis included both voluntary and involuntary job changes, the actual impact of increased Medicaid eligibility would be larger than shown in this analysis, since the changes would not be expected to have an impact on involuntary job changes. Since both of these factors would be expected to substantially reduce the size of the measured effect in the study, the fact that it still found evidence of job lock is striking.

SUMMARY

The research of the impact of EPHI on turnover is strongly suggestive of a job-lock effect, but not entirely conclusive. The efforts by Madrian (1993) and others to control for differences between workers by including factors not directly under their control—such as whether they were able to get insurance through a spouse—are a useful tool, but not a completely satisfactory one. As other work has noted, both having a spouse and having a spouse who has access to health insurance cannot be viewed as completely exogenous outcomes from the standpoint of the worker. In other words, it is to some extent up to workers whether they are married, and workers have some control over the type of person they marry. Nonetheless, Madrian's approach is still useful, if imperfect. Controlling for a good job, apart from EPHI, is also difficult, but using access to insurance through a spouse should largely avoid the analytic challenge posed by good jobs tending to be jobs with EPHI.

The analyses that used direct measures of health condition or spending as a predictor of job lock invariably found no effect. Two separate issues could explain these results if a job-lock effect does in fact exist. First, the share of prime-age workers who had serious health conditions was relatively small, so the sample size in these surveys of people with health conditions would have been limited. Second, health conditions themselves may force people to change or leave jobs. While EPHI is more valuable to people with serious health problems, if the health problems force people to leave jobs, workers with health conditions themselves or in their families may still have high rates of turnover. In that case, high turnover would not be a good way to test for job lock.

Other measurement issues worth noting include the fact that involuntary turnover may have been more frequent than many of these analyses assume. If job changes were involuntary, and the analysis did not distinguish between voluntary and involuntary job changes, then the tests would understate the true extent of job lock, since having access to EPHI will not plausibly explain involuntary job turnover. Buchmueller and Valletta (1996); Berger, Black, and Scott (2004); and Hamersma and Kim (2009) all used measures that include involuntary job loss. In these cases, the true effect of job lock would be larger than shown in their tests.

In addition, the age of the workers being examined is important. Health care costs are

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20   The notion of "job push" here is that workers may leave a job with which they are otherwise satisfied in order to get access to health insurance. This is likely to be especially important if workers anticipate higher health expenses (for example, the birth of a child).

considerably lower for young workers than for older workers, so it is reasonable to expect that whatever job-lock effect might be present would be smaller for younger workers.[21] This fact is especially important since several of the analyses in this paper focused primarily on workers in their late teens and twenties. It is certainly plausible that job lock is a limited issue for this group while still being a major impediment to mobility for older workers. Pregnancy would be a major exception to this pattern, with pregnant women and their spouses likely valuing EPHI far more than other workers their age.

Finally, it is important to consider the years in which job lock is being assessed. Health care costs have increased enormously over the past 3 decades. This should mean that EPHI is considerably more valuable to workers in 2014 than it was in the early or mid-1980s. While there is evidence of job lock in the 1980s, even if EPHI was not a serious impediment to mobility in the 1980s, the increase in health care costs could have made job lock a major factor in labor markets in the 1990s or 2000s. In this respect, it is striking that Hamersma and Kim (2009), who looked at the more recent period, found strong evidence of job lock despite using a measure that included involuntary job changes. If a job-lock effect existed in the 1980s, then the rise in health care costs in the past 3 decades virtually guarantees that it would be stronger today.

While the early research findings on this topic were ambiguous, more recent evidence, most notably the study by Hamersma and Kim, supports the existence of a substantial job-lock effect associated with EPHI. Most of the studies that did not find an effect focused on the job-changing behavior of workers with health issues, which is problematic for the reasons noted above.

A number of carefully designed studies over the past 2 decades did find solid evidence of a job-lock effect. These studies provide a solid basis for the view that EPHI has a substantial effect in reducing the frequency of job changes.

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21   This is the case controlling for other factors, like the presence of small children.

III. The Impact of Job Lock on Entrepreneurship

The problems that arise when trying to assess the impact of EPHI on the willingness of workers to start their own businesses are essentially the same as the problems that arise in assessing the impact on job changes. On one hand, the availability of EPHI indicates that a particular job is a good job (one that tends to have better pay and other benefits). Workers are, of course, less likely to leave good jobs than bad ones, which means that they would be less likely to leave a job with EPHI to start a business, even if EPHI is not an especially important factor in the decision. Similarly, the types of individuals who start their own businesses are likely to be somewhat different as a group from other workers. Most obviously, they are more inclined to take risks. They may also value health insurance less than other workers and would be less likely to seek out a job that offers EPHI. The problem in assessing the impact of EPHI on entrepreneurship is how to accurately control for these factors.

Table 3 shows the main studies on this topic and highlights their key findings. Several large recent studies have found solid evidence that EPHI discourages entrepreneurship. As a result, the case for EPHI-related job lock is considerably more conclusive with respect to entrepreneurship than job changes.

EVIDENCE

The first important study on the link between EPHI and entrepreneurship was conducted by Holtz-Eakin, Penrod, and Rosen (1996). This study used a strategy similar to the one that Madrian (1993) and Holtz-Eakin (1993) used to test for the impact of EPHI on job turnover. The study used the SIPP as its primary data set for analysis but also uses the PSID to check its results. The SIPP sample used employed people (excluding agriculture) ages 18–62 in the years 1984–86.[22]

The summary statistics showed that, in keeping with other analyses, the self-employed were considerably more likely to be uninsured than other workers, 17.9 percent for the self-employed compared with 10.4 percent for other workers. The self-employed included in the sample were also somewhat older and better educated than other workers.

The study first tested whether EPHI made workers less likely to become self-employed and then whether the size of this effect was smaller if a worker had access to insurance through a spouse. The study found that EPHI reduced the probability of becoming self-employed. It also found that having access to insurance through a spouse increased the probability of becoming self-employed for workers both with and without EPHI, but this effect was not statistically significant.

A separate set of tests used only workers with EPHI. These tests examined the impact of a variety of factors likely to lead to higher need for health insurance, such as doctor visits, days in the hospital, and number of children. It examined whether, in these cases, having access to insurance through a spouse affected the probability of becoming self-employed. In none of the cases did the study find a statistically significant relationship. These tests were replicated with the data from the PSID. Those tests also found no evidence that EPHI discourages entrepreneurship.

While this study did not find evidence that EPHI was an obstacle to self-employment, several factors make its results less compelling. First, the cost of health insurance relative to the median wage was far lower in the period analyzed (1984–86) than in the 2000s. Even if EPHI did not discourage entrepreneurship in the mid-1980s, that would not preclude the possibility that the

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22   The sample has 21,467 data points (with a data point being one person for 1 month) in the first year of the analysis (wave 3 of the SIPP). There were 2,078 people classified as being self-employed. In cases where workers were both employed and self-employed, they were categorized based on how they worked the most hours.

TABLE 3
Entrepreneurship Studies—Methods and Results

Author	Purpose of Study	Data Set	Sample	Results	Evidence of Job Lock?
Baily, 2013	Examines effect of ACA's coverage extension for children up to age 25 on self-employment	American Community Survey, 2005–10	Ages 19–25, 2.6 million in sample	• ACA's access to health insurance has a significant and positive effect on rates of self-employment, especially for women and younger members of the treatment group	Yes
DeCicca, 2010	Examines patterns of self-employment following NJ reforms	Behavioral Risk Factor Surveillance System, 1991–96	382,670 individuals ages 25–59	• NJ insurance reforms increase self-employment by 16–20 percent; impact tapers off over time • Effects most pronounced on those with worse health status	Yes
Fairlie, Kapur, and Gates, 2011	Examines job-lock effect on entrepreneurship	Current Population Survey, 1996–2006	Men (81,214) and women (75,317) ages 25–64	• For both men and women, there is a substantial, negative effect of EPHI on entrepreneurship • Also finds self-employment spike at age 65	Yes
Heim and Lurie, 2010	Examines impact of health insurance subsidy on self-employment	Continuous Work History Subsample, 1999–2004	Sample of 48,396	• After-tax cost of health insurance found to have a significant and economically important positive effect on self-employment rate	N/A
Holtz-Eakin, Penrod, and Rosen, 1996	Examines effect of EPHI on self-employment	Survey on Income and Program Participation, 1984–86	21,467 data points, with a data point being one person for 1 month	• No evidence that EPHI is an obstacle to self-employment	No

Note: For a detailed discussion of research papers, see section II of online Appendix at http://www.aarp.org/futureofwork/.

need for health insurance would have been an important factor discouraging entrepreneurship in more recent years.

The tests that involved workers with medical conditions, which are taken as implying a high need for insurance, are subject to the same problems raised in studies examining turnover.

The share of workers with serious health issues was relatively small. The numbers among these groups who would be expected to become self-employed in the absence of job-lock considerations in a sample of this size would be very limited.[23] And health conditions themselves may discourage workers from becoming entrepreneurs. Therefore, even if job-lock issues were discouraging workers

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23 If 5 percent of the sample had a specific health condition, and we would expect this group to become self-employed at the same rate as the sample as a whole in the absence of job-lock considerations, then 15 workers with the health condition would be expected to transition to self-employment.

with special needs for insurance from becoming self-employed, it is not clear that we would find an effect in these tests. In short, this analysis certainly is not consistent with EPHI posing a substantial obstacle to self-employment; however, its results were far from conclusive.

In contrast to the findings of Holtz-Eakin, Penrod, and Rosen (1996), several more recent studies found strong evidence that EPHI is an important factor discouraging workers from turning to self-employment. Fairlie, Kapur, and Gates (2011) used the Current Population Survey to examine the impact of EPHI on self-employment. The study pooled data over the years 1996–2006 to get a very large data set.[24]

The study used two separate types of tests. For all workers it compared the likelihood of transitioning to self-employment depending on their having access to health insurance and having spouses with access to health insurance, as in Madrian (1993). The other test examined the probability of becoming self-employed at age 65, when workers first become eligible for Medicare.

The first set of tests found that, for both men and women, having spouses with health insurance had a statistically significant effect on the probability of becoming self-employed for workers with EPHI. For men, the implied job-lock effect was a 2.0 percentage-point reduction in the probability of becoming self-employed, compared with a rate of 4.0 percent self-employment among those not subject to job lock (that is, those with a spouse who has EPHI). For women the reduction was 1.75 percentage points against a baseline rate of 2.3 percent self-employment among women not subject to job lock. Both results imply a substantial negative impact of EPHI on entrepreneurship.

Using a number of different specifications, the analysis also found an economically large and statistically significant increase in self-employment as workers turn age 65 and become eligible for Medicare. No comparable change in self-employment is found around other landmark birthdays such as 55 or 75. The robustness of this

result seems to indicate solid support for EPHI as a major obstacle to entrepreneurship.

DeCicca (2010) also found solid evidence that the need for health insurance discourages entrepreneurship. This study examined changes in the pattern of self-employment in New Jersey after its creation of the Individual Health Coverage Plan in 1993, which fundamentally reformed the individual insurance market. The Individual Health Coverage Plan effectively established a degree of community rating (it limited exclusion periods), allowing individuals with pre-existing conditions to buy insurance at a standard rate. The benefits from this reform eroded through time, but, at least in its early years, the reform created a well-working individual insurance market.

DeCicca used Behavioral Risk Factor Surveillance System data for the years 1991 to 1996. These data are not generally used for labor market analysis, but they do include a question on self-employment. DeCicca compared the change in self-employment in New Jersey in the period after 1993 with the change in comparison groups using alternatively Pennsylvania, the Mid-Atlantic states, the entire Northeast, and the country as a whole.[25]

In a simple comparison, New Jersey showed a substantial increase in self-employment (20.3 percent) in the years immediately after the implementation of the Individual Health Coverage Plan, whereas no remotely comparable increase was found in any of the comparison groups. This result held up across a variety of specifications, with a range of 16–20 percent for the increase in self-employment. A separate analysis found that the impact of the reforms dwindled through the year 2000 (although still significant). This result is consistent with a situation where adverse selection led to increases in the cost of health insurance in the individual market, effectively undermining the usefulness of the Individual Health Coverage Plan.

The analysis then performed a set of tests to examine the difference in impact across demographic groups. These tests found that the

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24 The sample size of employed men ages 25–64 is 81,214. The sample size of employed women is 75,317.

25 His sample consists of individuals ages 25–59, which gives a sample size of 18,409 for the Pennsylvania comparison, 40,880 for the Mid-Atlantic states, 66,893 for the Northeast region, and 382,670 for the country as a whole.

impact on self-employment was greater on single people than on married people, a result consistent with the expectation that married individuals are likely to be able to get insurance through their spouses. The test also found that the impact on self-employment was larger among people who smoked at least half a pack of cigarettes a day than nonsmokers, that it was larger among people who were obese than non-obese, and that it was larger among people ages 50 and over than people under age 50. Each of these findings is consistent with the notion that EPHI job lock discourages self-employment, as each of these populations is likely to have greater need for health insurance than their comparison group.

Baily (2013) used the American Community Survey to test whether the ACA's extension of coverage to children up through age 25 on their parents' insurance had an impact on self-employment for the 19–25 age group. The analysis tested for this effect by comparing the change in self-employment among people ages 19–25 between the period of January 2005 to September 2010, and the period of September 2010 to December 2011. In the latter period, people ages 19–25 were eligible for coverage on their parents' insurance due to the ACA provision.

The study compared the change in self-employment among this group with the change in self-employment among a control group (people ages 27–33) over the same period. The American Community Survey was useful for this analysis since it has a large sample that makes it possible to detect meaningful differences in a relatively rare event.[26] (Self-employment among the 19–25 age group is less than 2.5 percent in the survey data.)

The original set of regressions found highly significant coefficients for the variable for self-employment among the 19–25 age group for the period after September 2010.[27] The size of the effect ranged from 0.32 to 0.58 percentage points, implying an increase in self-employment of 13–24 percent. The study then separately analyzed the impact on men and women in this age group.

It found that the impact of the ACA provision was considerably larger and more significant in the regression for women than for men. The implied effect was an increase in self-employment of 25–32 percent for women. This result is consistent with the fact that health care expenses tend to be considerably higher for women in this age group. As a result, access to health insurance is likely to be more important for women than men.[28] These results generally hold up across a series of robustness tests that used a variety of specifications.

On the whole, this analysis seems to provide strong support for the existence of EPHI-related job lock among young workers. This is a striking finding, since health care costs are much lower on average for people ages 19–25 than for older workers. Also, the ACA provision would not benefit everyone in this age group, since many would have either parents with no insurance or parents who would not agree to have their insurance extend to their adult children. Undoubtedly, many young workers were also unaware of this provision in the ACA. In spite of these factors, the study still found solid evidence that the ACA is associated with an increase in entrepreneurship among the age group of workers affected by the provision extending coverage.

SUMMARY

The ambiguity of early research on the effect of EPHI on self-employment was likely due in part to small sample sizes that made it difficult to find an effect, and also because health insurance was far less expensive relative to wages in the period being examined than in the 2000s, which means that any job-lock effect would have been smaller. However, the three relatively recent studies noted above, all of which had very large sample sizes, provide strong evidence that EPHI has been an important factor discouraging entrepreneurship.

The estimates in the research suggest a considerable range for the likely impact of access to non-employment-based insurance on transitions to self-employment, but an increase

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26   The survey gave a sample of about 2.6 million for the initial analysis.

27   The study uses linear probability, probit, and logit regressions.

28   Controlling for age, health care costs are generally higher for women than men, but the percentage differences are especially large at young ages, in part due to pregnancies (Yamamoto, 2013).

of 10–25 percent of workers with EPHI, or 1.0–3.0 percentage points of all workers, seems plausible. If this estimate proves correct, the ACA should result in a measureable increase in self-employment by the end of the decade, when its full impact is felt.[29]

The several large recent studies conducted on the impact of EPHI on self-employment should also be seen as providing evidence on the effect of EPHI on job changing. The sample sizes in these recent studies found a job-lock effect of EPHI with regard to entrepreneurship that is far larger than most of the earlier studies that looked at the effect on either entrepreneurship or job changes. If dependence on EPHI discourages workers from experimenting with self-employment, it must also discourage workers from seeking out new employment opportunities. If anything, we would expect its effect on job changes to be stronger than its effect on self-employment, since entrepreneurs presumably have a somewhat higher tolerance of risk, on average, than the workforce as a whole.

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29   The lag in impact is due to the fact that everyone who may conceivably opt for self-employment as a result of the ACA will not do so immediately. The effect will be felt over time as more people approach a point in their career where they are willing to experiment with self-employment now that they do not have to worry about access to insurance. Also, access to insurance through the ACA will decrease the likelihood of leaving self-employment, since the need for insurance is often a factor pushing people toward giving up their own businesses and looking for jobs with EPHI.

IV. Health Insurance and Labor Supply Issues

The prior two sections reviewed literature evaluating the extent to which EPHI locks people into their jobs or prevents them from becoming entrepreneurs. However, the high costs of health insurance can also lead to labor market distortions by causing people to work more than they would otherwise in order to gain insurance through an employer, for two reasons.

First, EPHI tends to be available as an all-or-nothing benefit. Employers typically offer insurance to workers who work more than a certain cutoff, such as 30 or 35 hours a week. Workers generally do not have the option to work some fraction of this amount of time and have the employer payments for insurance prorated.[30] As a result, many people who would otherwise work part time may instead work full time, since this is the only way they can get insurance through their employers.

Second, EPHI was often the only way people could buy affordable insurance. EPHI is effectively a mechanism through which people are able to buy insurance policies at a community-rated price. This can be especially valuable to people with serious health conditions. In general, people with serious health problems faced much higher-than-average premiums in the individual market (before the ACA's market reforms established the marketplaces). (Alternatively, treatment for their pre-existing conditions may have been excluded from coverage.) Since the problem of adverse selection was so severe in the individual insurance market before the ACA, getting EPHI was likely to have been a substantial benefit even to healthy people, assuming that the employers' payments come out of wages. A community-rated policy is likely to cost considerably less than the policies that were available in the individual market.

When workers view employment at a full-time job as the only way to get insurance for themselves or family members, it can lead to less desirable labor market outcomes compared with a situation where they could otherwise obtain affordable insurance. Specifically, workers may delay retirement until they or a spouse is eligible for Medicare. They may work, or work full time, when they have small children in contexts where their income would be sufficient to allow them to take time off from employment or work part time. The same would apply to people with family members in need of care. And many workers with serious health conditions themselves may feel the need to work, or work full time, in order to stay insured.

A number of studies over the past 2 decades have examined these issues of EPHI and labor supply. Table 4 shows the key studies and their findings.

EVIDENCE

The area that has drawn the most research in examining the impact of EPHI on labor supply has been retirement. Most of the work in this area has found convincing evidence that the need for EPHI leads workers to delay retirement.

Madrian (1994) used the 1987 National Medical Expenditure Survey and the 1984 SIPP to test for the impact of access to retirement health benefits on the age when workers choose to retire. The analysis exclusively examined the retirement history of men, since in the 1980s they were more likely to have lengthy labor market experience.[31] Most of the analysis followed the strategy of regressing the age of retirement against a series of individual characteristics as well as access to retiree health benefits. Some of the specifications controlled for the fact that some older workers

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30   Some employers do prorate their contribution for part-time workers, but these are still the exception.

31   The basic National Medical Expenditure Survey sample includes 1,539 men ages 55–84 who report ever having been retired. The SIPP, Characteristics of Jobs from Which Retired sample includes 2,009 men ages 55–84 who did not work in the prior quarter. The SIPP, Education and Work History sample includes 2,243 men in this age group who report receiving pension income.

TABLE 4
Studies of Health Insurance and Labor Supply Issues—Methods and Results

Author	Purpose of Study	Data Set	Sample	Results	Evidence of Job Lock
Blau and Gilleskie, 2001	Explores access to retirement health insurance and the decision to retire for men, ages 51–62	Health and Retirement Study (HRS), 1992 and 1994	Men ages 51–62, 4,080 in first interview, 3,630 in second interview, 3,606 in second wave	• Less mobility and retirement for younger men with retiree health coverage • More retirement for older men with retiree health coverage	Yes
Bradley et al., 2007	Explores impact of spouses' insurance on the labor force participation of women who experience a health shock	Metropolitan Detroit Cancer Surveillance System March Current Population Survey (CPS)	446 employed women, ages 30–64, with breast cancer 994 women for control groups	• Women with health insurance from a spouse are more likely to reduce labor force participation than those with EPHI	Yes
Bradley, Neumark, and Motika, 2011	Explores the labor supply decision of men with health shocks, contrasting those with EPHI and those with access to insurance through a spouse	HRS, 1996–2008	1,582 married men under age 64 for second interview	• Limited evidence that men feel the need to work in spite of an illness in order to maintain insurance coverage • Results inconclusive	Yes
Buchmueller and Valletta, 1999	Estimates the impact of spouses' insurance on women's work participation	April CPS Benefits Supplement, 1993	Prime-age (25–54) women, 6,400 couples	• Wife's labor supply reduced by 15–36 percent	Yes
Cebi, 2011	Examines the effect of spouses' insurance on married women with controls for women's preferences for types of labor	National Longitudinal Survey of Youth, 1989–2000 March CPS Annual Demographic Supplement, 2000	2,189 married women, ages 24–43 19,515 married women, ages 25–64	• Large negative impacts on women's labor force participation from spouses' insurance • Raises important questions about endogeneity of husbands' coverage with inconclusive tests	Yes
Garthwaite, Gross, and Notowidigdo, 2013	Estimates whether loss of public coverage in Tennessee caused people to seek employment or gain access to EPHI	March CPS paired with Annual Social and Economic Supplement, 2000–07	50,000 before restricted to individuals, ages 21–64, without advanced degrees	• Evidence that a substantial number of older people or those in poorer health would work less with access to insurance	Yes
Gruber and Madrian, 1995	Assesses impact of laws that allow workers to retain employer coverage on retirement decision	CPS, 1980–1990	214,508 men, ages 55–64	• 1-year extension of coverage increases probability of retirement by 1.1 percentage points	Yes

TABLE 4 (CONTINUED)

Author	Purpose of Study	Data Set	Sample	Results	Evidence of Job Lock
Madrian, 1994	Estimates the effect of EPHI on the retirement age	National Medical Expenditure Survey, 1987 Survey of Income and Program Participation (SIPP), Education and Work History Module, 1984 SIPP, Characteristics of Jobs from Which Retired Module, 1984	1,539 men who report having been retired, ages 55–84 2,243 men, ages 55–84, receiving a pension 2,009 men, ages 55–84, who did not work previous quarter	• Age of retirement reduced by roughly 1 year without retiree health benefits	Yes
Perry, Kenney, and Tereshchenko, 2009	Explores labor supply decisions for people after the onset of a disability	SIPP, 1996 and 2001	29,656 working parents without the onset of a disability and 2,577 with the onset of a disability	• Onset of a disability leads to less work reduction for those with EPHI	Yes
Rogowski and Karoly, 2000	Also examines retirement patterns among older men depending on insurance access, but study lacks important controls	HRS, 1992 and 1996	2,638 men, ages 55–60, working more than 35 hours in 1992	• Probability of retirement up 66 percent for those with retiree health benefits • Probability of retirement up 44 percent for those with other insurance access • Lacks important controls	Yes
Stroupe, Kinney, and Kniesner, 2001	Investigates job lock after a diagnosis of a serious illness	Surveys from Indiana, 1994	604 respondents, ages 18–64	• Men and women about 40 percent less likely to leave jobs if they have EPHI • Some ambiguous tests	Yes
Tunceli et al., 2009	Examines the impact of EPHI on employment patterns of cancer survivors	Penn State Cancer Survivor Study, 2002	153 men and 223 women, ages 55–62 in 2002 Control sample constructed from HRS data	• Dependence on EPHI substantially reduces transition to part time or to different jobs for cancer survivors	Yes

Note: For a detailed discussion of research papers, see section III of online Appendix at http://www.aarp.org/futureofwork/.

were still employed. The other method for controlling for this problem was to restrict the sample to older workers (ages 75–84), almost all of whom were retired. In all but one case, the tests showed that access to retiree health benefits led to a substantially earlier age of retirement.

Three basic analytic problems arise in using these samples to examine the impact of health insurance on the age of retirement. First, the possibility exists that workers selected jobs with generous retirement benefits because they wanted to retire early. In this case earlier retirement among those with access to retiree benefits would be explained by differences among workers, not access to benefits.

Second, the decision to retire early will be influenced by health considerations, which will in turn affect mortality. This means that many workers who retired early would not have been included in the sample, since they had died. The direction of bias from this exclusion is not clear, but it does mean that the individuals in the sample were not a random cross-section of retirees.

Third, the sample looked only at retired workers. It would, by definition, have excluded people who were still working. Again, the direction of bias from this exclusion is not clear. The analysis attempted to address this issue through statistical techniques and also by constructing another, smaller sample of older workers where the portion still working was small.

The analysis concluded that access to retiree health benefits had reduced the age of retirement by an average of roughly 1 year. However, it is not clear that this conclusion can be held with great confidence given the limited ability to control for differences among workers. It is at least plausible that retiree health benefits were an important factor attracting workers who wanted to retire early.

The other important factor to consider in assessing this analysis is that these workers would have been making decisions about retirement

when health care was far less expensive than it is today. The people who were living in retirement in the years covered in this study (1984–86) made their decisions about retirement in earlier years, presumably mostly in the 1970s but in some cases as far back as the 1960s.[32] Given the enormous increase in the cost of health insurance relative to wages over the past 4 decades, it is certainly plausible that access to insurance would be a far more important factor in the retirement decision in recent years than was the case for workers in the mid-1980s.

Madrian's findings were largely corroborated by Blau and Gilleskie (2001). They used the Health and Retirement Study to estimate the effect of access to retirement health insurance on the retirement decisions of men ages 51–62 in 1962. This analysis also found that access to retiree health insurance increased the probability of retirement. It estimated that a male worker with continual access to retiree health insurance coverage paid by the employer after age 51 would retire on average 1.8 years earlier than a worker without coverage and 1.5 years earlier when factoring in the possibility of re-entry after retirement. These results are robust to a variety of specifications.

DOES LETTING RETIREES BUY INTO THEIR EMPLOYERS' INSURANCE ENCOURAGE EARLY RETIREMENT?

Gruber and Madrian (1995) used data from the Current Population Survey to assess the extent to which laws allowing workers to retain employer coverage affected the retirement decision. The analysis looked at retirement patterns in men ages 55–64 in the years 1980 to 1990.[33] The study took advantage of differences in state laws before 1986 requiring access to EPHI after the end of employment. It used years before 1986, because after that year COBRA applied rules nationally requiring access to continued coverage for at least 18 months after the termination of employment.[34]

The results indicated that the extension of coverage by 1 year increased the probability

32 Someone who was 80 in 1985 may have decided to retire at age 62 in 1967.

33 This provides a sample of 214,508 men.

34 The analysis used a probit regression that controlled for individual characteristics, with the dependent variable as the probability of being retired at various ages.

of being retired for men in this age group by 1.1 percentage point, or 5.4 percent of the baseline probability of being retired. This result held up in a variety of specifications.

Because of its large sample size, this analysis gives important insight into the impact of access to health insurance on retirement decisions. It is worth noting that the issue being examined here was simply access to insurance, not actually obtaining insurance, as was the case in the prior two studies. In effect this test measured the impact of being able to buy insurance at a community-rated price. It suggests that this option alone would have a substantial impact on labor market outcomes.

THE IMPACT OF NON-EMPLOYER-PROVIDED INSURANCE ON LABOR SUPPLY

A second area where the need for EPHI is likely to have a major impact on labor supply is in the case of parents who may choose to work part time or to be out of the labor force altogether for a period of time to be with small children. This issue can arise with either or both parents, but most of the research on the topic has focused on the work patterns of married women. The Buchmueller and Valletta (1999) study is typical of the research on this topic. The study used the 1993 April Current Population Survey Benefits Supplement to examine the effect of spouses' health insurance on the labor supply of married women. The study examined the extent to which having insurance through a spouse increased the likelihood that women would work part time rather than full time, or not work at all. The analysis looked at prime-age women (25–54) with a working spouse.[35]

The study controlled for husbands' hours, labor income, and family income, as well as a number of variables for wives, such as education. It found that husbands' insurance reduced the likelihood wives would work by approximately 36 percent. This result held up across a variety of specifications, although in most cases the impact on the wife's labor supply was smaller. Also, the impact on labor supply was smaller for couples without children.

The study also tested whether husbands' insurance affected the likelihood of part-time work by wives. In a variety of specifications, the study found a comparable reduction in labor supply to the earlier set of tests. The likelihood of a wife working at a full-time job with insurance was 11 percentage points lower (26 percent) for women whose husbands had insurance than those who did not. As in the earlier set of regressions, the effects were much larger in families with children and especially those with two or more children.

This analysis provides strong evidence that husbands' insurance has a large influence on the labor-market decisions of married women, with the impact being primarily on families with children. The estimated size of the reduction in labor supply was 15–36 percent for married women with children. This corresponds to a sharp reduction in the likelihood that wives will take a full-time job.

EPHI AND LABOR SUPPLY AMONG PEOPLE WITH SERIOUS HEALTH CONDITIONS OR DISABILITIES

Over the past 2 decades, a number of studies have examined the extent to which the need for EPHI affects the labor supply of people with serious health problems or disabilities. The issue is whether people who might otherwise choose to not work or to work part time feel obligated to work at a full-time job because it is the only way they can get access to health insurance. Most of the research on the topic finds evidence that this is the case.

For example, Tunceli and colleagues (2009) examined the impact of EPHI on employment patterns using a sample of older cancer survivors (ages 55–62 in 2002). The sample, the Penn State Cancer Survivor Study, was drawn from cancer patients in northeast and central Pennsylvania in 1997–99. The sample members were re-interviewed in 2002 and asked about their work histories between the base year (1997–99) and 2002, as well as about their original health insurance statuses.[36]

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35   The analysis excluded the self-employed and people who had received public health insurance in the prior year. This gave a sample of 6,400 couples with an employment rate of 65 percent for the women.

36   This produced a sample of 153 men and 223 women.

The study tested the difference in the rate of exit from the labor force, transition from full-time to part-time work, and job changes between people who had EPHI and those who did not. In all cases the study found that dependence on EPHI substantially reduced the rate of transitions. The negative effect of EPHI was considerably larger for men than women for exits from the labor force and job changes, and a little larger for men than women for transitions to part-time work. The difference in exit rates (between people with EPHI and without EPHI) was 29.2 percentage points lower for men and 17.2 percentage points lower for women. For job changes, the difference was 33.4 percentage points for men and 26.4 percentage points for women. And for transitions to part time, the difference was 25.0 percentage points for men and 22.3 percentage points for women. This analysis provides compelling evidence of a strong job-lock effect for cancer survivors.

Several other studies found comparable effects of EPHI on job transitions among people with serious health conditions (see table 3). The results are similar in studies that focused on disabilities (e.g., Perry, Kenney, and Tereshchenko, 2009). People with disabilities with EPHI are more likely to work and to work full time than people who have access to insurance through another source.

LABOR SUPPLY AND ACCESS TO PUBLIC INSURANCE

While the analyses discussed above examined evidence where older workers, married women, or people with health conditions or disabilities worked more than they would otherwise in order to get health insurance, Garthwaite, Gross, and Notowidigdo (2013) in effect examined the opposite situation. Their study examined the extent to which a loss of public coverage led people to seek employment or to increase the number of hours they worked in order to gain access to EPHI.

Tennessee provided the basis for a natural experiment when it revoked Medicaid eligibility for 170,000 childless adults over a 3-month period beginning in July 2005. The state's Medicaid program, TennCare, is similar in structure to the ACA in that it provides income-based subsidies that decline as income rises. Before the 2005 disenrollment, the program provided insurance

subsidies for childless adults earning up to 200 percent of the poverty level. For this reason, the response of labor supply might be indicative of what can be anticipated to happen in reverse with the ACA.

The analysis used the March Current Population Survey from 2000–07 to determine labor market variables, and the Annual Social and Economic Supplement to collect data on income, poverty, and health insurance. It constructed a comparison group of 17 southern states. The study then compared labor market trends in Tennessee with these 17 other states before and after the cutbacks in the TennCare program. The analysis also compared the difference between the changes in the labor market in Tennessee for adults with children and adults without children, since adults with children would not be affected by the cutback while adults without children would be. The sample was composed of individuals ages 21–64 without advanced degrees.

The analysis found a large and statistically significant increase in employment after the disenrollment period. Overall employment rates rise for this group by 2.5 percentage points (from a base of just under 67 percent) compared with the control group of southern states. For adults without children, the increase was 4.6 percentage points, from a base of just over 64 percent. The analysis found that almost all the increase in employment occurred among people working more than 20 hours a week. The change in the percentage of people working less than 20 hours a week was small and statistically insignificant. A large increase also occurred in the percentage of people working at jobs that provided health insurance, suggesting that health insurance was a major motivation of increased work. The analysis found that the biggest change in employment patterns was among older people and people who reported being in bad health, the portion of the population for whom health insurance has the greatest value. The employment effect on people ages 20–39 and people who reported having excellent health was not statistically significant.

This analysis provides compelling evidence that there is a large labor supply response to health insurance. If workers can gain access to insurance without working or by working fewer hours, then a substantial number would opt to do so. This is especially the case with older workers and people

in poor health. Obviously, health insurance is especially important for this segment of the population. These are also the people who have the most difficulty working and therefore could be expected to reduce their hours if they did not need to work as much to obtain insurance coverage.

The Garthwaite, Gross, and Notowidigdo study is cited by the Congressional Budget Office (CBO; 2014) in its projections of the labor market impact of the ACA. This analysis noted a number of groups that were likely to reduce their labor supply as a result of the ability to buy insurance with subsidies through the exchanges. In particular, the CBO study noted the likelihood that the second earners in low-income, two-parent families were likely to reduce their labor supply, as well as low-income, childless adults. It also pointed to evidence that older workers and people in bad health were likely to reduce their labor hours or leave the labor force altogether.

CBO's bottom-line numbers indicated that they expected a 1.5–2.0 percent decline in total hours worked in the next decade, when the impact of the ACA is fully felt, and that this decline in hours will be associated with a 1.0 percent decline in compensation. While this implies a modest increase in average hourly compensation of 0.5–1.0 percent, CBO attributed this change mostly to a composition effect. The analysis assumed that the decline in labor supply will come mostly from less productive workers; therefore, the average compensation of those remaining in the labor force would be higher.[37]

SUMMARY

This section assessed research on the impact of EPHI on labor supply for three distinct groups: older male workers approaching retirement, married women whose spouses lack health insurance, and workers with health conditions or disabilities. In all three cases, the research presented substantial evidence that EPHI has the effect of increasing labor supply.

In the case of older male workers, the research indicated that the dependence on employer-based insurance may delay the average age of retirement by as much as a year among workers who have not reached the age of Medicare eligibility. The evidence for a substantial impact of EPHI on retirement is supported by all of the studies examined in this review. While these analyses were all conducted using exclusively male workers, presumably the effect would be similar with women workers now that it is common for women workers to have long work histories and to be employed at jobs with EPHI.

Also, substantial evidence showed a labor-supply response of married women, particularly those with children, to the need for EPHI. The studies reviewed in this analysis indicate that married women whose spouses lack health insurance would be less likely to work if they had access to non-employment-based insurance. In addition, those working would likely put in fewer hours, on average, since they would no longer need to work enough hours to qualify for EPHI. It is likely that a comparable, albeit smaller, effect would occur on the labor supply of single women, since they may not have a second source of income.

Finally, several studies found that EPHI had a substantial impact on the labor supply on workers who had a serious medical condition or disability. This impact was found in all the analyses in this review. The logic for this finding is straightforward. Workers with serious medical conditions or disabilities might prefer to work less in order to better deal with their health situation. However, if they are dependent on EPHI, then they will need to maintain their jobs and hours since insurance will be more valuable than ever to them. In this case, access to non-employer-based insurance is likely to lead to a substantial reduction in labor supply.

One of the studies in this section provides a good test of the likely impact of the ACA on employment patterns. It examined the impact of a sharp cutback in the Medicaid program in Tennessee in 2005 that dropped more than 100,000 childless adults from Medicaid coverage. This was effectively an ACA in reverse. The study found substantial increases in employment among

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37 There is reason to believe that an increase in wages will occur for less-educated workers. Garthwaite, Gross, and Notowidigdo (2013) noted a sharp drop in wages in Tennessee relative to other southern states after the Medicaid cutbacks. This would not be a surprising result based on the increase in labor supply the study finds. The implication would be that the drop in labor supply from the ACA might lead to some increase in wages for less-educated workers.

this group, especially older people (ages 40–64) and people who reported being in bad health. The effects on employment among people ages 20–39 and people who reported having excellent health were not statistically significant.

The findings of the studies examined in this section can likely also be extrapolated to other groups of workers. For example, as it becomes more common for fathers to function as the primary caregiver for young children, it is likely that the labor supply effect found for mothers will also apply to men. Also, many people who have caregiving responsibilities for parents or other relatives can be expected to work less if they are not dependent on EPHI for their health insurance.

It is likely that dependence on EPHI also affects the labor supply decisions of other demographic groups whose behavior has not been analyzed. Specifically, the availability of insurance outside of employment through the ACA is likely to affect people who are caregivers to a family member other than a child, workers who have reached Medicare age but have a younger spouse still in need of insurance, and fathers of young children.

The research to date has mostly not examined the labor market behavior of these groups primarily because it is more difficult to construct adequate tests for these demographic groups than the ones who have been the focus of most research. Nonetheless, it is reasonable to believe that the ACA will have similar effects on their labor supply decisions.

With the ACA extending coverage, we should expect to see that many people now employed full time in order to get EPHI will instead opt to work part time, or in some cases not at all. This will be a gain for these workers, especially in situations where working less will allow people to better care for children or other family members needing assistance or to deal with their own health issues. The reduction in labor supply associated with the ACA may also result in a positive outcome for the economy in the context of a labor market that is still far from full employment. The voluntary departure of older workers and workers in poor health from the labor force could open up job opportunities for young workers who are still feeling the impact of the recession.

V. Conclusion

This paper has reviewed much of the key research conducted over the past 2 decades on the extent to which EPHI reduces mobility for workers, discourages self-employment, and affects workers' labor supply decisions. The bulk of the examined research suggests a strong effect in all three areas. This means that the sudden availability of health insurance outside of employment as a result of the ACA should have substantial labor market effects.

In the case of worker mobility, the research suggests that the need for EPHI may reduce turnover by as much as 15–25 percent for men with no alternative source of insurance. It is reasonable to assume that the impact is comparable for women with EPHI, although most of the research focused on the response of men, since it was more difficult to construct adequate controls for samples of women.

Similarly, it seems access to non-employment-based insurance is important in the decision to experiment with self-employment. In this case, the research provides direct evidence of the response of both men and women. The implied impact on the decision to move to self-employment is comparable to the estimates of impact on job turnover. Access to non-employment-based insurance could lead to an increase in self-employment in the range of 20 percent.

Both of these effects of the ACA should be viewed as clear gains from an economic standpoint. In these cases, the provision of insurance through employers was leading to labor market inefficiencies. Workers were being discouraged from moving to jobs where they may be more productive or from starting a business because they depended on their jobs for insurance. By making the insurance market more like a normal market where individuals can buy at an actuarially fair rate independent of where they work, the ACA should lead to a better-working labor market. The size of the economic effect is not likely to be large, but the direction is unambiguously positive.[38]

In addition to facilitating job switching and entrepreneurship, the labor supply should also be affected if workers are able to get insurance outside of employment. The research in this review focused on the labor supply of three groups: near retirees, married women, and workers with health conditions or disabilities. In all three cases, the research found that dependence on EPHI substantially increased labor supply. Based on this research, it is reasonable to expect the ACA will lead to noticeable reductions in labor supply for these groups. As noted, other groups that have not been the focus of research, such as caregivers to family members other than children, Medicare-eligible workers whose spouse has not yet reached the age of Medicare eligibility, and fathers of young children, may also be expected to reduce the number of hours they work as a result of being able to get insurance through a source other than their employer.

Specifically, it is likely that many workers will opt to retire earlier than they would have otherwise because of their ability to get non-employer-based insurance. This effect could be large enough to substantially lower the average age of retirement, although with other factors pushing in the opposite direction (such as reduced pension coverage and longer life expectancies), the ACA could just mean that average retirement ages rise less rapidly than would otherwise have been the case.

The ACA is also likely to lead to a situation where some parents of young children reduce their labor-market involvement. In some cases, this

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38 To get an idea of the potential size of this effect, suppose 10 percent of workers switched to jobs where their productivity increased by an average of 5 percent. This would imply an aggregate increase in labor productivity of 0.5 percent. Assuming labor accounts for 70 percent of output, this translates into a GDP gain of 0.35 percentage points, which would be realized over 4 to 8 years. This is almost certainly an overstatement of the potential gains, since it is unlikely that 10 percent of workers would actually change jobs as a result of gaining access to non-employment-based insurance (most workers were previously not job locked), and average gains of 5 percent would be quite large.

may mean withdrawing from the labor market altogether. In other cases, it is likely to mean that parents will work fewer hours since they no longer need to reach a threshold number of hours to qualify for health insurance. Presumably, parents will value the option to spend more time with their children, although it may reduce their lifetime earnings.

Finally, the ACA is likely to lead many people with serious illnesses or disabilities (or whose spouse has serious health conditions) to cut back their hours or leave the labor market. The research in this area provided compelling evidence that workers with serious illnesses who were dependent on their jobs for insurance did not reduce their hours as much or drop out of the labor force anywhere near as frequently as those who had access to insurance independent of their employment. The ACA will allow many of these people to reduce hours or leave the labor force.

While much discussion of the ACA has treated the law as being a factor that would lessen the efficiency of the labor market because the subsidies will reduce incentives to work, it should be recognized that it is also increasing the efficiency of the labor market. The fact that, until the ACA, insurance has been available only to many people through full-time employment leads to significant economic distortions, as much of the research reviewed here documents. The ACA will remove some of these distortions, which will allow for a better-working labor market.

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