

# Notes

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## A T A G L A N C E

### **Retirement Income Adequacy for Boomers and Gen Xers: Evidence from the 2012 EBRI Retirement Security Projection Model,<sup>®</sup>** *by Jack VanDerhei, Ph.D., EBRI*

- EBRI's updated 2012 Retirement Security Projection Model<sup>®</sup> finds that for Early Baby Boomers (individuals born between 1948–1954), Late Baby Boomers (born between 1955–1964) and Generation Xers (born between 1965–1974), roughly 44 percent of the simulated lifepaths were projected to lack adequate retirement income for basic retirement expenses plus uninsured health care costs.
- These "at-risk" levels are some 5–8 percentage points LOWER than what was found in 2003, largely due to the growing adoption of automatic enrollment by 401(k) plan sponsors.
- Eligibility for a workplace defined contribution retirement plan has a significant positive impact on "at risk" levels.
- The aggregate retirement income deficit number, taking into account current Social Security retirement benefits and the assumption that net housing equity is utilized "as needed," is currently estimated to be **\$4.3 trillion** for all Baby Boomers and Gen Xers.

### **Trends in Employment-Based Coverage Among Workers, and Access to Coverage Among Uninsured Workers, 1995–2011,** *by Paul Fronstin, Ph.D., EBRI*

- Between December 2007–August 2009, the percentage of workers with employment-based coverage in their own name fell from 60.4 percent to 55.9 percent, recovering to 56.5 percent by December 2009. However, by April 2011, the percentage of workers with employment-based coverage had slipped back to 55.8 percent.
- Most uninsured workers reported that they did not have coverage because of cost: anywhere from 70 percent to 90 percent over the December 1995–July 2011 period.
- Uninsured workers reporting that they were not offered employment-based health benefits totaled roughly 40 percent from the mid-1990s through 2003, reaching 23 percent in mid-2011.

# Retirement Income Adequacy for Boomers and Gen Xers: Evidence from the 2012 EBRI Retirement Security Projection Model<sup>®</sup>

By Jack VanDerhei, Ph.D., Employee Benefit Research Institute

## Introduction

Measuring retirement security—or retirement income adequacy—is an extremely important topic. EBRI launched a major project to provide this type of measurement in the late 1990s for several states concerned whether their residents would have sufficient income when they reached retirement age. After conducting studies for Oregon, Kansas, and Massachusetts, a national model—the EBRI Retirement Security Projection Model<sup>®</sup> (RSPM)—was developed in 2003, and in 2010 it was updated to incorporate several significant changes, including the impacts of defined benefit plan freezes, automatic enrollment provisions for 401(k) plans, and the recent crises in the financial and housing markets.<sup>1</sup> EBRI has recently updated RSPM for changes in financial and real estate market conditions as well as underlying demographic changes and changes in 401(k) participant behavior since January 1, 2010 (based on a database of 23 million 401(k) participants). This *Notes* article provides updates for the previously published EBRI Retirement Readiness Ratings<sup>™,2</sup> as well as the Retirement Savings Shortfalls.<sup>3</sup>

## EBRI Retirement Readiness Ratings<sup>™</sup>

Figure 1 compares the Retirement Readiness Ratings<sup>™</sup> for 2003 and 2012.<sup>4</sup> The EBRI Retirement Readiness Ratings<sup>™</sup> measure the percentage of simulated life paths in retirement that are at risk of inadequate retirement income.<sup>5</sup> A household's simulated lifepath in retirement is considered to be at-risk in the baseline version of the model if its aggregate resources in retirement are not sufficient to meet aggregate minimum retirement expenditures, defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income) as well as some health insurance and out-of-pocket health-related expenses, plus stochastic expenses from nursing home and home health care (at least until the point such expenses are picked up by Medicaid). The resources in retirement are assumed to consist of Social Security (status quo benefits for the baseline version of the simulation); account balances from defined contribution plans; individual retirement accounts (IRAs) and/or cash balance plans; annuities or lump-sum distributions from defined benefit plans; and net housing equity (in the form of a lump-sum distribution at the point that other financial resources are exhausted). This version of the model is constructed to simulate "basic" retirement income adequacy; however, alternative versions of the model allow similar analysis for replacement rates and other thresholds.

When the EBRI Retirement Readiness Ratings<sup>™</sup> were simulated in 2012 for Early Baby Boomers (individuals born between 1948–1954), Late Baby Boomers (born between 1955–1964) and Generation Xers (born between 1965–1974), between 43.3–44.3 percent of the simulated lifepaths for retired households were projected to lack adequate retirement income for basic retirement expenses plus uninsured health care costs. This is an improvement: some 5–8 percentage points LOWER than what was found in 2003.<sup>6</sup> The improvement over the last nine years is largely due to the fact that in 2003, very few 401(k) sponsors had implemented automatic enrollment (AE) provisions and that the participation rates among the lower-income employees (those most likely to be at risk) were quite low.<sup>7</sup> The Pension Protection Act of 2006 contained provisions encouraging plan sponsors to adopt auto-enrollment.

While no significant trends by age demographic were found in the current analysis, Figure 2 shows that lower-income households are much more likely to be at risk for insufficient retirement income (even though basic retirement expenses are modeled as a function of the household's expected retirement income). The 2012 baseline ratings for Early Boomers range from a projection that:

- 87 percent of the simulated lifepaths for retired *lowest-income households* are at risk, to

- 13 percent at risk among the simulated lifepaths for retired *highest-income households*. Similar trends are evidenced for both the Late Boomers and Gen Xers.

Previous research by EBRI has demonstrated that one of the most important factors contributing to retirement income adequacy for the Boomers and Gen Xers is eligibility to participate in employment-based retirement plans.<sup>8</sup>

VanDerhei (August 2011) provides information on how the relative value of the defined benefit plan accruals impact retirement income adequacy, while Figure 3 provides similar information for eligibility in defined contribution plans for Gen Xers in 2012. In the latter case, the number of future years that workers are eligible to participate in a defined contribution plan makes a tremendous difference in their at-risk ratings. For example, according to the simulation results, Gen Xers with no future years of eligibility would run short of money in retirement 60.7 percent of the time, whereas fewer than 1 in 5 (18.2 percent) of those with 20 or more years of future eligibility would run this risk.

Figure 4 expands on this result, illustrating that the number of future years that workers are eligible to participate in a defined contribution plan can make a tremendous difference in their at-risk ratings, even after adjusting for a worker's income quartile. For example, in this simulation, those in the lowest-income quartile with no future years of eligibility would run short of money in retirement 86.8 percent of the time, whereas the same income cohort with 20 or more years of future eligibility would experience this situation 61.1 percent of the time.

A similar, albeit smaller, percentage-point decrease was found for those in the highest-income quartile: In this case, those with no future years of eligibility in a defined contribution plan are simulated to run short of money 16.8 percent of the time, compared with 5.4 percent of the time for those with 20 or more years of eligibility.

## Retirement Savings Shortfalls

While knowing the percentage of households that will be at risk for inadequate retirement income is important for public policy analysis, perhaps equally important is knowing just how large the accumulated deficits are likely to be.

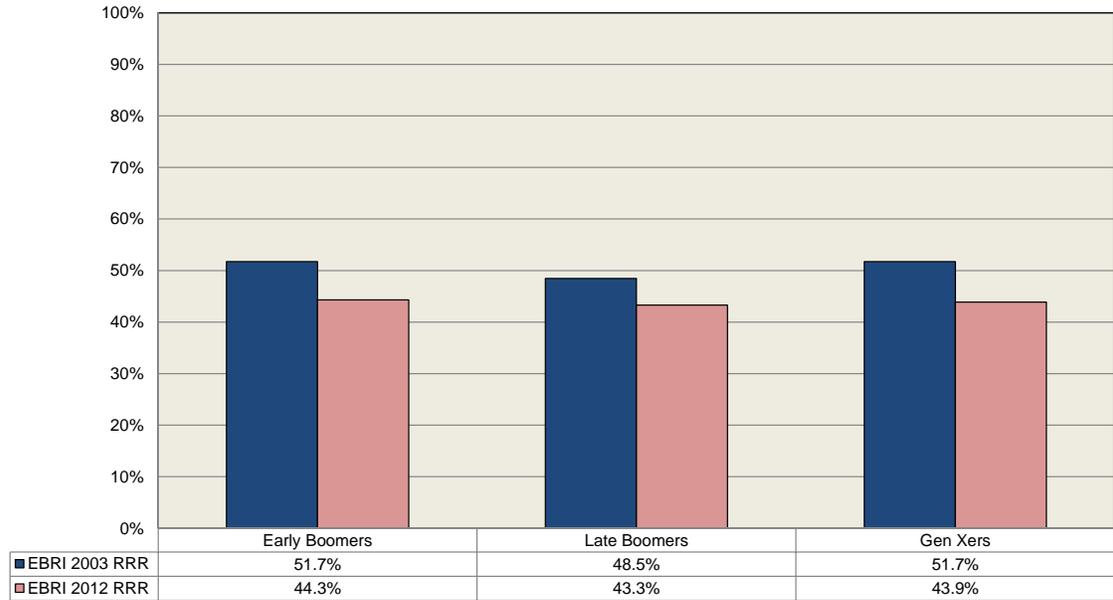
Figure 5 depicts Retirement Savings Shortfalls (RSS) by age cohort, as well as marital status and gender, for both Baby Boomers and Gen Xers. The RSS provide information on average individual retirement income deficits. These numbers are present values at age 65, and represent the additional amount that individuals would have to save by age 65 to eliminate their expected deficits in retirement (which, depending on the simulated lifepath, could be a relatively short period or could last decades). The additional savings required for those on the verge of retirement (Early Boomers) vary from approximately \$22,000 (per individual) for married households, increasing to \$34,000 for single males and \$65,000 for single females. Even though the present values are defined in constant dollars, the RSS for both genders increase for younger cohorts, largely due to the assumption that health care-related costs will increase faster than the general inflation rate.

While the RSS values in Figure 5 may appear to be relatively small considering they represent the sum of present values that may include decades of deficits, it is important to remember that less than half of the simulated lifepaths modeled were considered to be "at risk." In other words, the average RSS values represented in Figure 5 are reduced by the inclusion of simulated retirement lifepaths that will not run short of money. Looking only at those situations where shortfalls are projected, Figure 6 shows that the values for Early Boomers vary from approximately \$70,000 (per individual) for married households, increasing to \$95,000 for single males and \$105,000 for single females. In sum, when looking only at households with a projected shortfall, the average shortfall is larger—sometimes considerably so.

The aggregate deficit number, taking into account current Social Security retirement benefits and the assumption that net housing equity is utilized "as needed," is currently estimated to be \$4.3 trillion for all Baby Boomers and Gen Xers.<sup>9</sup> However, while trillion-dollar deficits are useful in focusing attention on this problem, they do little to help policy makers understand exactly *where* these deficits are coming from.<sup>10</sup>

**Figure 1**  
**EBRI Retirement Readiness Rating™: 2003 vs. 2012**

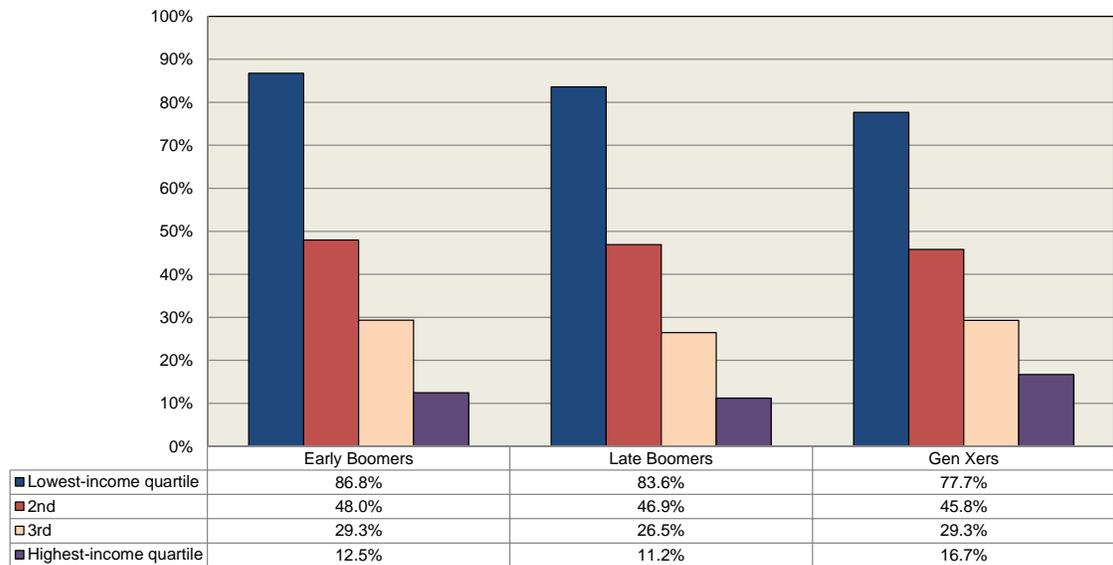
(Status Quo for Social Security, Housing Equity Used "As Needed")  
 Percentage of population at risk\* for inadequate retirement income, by age cohort (baseline assumptions)



Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* See text for definition of "at risk."

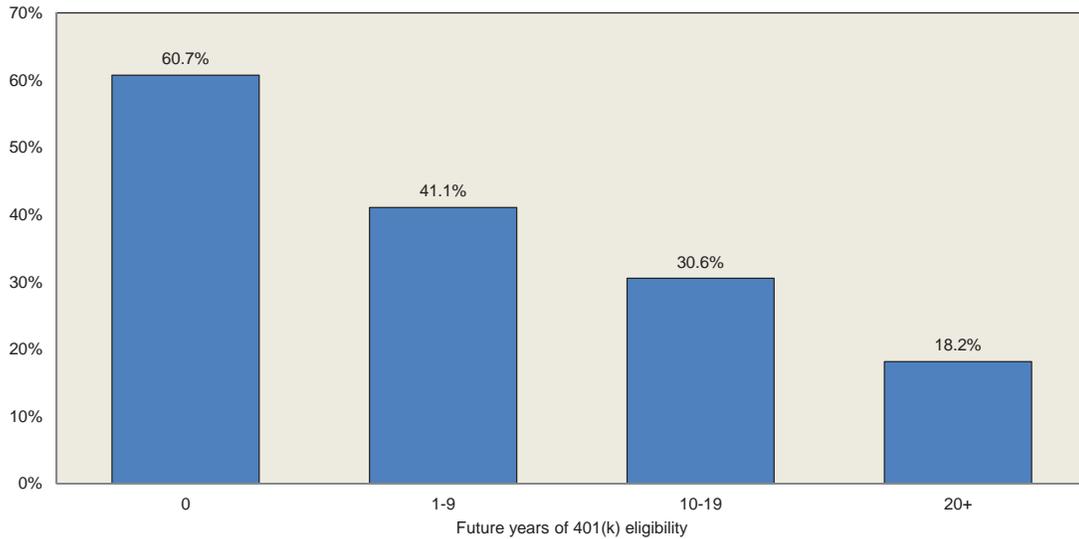
**Figure 2**  
**EBRI Retirement Readiness Rating™: 2012**

(Status Quo for Social Security, Housing Equity Used "As Needed")  
 Percentage of population at risk\* for inadequate retirement income,  
 by age cohort and income quartile (baseline assumptions)



Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* See text for definition of "at risk."

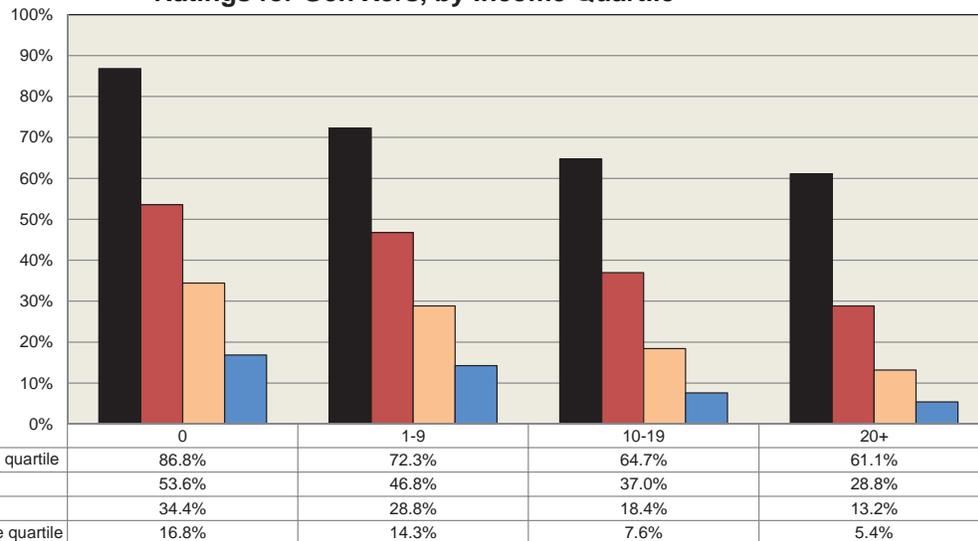
**Figure 3**  
**Impact of Future Years of 401(k) Eligibility on**  
**2012 At-risk\* Ratings for Gen Xers**



Source: EBRI Retirement Security Projection Model,® Version 120201.

\* An individual is considered to be at risk in this version of the model if their aggregate resources in retirement are not sufficient to meet aggregate minimum retirement expenditures defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income) and some health insurance and out-of-pocket health-related expenses, plus stochastic expenses from nursing homes and home health care (at least until the point they are picked up by Medicaid). The resources in retirement will consist of Social Security (either status quo or one of the specified reform alternatives), account balances from defined contribution plans, IRAs and/or cash balance plans, annuities from defined benefit plans (unless the lump-sum distribution scenario is chosen), and net housing equity (in the form of a lump-sum distribution). This version of the model is constructed to simulate "basic" retirement income adequacy; however, alternative versions of the model allow similar analysis for replacement rates, standard of living, and other thresholds.

**Figure 4**  
**Impact of Future Years of 401(k) Eligibility on 2012 At-Risk\***  
**Ratings for Gen Xers, by Income Quartile**



Source: EBRI Retirement Security Projection Model,® Version 120201.

\* An individual is considered to be at risk in this version of the model if their aggregate resources in retirement are not sufficient to meet aggregate minimum retirement expenditures defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income) and some health insurance and out-of-pocket health-related expenses, plus stochastic expenses from nursing homes and home health care (at least until the point they are picked up by Medicaid).

The resources in retirement will consist of Social Security (either status quo or one of the specified reform alternatives), account balances from defined contribution plans, IRAs and/or cash balance plans, annuities from defined benefit plans (unless the lump-sum distribution scenario is chosen), and net housing equity (in the form of a lump-sum distribution). This version of the model is constructed to simulate "basic" retirement income adequacy; however, alternative versions of the model allow similar analysis for replacement rates, standard of living, and other thresholds.

As noted above, eligibility for participation in a defined contribution plan can have a significantly positive impact on reducing these savings shortfalls. Figure 7 provides information on the average individual retirement income deficits by the number of future years eligible for coverage in a defined contribution retirement plan for Gen Xers. The deficit values for those assumed to have no future years of eligibility (as if they were never simulated to be employed in the future by an organization that provides access to those plans) is approximately \$78,000 per individual. That shortfall decreases substantially for those with one–nine years of future eligibility, to \$55,000 and even further to about \$39,000 for those with 10–19 years of future eligibility. Gen Xers fortunate enough to have at least 20 years of future eligibility in those programs could find their average shortfall at retirement reduced to only \$23,000.

Figure 8 provides similar information about the impact of future eligibility for defined contribution plans for Gen Xers, although this time the analysis also controls for relative levels of preretirement income. For those in the lowest-income quartile, the average deficit declines from approximately \$106,000 for those with no years of future eligibility to approximately \$66,000 for those with 20 or more years. A similar reduction is found for the higher-income quartiles.

## Conclusion

The EBRI Retirement Readiness Rating™ was developed in 2003 to provide an assessment of national retirement income prospects and was updated in 2010 to incorporate several significant enhancements, including the impacts of defined benefit plan freezes, automatic enrollment provisions for 401(k) plans, as well as the recent crises in the financial and housing markets. The 2012 model includes updates for financial and real estate market performance, employee demographics, and real-world 401(k) participant behavior (based on a database of 23 million 401(k) participants).

The baseline 2012 EBRI Retirement Readiness Rating™ finds that nearly one-half (44.3 percent) of the simulated lifepaths for the oldest cohort (Early Baby Boomers) are “at risk” of not having sufficient retirement resources to pay for “basic” retirement expenditures as well as uninsured health care costs. The percentage “at risk” drops for the Late Boomers (to 43.3 percent) but then increases slightly for Gen Xers to 43.9 percent.

The Retirement Savings Shortfalls show that for those on the verge of retirement (Early Boomers), the deficits vary from approximately \$22,000 (per individual) for married households, increasing to about \$34,000 for single males and \$65,000 for single females. When the averages are recomputed to exclude those simulated lifepaths without deficits, values for Early Boomers increase to approximately \$70,000 (per individual) for married households, \$95,000 for single males and \$105,000 for single females.

Of course, these values are aggregates for all households in a particular cohort, regardless of whether they work for an employer that sponsors a qualified retirement plan or not. While 60.7 percent of the simulated life paths for Gen Xers with no future years of eligibility in a defined contribution plan would run short of money in retirement, fewer than 1-in-5 of those with at least 20 years of future eligibility would run short of money in retirement.

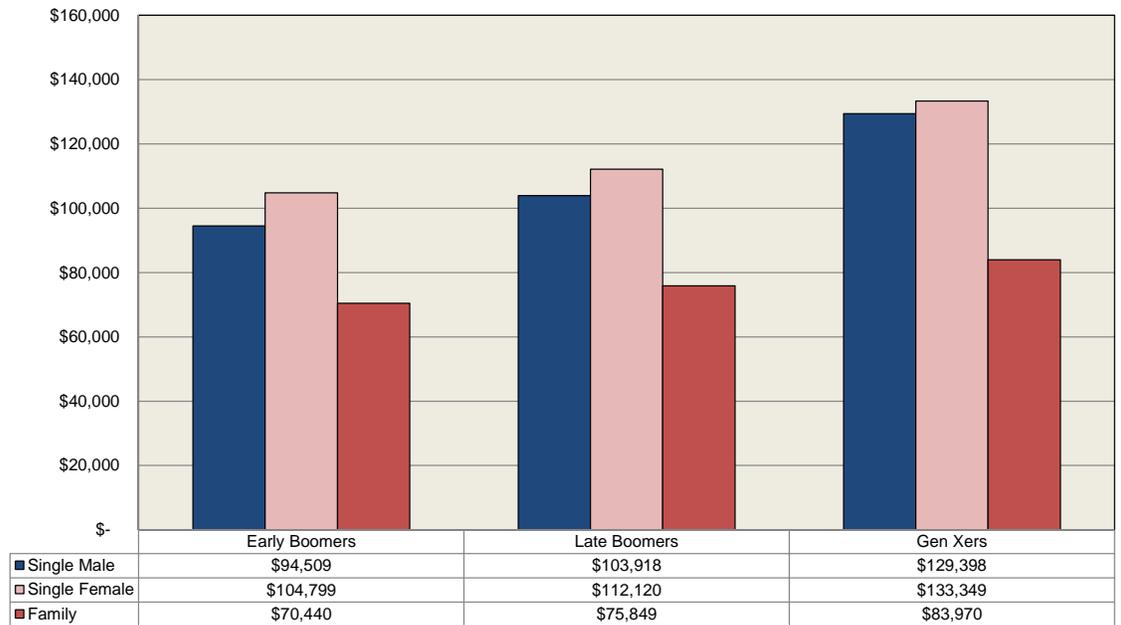
This *Notes* article provides just a brief overview of the types of analyses that are feasible under the updated version of RSPM. EBRI will produce a new set of annual EBRI Retirement Readiness Ratings™ and Retirement Savings Shortfalls in the first quarter of 2013. Moreover, several requests have been made for additional analyses and EBRI will attempt to respond to these through a series of publications in forthcoming *EBRI Notes* (<http://ebri.org/publications/notes/>).

**Figure 5**  
**2012 Unconditional Retirement Savings Shortfalls,\***  
**by Age Cohort, Marital Status, and Gender**



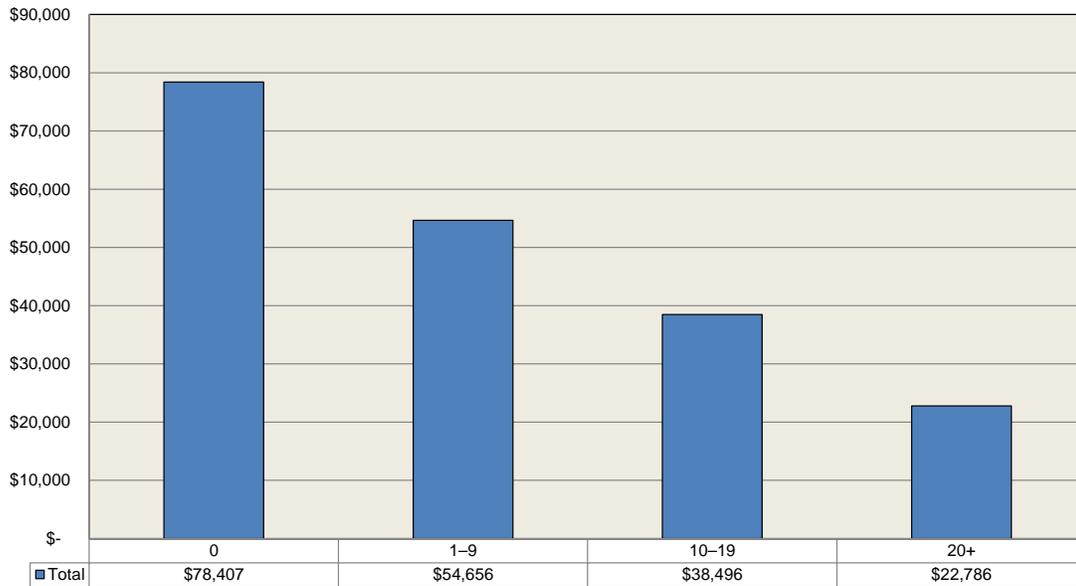
Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* The Retirement Savings Shortfalls (RSS) are determined as a present value of retirement deficits at age 65.

**Figure 6**  
**2012 Conditional Retirement Savings Shortfalls,\***  
**by Age Cohort, Marital Status, and Gender**



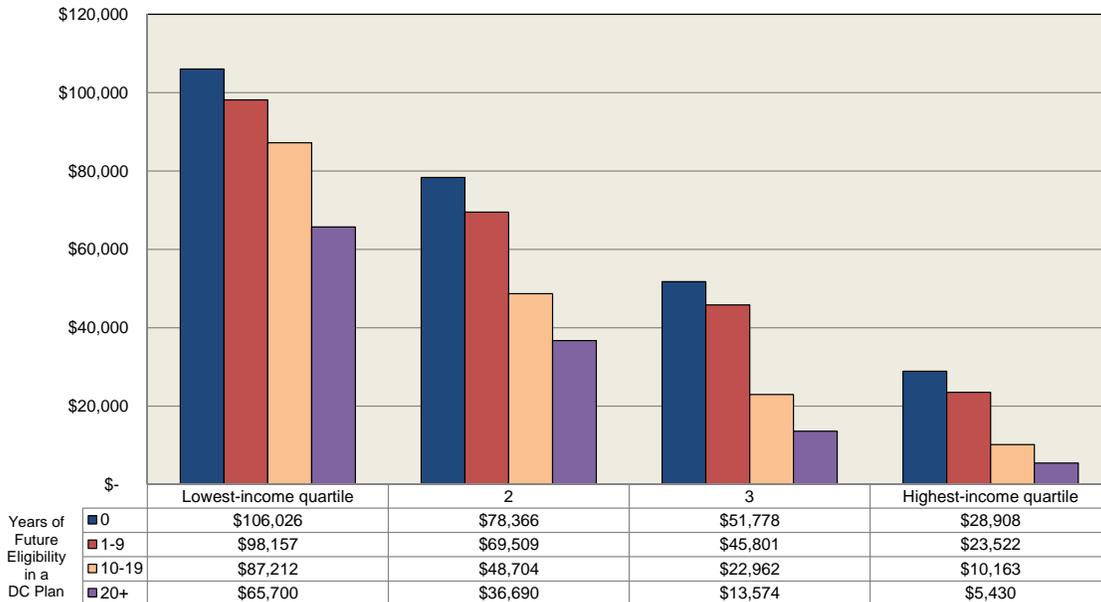
Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* The Retirement Savings Shortfalls (RSS) are determined as a present value of retirement deficits at age 65.

**Figure 7**  
**2012 Unconditional Retirement Savings Shortfalls\***  
**for Gen Xers, by Years of Future Eligibility**  
**for Participation in Defined Contribution Plans**



Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* The Retirement Savings Shortfalls (RSS) are determined as a present value of retirement deficits at age 65.

**Figure 8**  
**2012 Unconditional Retirement Savings Shortfalls\***  
**for Gen Xers, by Income Quartile and Years of Future Eligibility**  
**for Participation in Defined Contribution Plans**



Sources: EBRI Retirement Security Projection Model® versions 1501 and 1502.  
 \* The Retirement Savings Shortfalls (RSS) are determined as a present value of retirement deficits at age 65.

## Appendix A: Brief Description of RSPM<sup>11</sup>

One of the basic objectives of RSPM is to simulate the percentage of the population that will be “at risk” of having retirement income that is inadequate to cover basic expenses and pay for uninsured health care costs for the remainder of their lives once they retire.<sup>12</sup> However, the EBRI Retirement Readiness Rating™ also provides information on the distribution of the likely number of years before those at risk “run short of money,” as well as the percentage of compensation they would need in terms of additional savings to have a 50, 70, or 90 percent probability of retirement income adequacy.

VanDerhei (February 2011) describes how households (whose heads are currently ages 36–62) are tracked through retirement age, and how their retirement income/wealth is simulated for the following components:

- Social Security.
- Defined contribution balances.
- IRA balances.
- Defined benefit annuities and/or lump-sum distributions.
- Net housing equity.

A household is considered to run short of money in this model if aggregate resources in retirement are not sufficient to meet aggregate minimum retirement expenditures, defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income), and some health insurance and out-of-pocket health-related expenses, plus stochastic expenses from nursing home and home health care (at least until the point such expenses are picked up by Medicaid). This version of the model is constructed to simulate “basic” retirement income adequacy; however, alternative versions of the model allow similar analysis for replacement rates, standard-of-living calculations, and other ad hoc thresholds.

The baseline version of the model used for this analysis assumes all workers retire at age 65 and immediately begin to withdraw money from their individual accounts (defined contribution and cash balance plans, as well as IRAs) whenever the sum of their basic expenses and uninsured medical expenses exceed the after-tax<sup>13</sup> annual income from Social Security and defined benefit plans (if any). If there is sufficient money to pay expenses without tapping into the tax-qualified individual accounts,<sup>14</sup> the excess is assumed to be invested in a non-tax-advantaged account where the investment income is taxed as ordinary income.<sup>15</sup> The individual accounts are tracked until the point at which they are depleted. At that point, any net housing equity is assumed to be added to retirement savings in the form of a lump-sum distribution (not a reverse annuity mortgage). If all the retirement savings are exhausted and if the Social Security and defined benefit payments are not sufficient to pay basic expenses, the entity is designated as having “run short of money” at that time.

## Appendix B: Brief Chronology of RSPM

The original version of RSPM was used to analyze the future economic well-being of the retired population at the state level. EBRI and the Milbank Memorial Fund, working with the governor of Oregon, set out in the late 1990s to see if this situation could be addressed for the state. That analysis<sup>16</sup> focused primarily on simulated retirement wealth with a comparison to ad hoc thresholds for retirement expenditures.

Subsequent to the release of the Oregon study, it was decided that the approach could be applied to other states as well. Kansas and Massachusetts were chosen as the next states for analysis. Results of the Kansas study were presented to the state’s Long-Term Care Services Task Force on July 11, 2002,<sup>17</sup> and the results of the Massachusetts study were presented on Dec. 1, 2002.<sup>18</sup> With the assistance of the Kansas Insurance Department, EBRI was able to create Retirement Readiness Ratings™ based on a full stochastic decumulation model that took into account the

household's longevity risk, post-retirement investment risk, and exposure to potentially catastrophic nursing-home and home-health-care risks. This was followed by the expansion of RSPM and the Retirement Readiness Ratings™ to a national model and the presentation of the first micro-simulation retirement-income-adequacy model, built in part from administrative 401(k) data at the EBRI December 2003 policy forum.<sup>19</sup> The basic model was subsequently modified for testimony for the Senate Special Committee on Aging in 2004 to quantify the beneficial impact of a mandatory contribution of 5 percent of compensation.<sup>20</sup>

In an analysis to determine the impact of annuitizing defined contribution and IRA balances at retirement age, VanDerhei and Copeland, 2004, were able to demonstrate that for a household seeking a 75 percent probability of retirement income adequacy, the additional savings that would otherwise need to be set aside each year until retirement to achieve this objective would decrease by a median amount of 30 percent. Additional refinements were introduced in 2005 to evaluate the impact of purchasing long-term care insurance on retirement income adequacy.<sup>21</sup>

The model was next used in March of 2006 to evaluate the impact of defined benefit freezes on participants by simulating the minimum employer-contribution rate that would be needed to financially indemnify the employees for the reduction in their expected retirement income under various rate-of-return assumptions.<sup>22</sup> Later that year, an updated version of the model was developed to enhance the EBRI interactive Ballpark E\$estimate® worksheet by providing Monte Carlo simulations of the necessary replacement rates needed for specific probabilities of retirement-income adequacy under alternative-risk-management treatments.<sup>23</sup>

RSPM was significantly enhanced for the May 2008 EBRI policy forum by allowing automatic enrollment of 401(k) participants with the potential for automatic escalation of contributions to be included.<sup>24</sup> Additional modifications were added in 2009 for a Pension Research Council presentation that involved a "winners/losers" analysis of defined benefit freezes, and the enhanced employer contributions provided to defined contribution plans at the time the defined benefit plans were frozen.<sup>25</sup>

Also in 2009 a new subroutine was added to the model to allow simulations of various styles of target-date funds for a comparison with participant-directed investments.<sup>26</sup> In April 2010, the model was completely re-parameterized with 401(k) plan-design parameters for sponsors that had adopted automatic-enrollment provisions.<sup>27</sup> A completely updated version of the national model was produced for the May 2010 EBRI policy forum and used in the July 2010 *Issue Brief*.<sup>28</sup>

The new model was used to analyze how eligibility for participation in a defined contribution plan impacts retirement income adequacy in September 2010.<sup>29</sup> It was also used to compute Retirement Savings Shortfalls for Baby Boomers and Generation Xers in October 2010.<sup>30</sup>

In October 2010 testimony before the Senate Health, Education, Labor and Pensions Committee on "The Wobbly Stool: Retirement (In)security in America," the model was used to analyze the relative importance of employer-provided retirement benefits and Social Security.<sup>31</sup>

In February 2011, the model was used to analyze the impact of the 2008–2009 crisis in the financial and real estate markets on retirement income adequacy.<sup>32</sup>

An April 2011 article introduced a new method of analyzing the results from the RSPM.<sup>33</sup> Instead of simply computing an overall percentage of the simulated life paths in a particular cohort that would not have sufficient retirement income to pay for the simulated expenses, the new method computed the percentage of households that would meet that requirement more than a specified percentage of times in the simulation.

As explored in the June 2011 *EBRI Issue Brief*, the RSPM allowed retirement-income adequacy to be assessed at retirement ages later than 65.<sup>34</sup>

In a July 2011 *EBRI Notes* article,<sup>35</sup> it provided preliminary evidence of the impact of the “20/20 caps” on projected retirement accumulations proposed by the National Commission on Fiscal Responsibility and Reform.

The August 2011 *EBRI Notes* article<sup>36</sup> evaluated the importance of defined benefit plans for households, assuming individuals retire at age 65, while demonstrating the impact of defined benefit plans in achieving retirement income adequacy for Baby Boomers and Gen Xers.

Finally, EBRI’s September 2011 Senate Finance testimony<sup>37</sup> analyzed the potential impact of various types of tax-reform options on retirement income adequacy. This was expanded in the November 2011 *EBRI Issue Brief*<sup>38</sup> and a new set of survey results were added to the model in the March 2012 *EBRI Notes* article.<sup>39</sup>

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## Endnotes

<sup>1</sup> A brief description of the EBRI Retirement Security Projection Model® (RSPM) is provided in Appendix A followed by a chronology of its development and utilization in Appendix B. See VanDerhei (February 2011) for additional detail on the impact of the 2008–2009 crises in the financial and real estate markets on retirement income adequacy.

<sup>2</sup> See VanDerhei and Copeland (July 2010) for more detail.

<sup>3</sup> See VanDerhei (October 2010) for more detail.

<sup>4</sup> In previous EBRI publications, the baseline version of RSPM was based on the assumption that households did not use any net housing equity to finance their retirement expenditures. However, two additional alternatives were also included in the sensitivity analysis. Under the first, each household was assumed to purchase a reverse annuity mortgage at age 65 with the proceeds from the simulated net housing equity. Under the second, households with homes at age 65 were assumed to remain in them until such point that they were no longer able to afford their simulated retirement expenses with their Social Security and defined benefit accruals (if any) after the depletion of their defined contribution and IRA balances. Although the original baseline provided information on the retirement income adequacy potential for households without relying on net housing equity, it has the disadvantage of not quantifying the recent and rather volatile changes in the real estate market. Consequently, EBRI modified its choice of baseline to the second alternative described above (net housing equity used "as needed") and is using similar scenarios in its comparison to the 2003 and 2010 RSPM results.

<sup>5</sup> The baseline version of RSPM assumes individuals retire at age 65. However, given that an increasing percentage of current workers state their intentions to defer retirement beyond age 65 (Helman, Copeland, and VanDerhei, 2012), EBRI has recently modified RSPM to compute EBRI Retirement Readiness Ratings™ for retirement ages greater than 65. See VanDerhei and Copeland (2011) for more details.

<sup>6</sup> See VanDerhei and Copeland (2003) for detail.

<sup>7</sup> With the adoption of AE in the past few years, the participation rates for lower income employees enrolled in these types of 401(k) plans have often increased to values in excess of 80 percent. See VanDerhei (April 2010) for a comparison of simulated 401(k) accumulations at retirement age under automatic enrollment vs. voluntary enrollment broken out by income quartile.

<sup>8</sup> While it is true that years of future participation in a defined contribution plan would have a more direct association with retirement income adequacy than the years of future eligibility for participation, the latter metric was chosen to illustrate the importance of working for an employer that sponsors such a plan. Even if an employer sponsors a defined contribution plan, eligible employees may choose not to participate for some or all of the years that they are eligible. The distinction between these two measurements will be explored in more detail in a future *EBRI Notes* article.

<sup>9</sup> This number is somewhat smaller than the \$4.6 trillion reported in VanDerhei (October 2010); however, the baseline assumptions used in the 2010 analysis did not provide for the utilization of net housing equity to ensure retirement income adequacy. When the 2012 analysis is repeated with the same assumptions as used in 2010, the aggregate deficit actually increases to \$4.8 trillion.

<sup>10</sup> Unfortunately one of the most significant components of Retirement Savings Shortfalls (RSS) comes from an exposure that faces most retirees but very few choose to actively address. VanDerhei (October 2010) provides a first-order approximation of the impact of the stochastic nature of the nursing home and home health care expenses on the RSS values by age cohort, gender and marital status. Adding this nursing home and home health care expense increases the average individual RSS for married households by \$25,317. Single males experience an average increase of \$32,433 while single females have an increase of \$46,425. A precise evaluation of the impact would involve a comparison of the values

supplemented with the premiums required to fully insure the financial consequence of nursing home and home health care expenses. For an example of this comparison with a different output metric, see VanDerhei (2005).

<sup>11</sup> This material first appeared in VanDerhei and Copeland (July 2010).

<sup>12</sup> The nominal cost of these expenditures increases with component-specific inflation assumptions. See the appendix for more details.

<sup>13</sup> IRS tax tables from 2009 are used to compute the tax owed on the amounts received from defined benefit plans and Social Security (with the percentage of Social Security benefits subject to federal income tax proxied as a function of the various retirement income components) as well as the individual account withdrawals.

<sup>14</sup> Roth IRA and 401(k) accounts are not used in this version of the model but will be incorporated into a forthcoming EBRI publication.

<sup>15</sup> Capital gains treatment is not used in this version of the model.

<sup>16</sup> VanDerhei and Copeland (2001).

<sup>17</sup> VanDerhei and Copeland (July 2002).

<sup>18</sup> VanDerhei and Copeland (December 2002).

<sup>19</sup> VanDerhei and Copeland (2003)

<sup>20</sup> VanDerhei (January 2004).

<sup>21</sup> VanDerhei (2005).

<sup>22</sup> VanDerhei (March 2006).

<sup>23</sup> VanDerhei (September 2006)

<sup>24</sup> VanDerhei and Copeland (2008).

<sup>25</sup> VanDerhei and Copeland (2010).

<sup>26</sup> VanDerhei (2009).

<sup>27</sup> VanDerhei (April 2010).

<sup>28</sup> VanDerhei and Copeland (2010).

<sup>29</sup> VanDerhei (September 2010).

<sup>30</sup> VanDerhei (October 2010a).

<sup>31</sup> VanDerhei (October 2010b).

<sup>32</sup> VanDerhei (February 2011).

<sup>33</sup> VanDerhei (April 2011).

<sup>34</sup> VanDerhei and Copeland (June 2011).

<sup>35</sup> VanDerhei (July 2011).

<sup>36</sup> VanDerhei (August 2011).

<sup>37</sup> VanDerhei (September 2011).

<sup>38</sup> VanDerhei (November 2011)

<sup>39</sup> VanDerhei (March 2012).

# Trends in Employment-Based Coverage Among Workers, and Access to Coverage Among Uninsured Workers, 1995–2011

By Paul Fronstin, Ph.D., Employee Benefit Research Institute

## Introduction

Employment-based health benefits are the most common form of health insurance for nonpoor and nonelderly individuals in the United States. In 2010, 58.7 percent of nonelderly (under age 65) individuals were covered by an employment-based health benefits plan, including 68.6 percent of workers, 35.3 percent of nonworking adults, and 54.8 percent of children (Fronstin, 2011a).

Since the 1980s, the percentage of individuals without health insurance coverage has generally been increasing, in large part because rising health benefit costs eroded the number of workers with employment-based coverage. However, for a few years during the late 1990s, the percentage of workers and their families with employment-based coverage increased and the percentage without health insurance declined, partly due to the strong economy and low unemployment.

Prior research had shown that the percentage of workers offered health benefits had been increasing, but the take-up rate had been declining (Fronstin 2007). While the percentage of workers with coverage has ebbed and flowed with the economy and health care costs, trends in the percentage of workers *offered* coverage and the percentage of workers *taking* coverage when offered have remained steady.

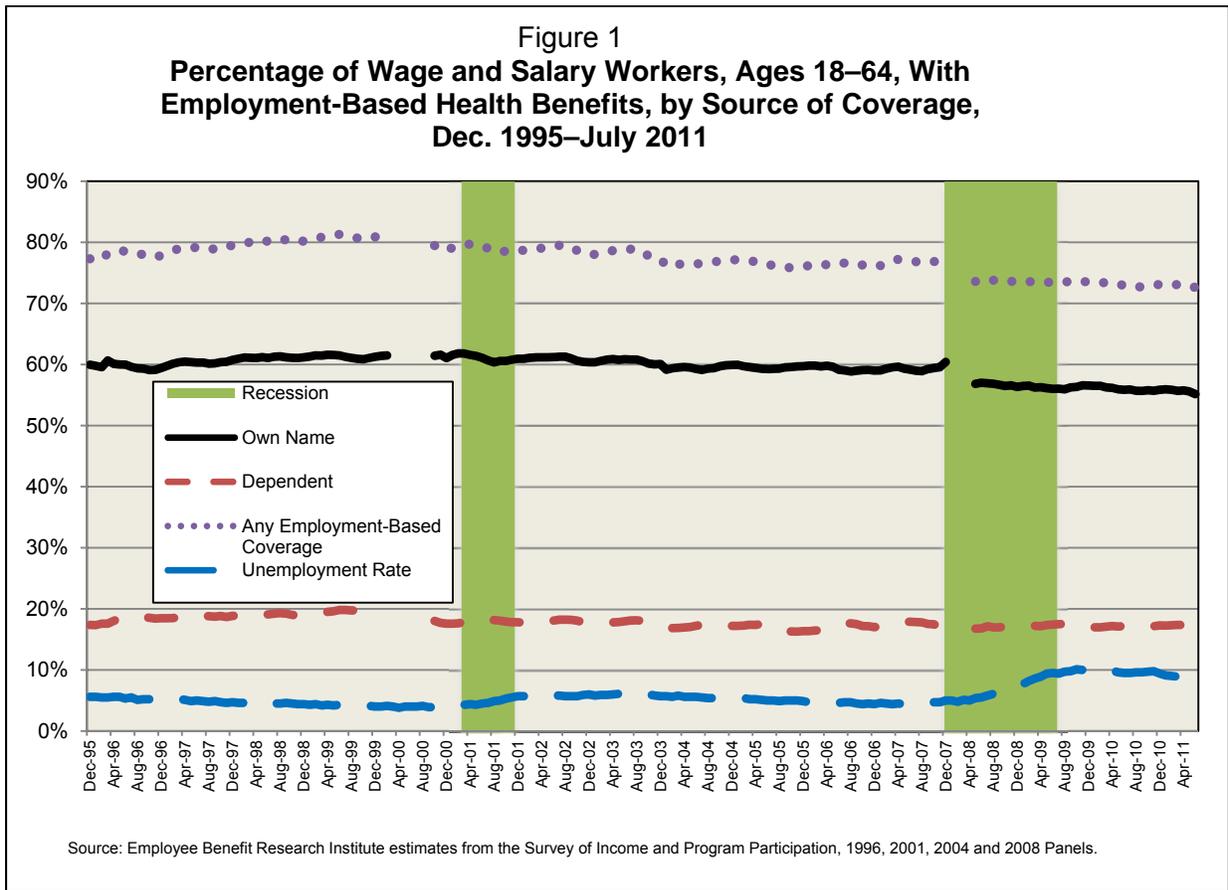
This analysis examines the state of employment-based health benefits, updating prior EBRI research (Fronstin, 2011b) that examined trends in coverage on a monthly basis, over the time period from December 1995 to July 2011. Examining these data on a monthly basis allows a more accurate identification of changes in trends, and can also more clearly indicate the effects of recession and employment on coverage. Trends in offer rates and reasons for being uninsured among uninsured workers are also examined.

## Trends in Employment-Based Health Coverage

Figure 1 shows the percentage of wage and salary workers ages 18–64 with employment-based health benefits, either in their own name or covered as dependents. There was very little change between December 1995 and December 2007; the percentage of workers with coverage in their own name increased slightly from just below 60 percent in the second half of 1996 to slightly above 61 percent in 1998. Between February 1998 and September 2002, the percentage of workers with coverage in their own name bounced around between 60.5 percent and 61.8 percent. A gradual decline in coverage started in October 2002, and between January 2004 and December 2007, the percentage of workers with coverage in their own name was mostly below 60 percent.

Between December 2007, when the most recent economic recession officially started, and May 2008, the percentage of workers with coverage in their own names fell from 60.4 percent to 56.8 percent, but there are no data in between to determine if this was a gradual trend or a one-time drop. The period between May 2008 and the end of the recession in June 2009 shows a continuing decline in the percentage of workers with employment-based coverage in their own name. When the recession ended in June 2009, 56 percent of workers had employment-based coverage, a number that slipped to 55.9 percent by August of that year. After August 2009, there appears to be what might be the beginning of a recovery in the percentage of workers with employment-based coverage. By December 2009, 56.6 percent of workers had employment-based coverage in their own names. However, it appears that the recovery in the percentage of workers with employment-based coverage did not last. By April 2011, the percentage of workers with employment-based coverage was down to 55.8 percent. Furthermore, the data from June 2011 show that

55.2 percent of workers had employment-based coverage; however, this estimate is based on one-half of the sample and will likely be revised when data for the full sample are released.



Changes in the percentage of workers with employment-based coverage as a dependent occurred throughout this period as well. Between December 1995 and late 1999, the percentage of workers covered as a dependent increased from 17.4 percent to nearly 20 percent, and then declined during 2000 to about 18 percent. The percentage of workers with coverage as a dependent remained at that level through Sept. 2003, but then declined to between 16 percent and 17 percent during the October 2003–December 2007 period.

Between December 2007 and June 2009 the percentage of workers with coverage as a dependent increased from 16.6 percent to 17.4 percent, and reached 17.5 percent in July 2009. It appears that the increase in dependent coverage during this period offset the decline in coverage that workers received through their own job. During the post-August 2009 period when coverage through a worker’s own job appeared to be starting to recover, the percentage of workers with coverage as a dependent declined, slipping to 17 percent by December 2009 before increasing slightly to 17.4 percent by April 2011. These concurrent shifts suggest that the increase in dependent coverage may have been the result of the decrease in coverage through a worker’s job.

### Workers Without Health Insurance

Because of the linkage between employment and access to health insurance, the likelihood of a worker being uninsured is tied to the strength of the economy and the unemployment rate (Cawley, Moriya and Simon 2011). Between late 1995 and early 2000, the unemployment rate fell from 5.6 percent to 3.8 percent and the percentage of workers without health insurance coverage fell as well. During December 1995–October 1996, the uninsured rate for

workers was in the low-15 percent range (Figure 2). The uninsured rate was in the mid-14 percent range between November 1996 and September 1997. It fell to the upper-13 percent range during 1998, and was in the low-13 percent range during 1999 and early 2000.

Unemployment fell to 3.8 percent in April 2000, and in April 2002, not long after the end of the 2001 recession, reached 5.9 percent. At the same time, the uninsured rate among workers rose from the low-13 percent range to the low- and mid-14 percent range, and did not recover until 2004. From mid-2002 to fall 2003, the uninsured rate for workers was in the upper-14 percent range, and from fall 2003 to summer 2004 it was in the 15–16 percent range, reaching 16.2 percent in January 2004. From summer 2004 through February 2007, the uninsured rate ranged from the upper-14 percent to low-15 percent range, and in mid-2007 it was in the low-14 percent range.

The beginnings of a recession in late 2007 put the uninsured rate back in the upper-14 percent range. From May 2008 through April 2011 the uninsured rate among workers stayed within a narrow band of just below or just above 18 percent. In July 2011, it was 18.6 percent, but that is an estimate based on one-quarter of the sample and may be revised when data for the full sample are released.

## **Why Workers Are Uninsured**

Uninsured workers were asked a series of questions regarding why they were not covered. They were asked about access to employment-based coverage, and whether they were ineligible for coverage offered to other workers or declined coverage when it was available. Workers with insurance from other sources such as employment-based coverage as dependents, those who purchased coverage directly from insurers, and those covered by public sources of coverage were not asked why they did not have coverage from their own employer. Some of the questions pertained to employment-based coverage specifically, but some could be applied more generally, such as those related to cost and declining coverage.

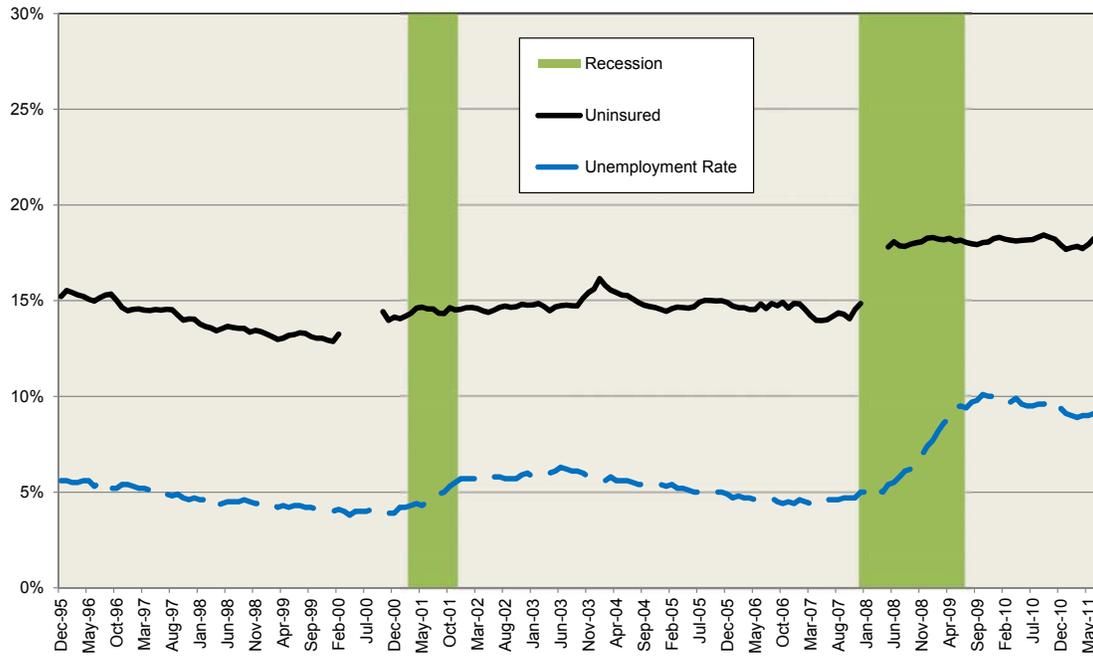
Uninsured workers reported multiple reasons for not having coverage. Most workers reported that they did not have coverage because of cost. These workers may have been referring to the cost of employment-based coverage or coverage that they could purchase directly from insurers. The general trend in the percentage of uninsured workers reporting cost as a reason for not having coverage has been upward since 2008 (Figure 3).

Between December 1995 and early 1997, uninsured workers citing cost as a reason for that status increased from about 73 percent to 84 percent, and then settled in the low-80 percent range through 1999 (Figure 3). An economic expansion in 2000 resulted in an unemployment rate of 3.8 percent, while the percentage of workers reporting cost as a reason for not having coverage fell to 71.5 percent. However, the percentage of uninsured workers reporting cost as a reason for not having coverage started increasing in late 2000, and continued to do so during the 2001 recession. That percentage remained in the low-80 percent range through 2003, and then jumped to the mid-80 percent range through 2007. It dropped again to about 77 percent in mid-2008 but then rose sharply during the latest recession, reaching 86 percent by May 2009, continuing to climb to 90 percent by June 2011.

## **Conclusion**

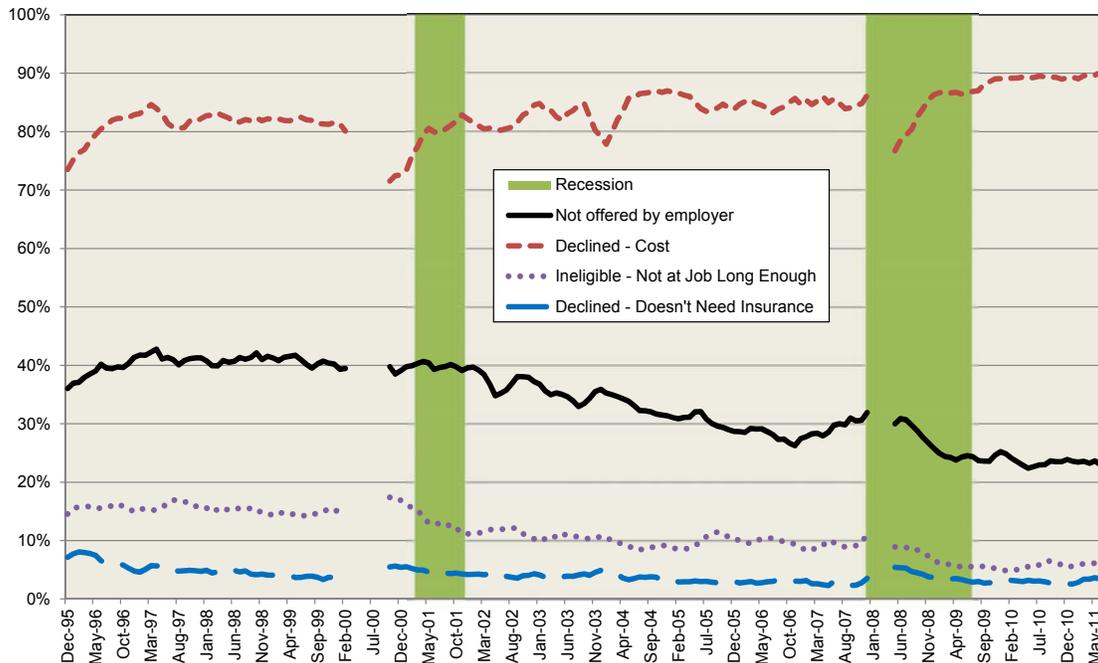
Examining sources of health insurance and uninsured rates among workers on a monthly basis allows a more accurate identification of changes in trends and can also more clearly indicate the effects of recession and unemployment on changes in coverage. While the link between health insurance coverage and employment has long been known, these data underscore the degree to which unemployment rates directly affect the levels of the uninsured in the United States.

**Figure 2**  
**Percentage of Uninsured Wage and Salary Workers, Ages 18–64, Dec. 1995–July 2011**



Source: Employee Benefit Research Institute estimates from the Survey of Income and Program Participation, 1996, 2001, 2004, and 2008 Panels.

**Figure 3**  
**Uninsured Wage and Salary Workers, Ages 18–64, by Reason Not Covered, Dec. 1995–July 2011**



Source: Employee Benefit Research Institute estimates from the Survey of Income and Program Participation, 1996, 2001, 2004, and 2008 Panels.

## Data and Methods Appendix

Data for this study come from a series of panels from the Survey of Income and Program Participation (SIPP) conducted by the Census Bureau. SIPP is a nationally representative longitudinal survey of the civilian noninstitutionalized U.S. population. SIPP provides comprehensive information about the income of individuals and households in the United States. It also provides information on participation in public programs. Individuals selected into the SIPP sample are interviewed once every four months over the life of the panel. In addition to a core set of questions asked participants each four months, a rotating set of topical questions supplements the core questions.

The data in this paper come from the 1996, 2001, 2004, and 2008 panels. The 1996 panel covers December 1995–February 2000. The 2001 panel covers October 2000–December 2003. The 2004 panel covers October 2003–December 2007. And the 2008 panel started in May 2008. Data through April 2011 are currently available for the entire sample. Smaller samples are available for 2011: May 2011 is available for three-quarters of the sample, June 2011 is available for one-half of the sample, and July 2011 is available for one-quarter of the sample. There are two gaps in the time series: March–September 2000 and January–April 2008.

Every four months, panel members were asked about health insurance coverage. Specific questions were asked about coverage from public sources, such as Medicare, Medicaid, the State Children’s Health Insurance Program (SCHIP), and various sources of military-related coverage. Specific questions were also asked about employment-based coverage and insurance purchased directly from an insurer. Uninsured individuals were also asked a series of questions regarding why they did not have coverage. Unfortunately, individuals with public coverage were not asked the series of questions related to why they did not have employment-based coverage; therefore, the analysis in this report related to reasons for not having employment-based coverage is limited to the uninsured.

The data in this report are for wage and salary workers ages 18–64. Self-employed workers are generally not included in the analysis because of issues regarding asking them about employer sponsorship of health benefits.

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# Notes

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*EBRI Employee Benefit Research Institute Notes* (ISSN 1085-4452) is published monthly by the Employee Benefit Research Institute, 1100 13<sup>th</sup> St. NW, Suite 878, Washington, DC 20005-4051, at \$300 per year or is included as part of a membership subscription. Periodicals postage rate paid in Washington, DC, and additional mailing offices. POSTMASTER: Send address changes to: *EBRI Notes*, 1100 13<sup>th</sup> St. NW, Suite 878, Washington, DC 20005-4051. Copyright 2012 by Employee Benefit Research Institute. All rights reserved, Vol. 33, no. 5.

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