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# Hard to Believe: The High Cost of a Biometric Identity Card

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# HARD TO BELIEVE: THE HIGH COST OF A BIOMETRIC IDENTITY CARD

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Edited by Aarti Kohli

## EXECUTIVE SUMMARY

A quarter century after the last major legalization in the United States, there is much evidence and a growing consensus that our current immigration system is unworkable and in serious need of reform. One of the proposed solutions has been the creation of a Biometric Enrollment, Locally-stored Information, and Electronic Verification of Employment (BELIEVE) card that would be mandatory for anyone—citizen or non-citizen—employed in a U.S. workplace. This plan was initially offered as part of a bi-partisan proposal on comprehensive immigration reform and is likely to be part of future comprehensive reform discussions. This paper analyzes the costs and unintended consequences of such a proposal. Our analysis shows that the BELIEVE system cannot achieve its goal of preventing unauthorized employment.

We estimate that establishing a biometric employment card would cost almost \$40 billion at the outset, with ongoing maintenance costs of at least \$3 billion per year. Requiring all working Americans to get this

identity card would fundamentally transform the information demands the United States government places on its citizens. The cards would be unreliable and inadequate to prevent fraud; would lead to privacy violations; and would place undue burdens on the poor. At the same time, the BELIEVE cards would likely be ineffective in targeting the employment of unauthorized migrants.

We recommend that rather than spending tens of billions of dollars on an expensive, intrusive and ineffective program, the government examine the root causes of unauthorized migration and employment. In 1986, Congress passed the Immigration Reform and Control Act (IRCA), touting the new law as a solution to the employment of unauthorized immigrants. More than two decades of experience suggests that IRCA has been unable to prevent the employment of unauthorized workers and policymakers are once again searching for quick fixes. The BELIEVE system is not the answer; it will cost us dearly at a time when we can least afford it.

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## BACKGROUND

Before 1986, the federal government did not require employers to verify that workers were authorized to work in the United States. Congress established the current employer verification requirement in the 1986 Immigrant Reform and Control Act (IRCA). That statute also created a system of sanctions to punish employers who knowingly hired undocumented workers. Whenever a U.S. employer hires a new worker, the worker must display identification establishing his identity and showing that he is authorized to work in the U.S. – either because he is a citizen, or because he is a noncitizen (such as a green card holder, an asylum recipient, or a holder of certain temporary visas) whose immigration status entitles him to work. Some of the documents workers typically provide to establish their identity are driver’s licenses, U.S. passports, and green cards. Some of the documents workers typically provide to establish their work authorization are U.S. social security cards, U.S. birth certificates or passports for citizens, and green cards or other U.S. immigration documents for noncitizens.<sup>1</sup>

The employer must keep records of that documentation in a form called the I-9. Employers need not seek documentation from, or fill out I-9s for, people who are legally classified as independent contractors rather than employees.

The Obama Administration has greatly expanded enforcement of I-9 requirements in the past three years, sharply increasing audits (so-called “silent raids”) of employers’ I-9 files. In FY 2010, ICE fined employers about \$7 million for I-9 violations, ten times as much as in 2008. Some targets have been small (as in one case where ICE sought to fine a small Subway franchisee over \$100,000 for I-9 violations, notwithstanding that there was no evidence the business had actually hired an unauthorized worker);<sup>2</sup>

others have been large (audit targets have included clothing retailers Abercrombie & Fitch and American Apparel).

The U.S. government has also established a program called E-Verify through which employers can seek to verify new hires’ employment eligibility electronically, by checking the employees’ names, social security numbers, and other identifying information against Department of Homeland Security and the Social Security Administration databases. Federal law makes participation in E-Verify mandatory for federal contractors, but voluntary otherwise; about 11% of employers use it nationwide.<sup>3</sup> Some states, such as Arizona, have enacted laws making participation mandatory for employers in the state; the Supreme Court has recently ruled that Arizona’s law does not conflict with the federal employment verification system established by IRCA.<sup>4</sup>

The BELIEVE plan’s backers propose to replace current verification systems with a new system under which every worker in the United States would have to apply for and receive a high-tech ID card.<sup>5</sup> In order to get the card, the worker would have to submit documents demonstrating his identity and work authorization. He would also have to submit to the federal government a biometric identifier, such as fingerprints or a scan of the veins in the back of his hand.<sup>6</sup> The federal government would encrypt the worker’s biometric information on his card.

Under the BELIEVE scheme, each worker would have to present that card to his employer. The employer (or a separate private credential checking bureau, charging the employer for the service) would then have to fingerprint the employee or scan his hand, and would have to use high-tech equipment to check the employee’s biometric against the information encrypted on the card. Assuming the employee’s biometric matched the one on his card, the employer would then have to transmit the employee’s

1. See 8 U.S.C. § 1324a(b)(1)(A); 8 C.F.R. § 274a.2(a)(2) (2010), U.S. Citizenship & Immigration Servs., *Form I-9, Employment Eligibility Verification*, available at <http://www.uscis.gov/files/form/i-9.pdf>.

2. See *USA v. Snack Attack Deli, Inc.*, 10 OCAHO no. 1137 (Dec. 22, 2010), <http://www.justice.gov/coir/OcahoMain/publisheddecisions/Looseleaf/Volume10/1137.pdf>.

3. *E-Verify: Preserving Jobs for American Workers 2011: Hearing Before House Comm. on the Judiciary and Subcomm. on Immigration Policy and Enforcement*, 112th Cong. (2011) (written testimony of Theresa C. Bertucci, Associate Director, Enterprise Services Directorate U.S. Citizenship and Immigration Services). E-Verify has struggled with erroneous and obsolete entries in the databases on which it relies, together with other obstacles to good performance; we discuss these in more detail later in this paper.

4. *Chamber of Commerce of the United States v. Whiting*, 131 S.Ct. 1968 (2011).

5. Senators Reid, Durbin, Schumer, Leahy, Feinstein and Menendez described the proposed BELIEVE system on April 29, 2010, in a document initially labeled “Conceptual Proposal for Immigration Reform,” available under the title “Real Enforcement with Practical Answers for Immigration Reform (REPAIR) Proposal” at [www.aila.org/content/default.aspx?docid=31851](http://www.aila.org/content/default.aspx?docid=31851).

6. The Conceptual Proposal, *supra* note 5, does not specify which biometric would be encoded on the card. Knowledgeable congressional staffers, however, indicated last year that the plan contemplated the use of either fingerprints or hand vein scans. We assume the use of one of those two biometrics in this analysis.

identity to a massive centralized database, maintained by the federal government, of people allowed to work in the United States—including citizens, green card holders, asylees/refugees, holders of a wide range of temporary visas, and members of a variety of other immigration categories. If for any reason the federal government then reported that the person was not entitled to work, that person would be prohibited from working and would have to file an appeal with the federal government.

Imagine, thus, that Sally Stephens, born 41 years ago in Flint, Michigan, has been working for sixteen years as a forklift operator for Wilbur Industries. If the BELIEVE proposal became law, she would have to report to a government office with documents establishing who she is and that she is authorized to work in the United States. The government would examine those documents and supplement them by “engag[ing] in background screening verification techniques currently used by private corporations.”<sup>7</sup> A federal government employee at that office would take her fingerprints (or a scan of the veins in the back of her hand); the government would then issue her a worker authorization card with her biometric information in encrypted form. This identity verification and biometric capture process would take place more than 150 million times in the start-up period, as the government issued cards to every American worker.

Sally (along with 150 million other American workers) would have to present that card to her current employer(s), and to every future employer. The employer would use equipment on its own premises (or those of a third-party credential bureau) to check Sally’s fingerprints or other biometric again, and make sure they matched those on the card. Assuming the biometrics matched, the employer would then check Sally’s work authorization against the master government database. If Sally’s biometric failed to match that on the card (perhaps because of a fingerprint error when the card was made), or the master database erroneously reported her as unauthorized to work, she would have to apply to the government bureaucracy to get the problem fixed before being allowed to work again.

7. “Conceptual Proposal,” *supra* note 5, at 10.

8. *Social Security Number High Risk Issues Hearing Before Subcomm. on Social Security of the House Committee on Ways and Means*, 112th Cong. (2006) (statement of Frederick G. Streckewald, Assistant Deputy Commissioner for Program Policy, Social Security Admin.) available at [http://www.ssa.gov/legislation/testimony\\_031606a.html](http://www.ssa.gov/legislation/testimony_031606a.html).

## I. THE BELIEVE SYSTEM WOULD BE PROHIBITIVELY COSTLY

The Social Security Administration has estimated that it will require \$10 billion to create a biometric social security card, an approach similar to the BELIEVE scheme. That estimate is egregiously low. Our analysis indicates that it would cost almost \$40 billion to establish the BELIEVE system (including both direct costs to the federal government and hidden costs imposed on employers and workers), and another \$3 billion annually to maintain it. (See *Figure 1*)

**FIGURE 1 | Costs and Revenue for BELIEVE Bio-ID System**

|  |  | Initial         | Annual         |
|--|--|-----------------|----------------|
| (in millions)                                      |  |                 |                |
| <b>Costs</b>                                       | <b>Costs to the Government</b><br>(hardware, identity systems, E-Verify expansion, staff capacity, biometric ID cards for citizen workers)   | \$22,626        | \$2,055        |
|  | <b>Costs to Employers</b><br>(biometric scanner, training, third party verification services)  | \$5,574         | \$211          |
|  | <b>Productivity Costs</b><br>(loss of worker productivity and addressing federal government and/or employer/third-party verification errors) | \$11,757        | \$884          |
| <b>Total Costs</b>                                 |  | <b>\$39,957</b> | <b>\$3,150</b> |
| <b>Revenue</b>                                     | <b>Fees for Biometric ID Cards</b><br>(collected from employers, noncitizen workers, and legal permanent residents)                          | \$1,794         | \$217          |
|  | <b>Total Revenue</b>   | <b>\$1,794</b>  | <b>\$217</b>   |
| <b>Net Costs (Costs minus Revenue)<sup>1</sup></b> |  | <b>\$38,163</b> | <b>\$2,933</b> |

1. This cost chart relies upon conservative estimates. See detailed cost charts in appendix for a range of estimates.

Note: Subtotals may not sum to totals due to rounding.

To be effective, a worker ID system must have 100% participation. The proposal contemplates that all employers will be required to establish that all their employees have the legal right to be employed. The only way to require employers to verify all their workers is to ensure that anyone who has a right to be employed can be reliably checked. An employer cannot be expected to demand a card from a prospective worker, and certainly cannot be penalized for failing to check the card, unless all eligible workers already have the cards and the infrastructure for card verification is in place. Nor would it work for the law to require only that noncitizens produce a card: in that situation, noncitizens could masquerade as citizens and thus circumvent the card requirement. So employers must demand cards from citizens and noncitizens alike, just as they demand I-9 documentation today from citizens and noncitizens. The upshot is that before mandatory verification can begin the government must:

- authorize an adequately staffed and funded government agency to implement the ID card system;
- issue rules and regulations on methods for updating data, appealing denials of applications, and replacing lost or stolen cards;
- create the national database to which those card readers will be connected;
- distribute (or sell) card readers to 7.4 million workplaces;
- verify the identity of, and issue cards to approximately 150 million workers;
- be prepared to respond to the same number of requests for verification in the start-up period alone.

About 156 million people are in the United States workforce, and would need cards. In order to succeed, the card must have multiple levels of security. It needs to be difficult to counterfeit; it has to be hardened against improper attempts to access biometric data in order to minimize the risk of identity theft; and it needs to be tamperproof so that

a card cannot be modified to incorporate a different person's biometric identifiers.

Biometric identification makes card issuance time-consuming and expensive. Every individual's application for a card would be an in-person transaction. The government will have to establish a network of thousands of card issuance offices nationwide, presumably by going to existing government offices (such as post offices) and installing new equipment, adding and training new staff, and allocating physical space for these operations. While vein scanning is a new and untested technology for which little data is available,<sup>9</sup> we know that training people to take fingerprints is not a trivial endeavor. The U.S. Census Bureau recently had to fingerprint all its census-takers; it trained staff people in fingerprint-taking for two hours, and even so 20% of the prints they took failed.<sup>10</sup> Live scan technology which produces digitized fingerprints would improve those rates, but with any fingerprint technology there is reason to expect unreadable-print rates as high as 4-5%,<sup>11</sup> and no lower than 1.5-2% in the best of circumstances.<sup>12</sup> Assuming an error rate of 2% in connection with worker IDs, approximately three million people would have bad prints taken. If those were entered into worker ID cards, all of those people would become unemployable until they rectified the situation.

The federal government could perhaps off-load some costs onto state governments by assigning the card application process and biometric capture to state DMV offices. This would shift the costs from one budget to another, but it would not significantly reduce them; state DMV employees have no equipment or training for fingerprint or hand vein capture. Rather, assigning the work to state DMV departments would simply impose an unfunded mandate. Cash-strapped states would then face a choice between expending funds to hire additional workers to cope with the surge of new duties, or using the existing workforce. Not adding workers means imposing more wasted time waiting in line for the people applying for driver's licenses,

9. See *infra* note 25 & accompanying text.

10. See *2010 Census: A Status Update of Key Decennial Operations, Before the Subcomm. on Federal Financial Management, Government Information, Federal Services and International Security Comm. on Homeland Security and Governmental Affairs, United States Senate* (February 23, 2010) (statement of Robert M. Groves Director US Census Bureau) available at [http://www.census.gov/newsroom/releases/pdf/Groves\\_Senate\\_Testimony\\_2-23-10.pdf](http://www.census.gov/newsroom/releases/pdf/Groves_Senate_Testimony_2-23-10.pdf).

11. See European Commission Joint Research Centre, "Biometrics at the Frontiers: Assessing the Impact on Society," EUR 21585 EN (2005), available at <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?prs=1235>; Hearing Before the House Comm. On Homeland Security on TSA's Transportation Worker Identification Credential Program, 110th Cong. (2007) (testimony of Judith Marks, President, Lockheed Martin Transportation and Security Solutions) available at <http://homeland.house.gov/SiteDocuments/20071031111059-74695.pdf>. (hereinafter "Testimony of Judith Marks")

12. See Testimony of Judith Marks, *supra* note 11.

a significant social cost that does not show up on state balance sheets. A similar choice—more government expenditure or more costs imposed on people waiting longer in line—would apply if the job were done in federal post office facilities.

We estimate that direct costs to government covering such items as hardware and staff training for biometric capture, establishing needed birth and death registration systems, scaling up the E-Verify infrastructure, and disseminating educational materials, together with the costs of the cards themselves, will exceed \$22 billion for the initial rollout of the program. They will impose an additional \$2 billion annually in ongoing costs.<sup>13</sup> These direct costs to the government, however, are only the beginning.

The BELIEVE plan contemplates that before an employer could hire a new worker, the employer would have to check his or her ID, and confirm that the person proffering the ID was the same person it was issued to. In order to do this, the employer would need a biometric scanner.<sup>14</sup> If the finger or hand the worker submitted to the scanner matches the biometric encoded on the card, the scanner connects to a central government database to confirm that the person has a right to work.

The costs of this card-checking infrastructure will be large: Because the biometric data will be encoded on the card, the card-checking devices will need decryption capabilities. What's more, they will need to be sufficiently hardened to prevent anyone from cracking the code and extracting the biometric data, which would create a risk of biometrically-enhanced identity theft for the card holder. In addition, businesses owning scanners would have to train employees to use them. Most workers will have to take time off work to get their cards—another real cost.

Because some information (such as name or immigration status) stored on the card could change, there will need to be a system for routinely updating information. Because workers' cards will be lost or stolen, there will need to be a system for card replacement.

The federal government will need a system for manual verification and investigation when the automated system reports that a biometric doesn't match or that an

Our own conservative estimates, summing to a little more than \$40 billion for the BELIEVE program's initial rollout, may significantly underestimate its costs.

individual isn't authorized to work. Anyone rejected for an ID card, or anyone who presents a valid card but is accused of not being the person to whom the card really belongs (say, due to an erroneous fingerprint mis-match), must have a quick and effective means of correcting the mistake. As we will detail later, there is strong reason to expect frequent errors in each of these categories. Error correction will entail substantial costs both to the government and to workers themselves. Consider that today, when the E-Verify system gives workers a "tentative nonconfirmation" notice—a warning that government databases report they are not authorized to work—the workers need to make time in order to attempt to resolve the database error. The error correction costs of the BELIEVE program will be substantially greater than E-Verify's<sup>15</sup>, because BELIEVE will have to address biometric errors as well as database errors.

Under the BELIEVE plan, every biometric or database error will mean a lost job, and lost wages, until the error can be fixed and the worker employed. Even our most conservative estimates suggest that the bill for lost wages due to errors will be billions of dollars at the outset, and more than \$65 million each year thereafter. We estimate that the productivity costs to employers and workers of acquiring cards, and remedying errors, for every employee in the U.S. workforce, together with the direct costs to employers for verification, will be in the range of \$12 to \$18 billion for the initial rollout alone. Ongoing costs will be in the neighborhood of \$1 billion yearly.<sup>16</sup>

13. See Technical Appendix to this report.

14. Our cost estimate assumes that employers with fewer than 500 employees will save money by using a third-party verification service, rather than buying biometric equipment and training employees in-house.

15. See discussion regarding errors in the E-Verify system. *infra* note 21

16. See Technical Appendix to this report.

Even a 1% error rate would still result in almost 1.5 million citizens and other legal workers being falsely accused of being undocumented aliens.

An alternative starting point for estimating total direct costs comes from the UK. A few years ago, the British government proposed a biometric ID card for the entire adult population of that country. (The new Conservative-Liberal Democratic government has since abandoned the plan as “wasteful, bureaucratic and intrusive.”<sup>17</sup>) A London School of Economics report assessed ten-year rollout costs for that country’s biometric ID card program at \$10-30 billion.<sup>18</sup> Multiplying that estimate by a factor of three (to reflect the fact that the UK plan was planned to cover a mere 50 million adults, one-third the size of the U.S. workforce<sup>19</sup>) would yield a corresponding US estimate of \$30-90 billion. The midpoint of that range—\$60 billion—is about one-eighth of total annual nondefense discretionary spending in the federal budget.

It should be noted, though, that the UK plan contemplated a much smaller reader network than the BELIEVE plan would require; in addition to having a much larger population, the land area of the United States is more than 40 times greater than that of the UK. Thus, U.S. costs for a network of verification locations would have to be substantially higher. This suggests that our own conservative estimates, summing to little more than \$40 billion for the BELIEVE program’s initial rollout, may significantly underestimate its costs.

## II. THE CARD WILL BE UNRELIABLE

The appeal of the BELIEVE plan is the idea that American employers will be able to consult a trouble-free, reliable, fraud-proof card that can tell them with assurance whether the person standing before them is authorized to work. The BELIEVE plan will not do that.

### A. Data Quality

In issuing cards to U.S. citizens and others, the government will be relying on information derived from existing databases for its judgments as to who is authorized to work and who is not. No matter how good the security on the cards, the system results will be unreliable if government databases cannot accurately report which individuals are in fact authorized to work. The extensive inaccuracies in current DHS and SSA databases, though, are well-documented. According to the Social Security Administration (SSA), there are errors in approximately 17.8 million records in the NUMIDENT database used to check employment eligibility status. About 13 million of those incorrect records belong to U.S. citizens.<sup>20</sup> A recent DHS report found that the E-Verify system had no more than 54% success in detecting unauthorized workers.<sup>21</sup> Anecdotal reports suggest that the system’s error rate in dealing with authorized workers, while lower, is still quite high.<sup>22</sup> While the DHS report cheerily claims that the system finds only 0.8% of authorized workers to be unauthorized,<sup>23</sup> application of even that statistic to the overall U.S. workforce would mean that over a million authorized U.S. workers would incorrectly be found to be working illegally.

These error rates will likely have a disproportionate effect on legitimate foreign-born workers and the industries that tend to employ them. For example, Intel Corporation’s E-Verify queries in 2008 resulted in nearly 13 percent of Intel employees being initially flagged as

17. PA, *Identity Cards to be Scrapped Within 100 Days*, THE INDEPENDENT [small caps], may 27, 2010, available at <http://www.independent.co.uk/newsuk/politics/identity-cards-to-be-scrapped-within-100-days-1984447.html> (quoting Deputy Prime Minister Nick Clegg).

18. London School of Economics, *An Assessment of the UK Identity Cards Bill and its Implications*, The Identity Project, 2005, available at <http://is2.lse.ac.uk/id-card/identityreport.pdf>.

19. We assume a linear relationship but understand that there would likely be economies of scale.

20. Congressional Response Report: Accuracy of the Social Security Administration’s Numident File (Office of the Inspector General, Social Security Adminis-

tration, Dec. 2006), available at <http://www.socialsecurity.gov/oig/ADOBEPDF/auditxt/A-08-06-26100.htm> (“we estimate that of the approximately 380 million native-born U.S. citizen records in the Numident file, about 12.7 million contain discrepant information that may result in incorrect Basic Pilot feedback.”).

21. Westat, *Findings of the E-Verify Program Evaluation*, (Dec. 2009), available at [http://www.uscis.gov/USCIS/E-Verify/E-Verify/Final E-Verify Report 12-16-09\\_2.pdf](http://www.uscis.gov/USCIS/E-Verify/E-Verify/Final%20E-Verify%20Report%2012-16-09_2.pdf), at ¶1.5.3. (hereinafter “Westat”)

22. See National Immigration Law Center, *E-Verify: Why Mandatory Employer Participation Will Stall Economic Growth And Job Creation*, 2010, available at <http://www.nilc.org/immsemplmnt/ircaempverif/e-verify-facts-2010-02-17.pdf>.

23. Westat, *supra* note 21, at ¶1.5.3.

unauthorized, all of whom were found to be authorized after a lengthy process. Under the BELIEVE plan, problems caused by erroneous or inaccurate information in U.S. databases could happen at multiple stages. An improper rejection could appear at the front end—when a U.S. citizen or authorized noncitizen queued up for a card and had his fingerprints or vein scan taken, only to be told that the computer did not recognize his work eligibility. A false rejection could also happen at the time a worker presented his card on starting a new job: if the initial work authorization was based on conditional lawful permanent resident status or a nonimmigrant visa, he would have to rely on the government data being updated correctly for the system to continue to recognize his status. Poor government record-keeping—which has been endemic in the relevant databases so far—would mean an erroneous rejection. Similarly, old records could easily lead to incorrect work authorization for a noncitizen whose visa status had lapsed. Those lawfully authorized workers who are incorrectly rejected would have to remain unemployed until their case worked its way through a bureaucratic appeals process.

## B. Biometric Error

Proponents of the BELIEVE proposal do not specify the nature of the biometric the card would use, but congressional staff last year indicated that the plan contemplated the use of fingerprint or vein scan technologies. Either one would require expensive equipment and trained personnel. Even a very small error rate would have devastating effects on the workforce, and impose immense costs on the government. Suppose, for example, that scanners were 99% accurate. That 1% error rate would result in almost 1.5 million citizens and other legal workers being falsely accused of being undocumented aliens.

As we have already noted, U.S. experience with fingerprint scanners in the field has generated substantial error rates. In a best-case analysis, one should expect unreadable-print rates of at least 1.5-2%, and possibly as high as 4-5%.<sup>24</sup> Nor is that the end of the problem. Some people

do not have fingerprints due to birth defects, skin diseases, or accidents; others do not even have fingers. Persons engaged in certain farming or industrial occupations that can cause significant dermal abrasion may suffer from scarring or wear which causes their fingerprints to appear changed to fingerprint readers. Dealing with these and other exceptional cases in an expeditious manner will require complex and expensive infrastructure.

Vein scanning is a new and relatively untried technology, with promising but still largely untested applications. While it's possible that the error rate for vein scan technology may be lower, at this stage of our understanding of the technology any such assumption would be risky. All reported work carried out to date on hand vein biometrics has involved relatively small databases collected by researchers working for the vein scanning technology vendors. "It is therefore not possible to... predict the likely false acceptance and false rejection rates that might be expected of hand vein biometrics."<sup>25</sup> In sum, there is no documented basis for believing that any biometric technology will be able reliably to match cardholders to cards without problematic error or failure rates.

## C. Fraud

The BELIEVE plan's biometric requirement is designed to ensure that the worker presenting an ID card to an employer is the same person to whom the card was issued. But it does not ensure that the person applying for an ID card is using her own name, rather than a stolen or false identity. The plan does require card applicants to present identity documents such as drivers' licenses. It is likely therefore that the market in false documents will shift to providing underlying documents in a false or stolen name. As a National Academy of Sciences report has explained, "even the most secure documents issued by the U.S. government... have been forged with regularity";<sup>26</sup> fraudulently acquiring or forging less-secure documents, such as birth certificates and drivers licenses, and then using them to acquire more secure ones, such as passports, is even easier.<sup>27</sup> The GAO recently released a report demonstrating

24. See *supra* note 9-10 and accompanying text.

25. Stan Z. Li & Anil K. Jain, *ENCYCLOPEDIA OF BIOMETRICS* 692 (2009).

26. Stephen Kent and Lynette Millet (eds.), *IDS - NOT THAT EASY: QUESTIONS ABOUT NATIONWIDE IDENTITY SYSTEMS* Committee on Authentication Technologies and their Privacy Implications, Computer Science and Telecommunications Board (CSTB), Division on Engineering and Physical Sciences,

National Research Council (2002), available at [http://www.nap.edu/catalog.php?record\\_id=10346#toc](http://www.nap.edu/catalog.php?record_id=10346#toc), 38.

27. James Waldo, Herbert Lin and Lynette Millet (eds.), *ENGAGING PRIVACY AND INFORMATION TECHNOLOGY IN A DIGITAL AGE*, Committee on Privacy in the Information Age, CSTB, Division on Engineering and Physical Sciences, National Research Council (2007), available at [http://www.nap.edu/catalog.php?record\\_id=11896](http://www.nap.edu/catalog.php?record_id=11896), 268.



how easy it is to get a U.S. passport using fraudulent documentation.<sup>28</sup> Even the highest degree of technological protections designed to keep the card itself secure will not stop a person from being able to get a card using false initial documentation. There is no assurance that a worker whose biometric matches a valid card is thus in fact an authorized worker.

One important potential avenue for the generation of false cards lies in the fact that any system must have a way of replacing lost credentials; fraudsters will therefore be able to impersonate real and existing workers. BELIEVE plan backers propose to store biometrics only on the ID card, not in the central registry. But that means when an imposter shows up and claims to be “John Smith of 1234 Main St., CT” the only check will be the documents proffered. If they have been stolen (or rented) from the real John Smith, the fake John Smith can get a credential with his own biometrics. Ironically, in some cases, the fake John Smith may have more evidence of being the real John Smith than the actual one.

### III. THE BELIEVE PLAN WOULD BURDEN THE POOR

The BELIEVE Plan will amount in the long run to a work tax: the law will impose costs (and delays) every time someone wants to take a new job. This tax will fall hardest on the poorest, and especially hard on casual labor hires, since they receive among the lowest wages, are hired for the shortest period of time and experience high job turnover. In order to follow the law’s requirements and get a card, workers will need to get their identity papers in order. But the people who least have their papers in order tend to be the poorest, most ill, or most in need of employment. The very people one would want to avoid hurting—homeless persons, for example—are the ones most likely to be harmed by a system that will in effect make them unemployable.

If the plan were to provide that day laborers, say, should be treated as employees and required to present

ID, it is hard to imagine how the program would work. By the time day laborers finished being approved by a local third party ID verifier, a good chunk of the workday will be over. But if ID verification required biometric capture and Internet access, how would these facilities be available on farms, or on trucks, or at casual (street-corner) labor recruitment sites? More generally, if these requirements are imposed on casual labor, then, as the cost of verification begins to approach their daily wage, it is hard to see how casual labor will remain economical at all. Nor is it clear how the plan would apply to domestic workers, companions, babysitters, and others hired by household employers.

### IV. THE BELIEVE PLAN WOULD WEAKEN PRIVACY PROTECTIONS

The BELIEVE proposal emphasizes that security features should protect the information stored on the card. Yet the history of similar technology teaches that the cards’ encryption scheme would be broken soon enough.<sup>29</sup> Once the encryption system on the ID card is broken, or the master decryption key leaks or is reverse engineered, then all extant ID cards will become vulnerable to anyone with the right sort of scanner. As the U.S. government puts more resources into building and enabling access to its national registry of legal workers—which will have data on almost every adult citizen and legal resident—it will create a single point of failure for identity theft on a massive scale. There have already been instances of employment eligibility verification data accidentally being released to the public;<sup>30</sup> more generally, government and private company data breaches are frequent, and sometimes massive. From 2000 to 2008 state and federal government agencies exposed or mishandled about 530 million state and federal records containing personal data.<sup>31</sup> Exposure or hacking of this data could have catastrophic consequences for individual data privacy.

28. Undercover Tests Show Passport Issuance Process Remains Vulnerable to Fraud: Hearing Before Senate Comm. on the Judiciary and Subcomm. on Terrorism and Homeland Security, 11th Cong. (2010), (statement of Gregory Kutz, Managing Director, Forensic Audits and Special Investigations), available at <http://www.gao.gov/new.items/d10922t.pdf>.

29. See, e.g., *Global RFID passport encryption standard hacked within two hours by a Dutch company* RFID GAZETTE, Feb. 4, 2006, available at [http://www.rfidgazette.org/2006/02/global\\_rfid\\_pas.html](http://www.rfidgazette.org/2006/02/global_rfid_pas.html).

30. Sasha Aslanian, *Warnings Issued After Possible Security Breach*, MINNESOTA PUBLIC RADIO NEWS, Dec. 11, 2009, available at <http://minnesota.publicradio.org/display/web/2009/12/11/security-breach>.

31. Jay Cline, *530M Records Exposed, and Counting*, COMPUTERWORLD, Sept. 9, 2008, available at [http://www.computerworld.com/s/article/9114176/530M\\_records\\_exposed\\_and\\_counting](http://www.computerworld.com/s/article/9114176/530M_records_exposed_and_counting).

## V. THE BELIEVE PLAN WOULD UNDERMINE FREEDOM

The Fourth Amendment ensures that people will “be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.” While the law in this area is complex and studded with exceptions, as a general matter the Fourth Amendment protects against invasions of a “reasonable expectation of privacy” by a search or seizure. Americans today have a reasonable expectation that they will not be fingerprinted or otherwise subject to biometric capture unless they are suspects in a crime or seeking a position of particular responsibility such as that of an intelligence officer, a police officer, or someone who works with young children.

The Supreme Court has approved some searches for non-law enforcement purposes<sup>32</sup> if the search program’s primary purpose constitutes a special need beyond the normal need for law enforcement, and outweighs the privacy interest at stake and the character of the intrusion.<sup>33</sup> Although the courts have greatly broadened the “special needs” exception in the last decade, no program to which it has been applied was anywhere as large as the national reach of a proposal to fingerprint (or vein scan) 156 million people. This would be a radical new weakening of the Fourth Amendment.

Finally, although the proposed framework limits the use of the card for purposes other than employment verification, there is no way to control future legislation. Employment eligibility verification is not all that this card is likely to be used for. Mission creep—the tendency of a bureaucratic project to expand beyond its original purposes—is an inevitable part of any government program. When the Social Security Card was invented, Congress legislated—and the card itself warned—that it should not be used for identification. Now the SSN is ubiquitous. The same will undoubtedly be the fate of this “hardened Social Security Card”: it will become necessary for access first to government programs, and then to private

The creation of a card and a database that control each individual’s right to work will give the government new leverage over citizens.

transactions. The creation of a card and a database that control each individual’s right to work will give the government new leverage over all citizens.<sup>34</sup>

Although they present it as only an immigration-related matter, what BELIEVE plan backers have proposed is nothing less than a new, mandatory, national ID card. Their proposal seeks to skirt the national debate such a radical proposal would normally require. It fails to take account of problems with the underlying databases that will undermine their scheme. It dramatically fails to grapple with the true costs their proposal will impose both on the public treasury and on the literally millions of innocent American citizens who will be denied the right to work—and suffer losses in pay—until the government decides to permit them to be employed. It is telling that a similar plan for a British national ID card was one of the first things abandoned by the new coalition government when it took office in 2010, due to spiraling costs and public resistance. A similar fate likely awaits the BELIEVE proposal once the public understands the costs in money, privacy, and liberty.

32. *City of Indianapolis v. Edmond*, 531 U.S. 32, 47-48 (2000).

33. See e.g., *Griffin v. Wisconsin*, 483 U.S. 868, 872-73 (1987); *O’Connor v. Ortega*, 480 U.S. 709, 720 (1987).

34. There is precedent for denying federal ID documents to people whose behavior the government wants to improve: the US Code requires the Secretary of State to refuse to issue (and, optionally, to revoke) a passport for anyone accused by a state agency of owing \$2,500 or more in child support. The statute also immunizes the Secretary of State and the US Government for any liability for these actions (42 USC 652(k)(2)). Similar rules allow most states to revoke drivers or professional licenses held by “deadbeat dads.” The creation of an “off” switch on the right to work opens the door to similar measures against whoever becomes the disfavored group of the future.

## VI. CONCLUSION

Supporters of the BELIEVE plan would have the nation expend huge, untold sums on a new ID card requirement that would require every U.S. citizen to be subject to biometric capture and to submit to a government regulatory scheme under which widespread errors will inevitably and wrongfully deny a significant part of the U.S. population the ability to work until those errors work their way through the system. In return, we will get a system of ID cards that will still not prevent fraud, and will not end unauthorized employment; at best, it will offer criminals a new revenue stream in the provision of high-tech identification to unauthorized workers. The plan will have significant negative effects on the ability of the poorest among us to support themselves, while contravening basic American values; offering government a new, powerful lever of control over the citizenry; and threatening Americans' privacy. There is no easy answer to the question of unauthorized employment in the United States.<sup>35</sup> The BELIEVE proposal will not eliminate the employment of unauthorized workers; it will burden all American workers at a time when the country can least afford it.

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35. Scholars have noted that the lack of job opportunities in sending countries and a market for low-skilled labor in countries are part of the root causes of economically-driven migration. See Gordon H. Hanson, *The Economic Logic of Illegal Immigration* (Council on Foreign Relations 2007).

# TECHNICAL APPENDIX: BELIEVE SYSTEM COST PROJECTIONS

Catherine Barry\*

This appendix outlines the process and assumptions used to estimate the costs of a biometric employment card. Congressional proposals have been vague, suggesting a variety of possible scenarios for a BELIEVE system implementation and costs. The costs projected here are based on plausible assumptions and benchmarks from similar existing programs and accessible government projections. Calculations are outlined below, along with citations to cost benchmarks and other sources of pertinent information.

## Numerical Benchmarks:

### 156.35 million workers

The 153.7 civilians in the labor force in June 2010 include both employed workers (141.73 million) and unemployed workers (14.623 million). In addition, the labor force includes 1.4 million in active military in 2009 + 0.25 million in the reserves (there were 1 million reservists in 2009, but 75% reservists hold jobs in the civilian labor force according to a 2007 report; including 1 million instead of 0.25 million reservists would mistakenly double-count civilian workers.)

*BLS June 2010 Civilian Labor Force:* [http://www.bls.gov/news.release/archives/empst\\_07022010.pdf](http://www.bls.gov/news.release/archives/empst_07022010.pdf); *Active military size 2009:* <http://www.bls.gov/oco/ocos249.htm>; *Employment of Reservists:* <http://www.cbo.gov/ftpdocs/81xx/doc8114/05-17-ReserveCallUps.pdf>

### 20.23 million new entrants total to labor force in first 5 years

The Bureau of Labor Statistics estimates 4.046 million new entrants each year; the first 5 years of the BELIEVE program will see over 20.23 million new entrants to the labor force.

*BLS estimate of annual new entrants in U.S. workforce:* <http://www.bls.gov/opub/mlr/2004/02/art3full.pdf>.

**A note about the unemployed:** Unemployed persons are defined as persons who are actively searching for work, but are currently not employed. Thus, they are part of the labor force and constitute a cost to the government who must provide cards and services related to each person required to participate in the biometric identification program. On the other hand, because they are unemployed, the time required to obtain cards and correct errors does not constitute a loss for employers; errors and other factors associated with the unemployed are not included as direct costs to employers.

**A note about the self-employed:** The self-employed, though they do not fall within the mandate of the proposal, are not excluded from total workforce in the calculations presented here. This is because 92-99% of self-employed have been shown to be wage workers at some point during their lifetime, suggesting that they eventually acquire a biometric card.

*Self-employed as wage-earners during their lifetime:* [http://www.chicagofed.org/digital\\_assets/publications/economic\\_perspectives/2006/ep\\_3qtr2006\\_part2\\_rissman.pdf](http://www.chicagofed.org/digital_assets/publications/economic_perspectives/2006/ep_3qtr2006_part2_rissman.pdf)

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## INITIAL, ONE-TIME COSTS FOR BELIEVE BIO-ID SYSTEM

| Costs to the Government   | (in millions)                   |
|---|---------------------------------|
| Staff training on verifying identities (train 3 staff per 4,500 offices)  | \$67.5                          |
| Biometric hardware for passport offices   | \$13.5 to \$337.5               |
| Expanded capacity of E-Verify system to accommodate 7.4 million U.S. businesses   | \$1,119                         |
| National birth and death registration systems; HHS, SSA, and DHS standardize information collected and reported by states | \$300                           |
| Employer and public education campaigns   | \$410                           |
| Cards for 156.35 million employed citizen workers   | \$20,716.4                      |
| <b>Total initial costs to government</b>  | <b>\$22,626.4 to \$22,950.4</b> |
| Costs to Employers  | (in millions)                   |
| Biometric scanners  | \$153.8                         |
| Training on biometric scanners  | \$91.6                          |
| Third party employment verification services  | \$5,328.2                       |
| <b>Total initial costs to employers</b>   | <b>\$5,573.6</b>                |
| Productivity Costs  | (in millions)                   |
| Lost productivity for workers to obtain new card  | \$9,579.5                       |
| Cost of errors for worker verifications at federal offices  | \$1,088.8 to \$4,355.4          |
| Cost of errors for workers from employer/3rd party service verifications  | \$1,088.8 to \$4,355.4          |
| <b>Total initial productivity costs</b>   | <b>\$11,757.1 to \$18,290.3</b> |
| <b>TOTAL INITIAL COSTS</b>  | <b>\$39,957.1 to 46,814.3</b>   |

Note that these estimates do not include costs for enhanced capacity of Office of Fraud Detection and National Security and employer audits.

### GOVERNMENT COSTS—INITIAL SET-UP AND CARD ISSUANCE, YEARS 0-5

#### Create federal capacity to verify identities and employment eligibility.

Workers must apply to the federal government to receive a biometric card. This application must be done in person so that the government can verify a worker's identity and employment eligibility. There are three potential options for existing federal offices that are geographically dispersed: U.S. Passport offices, U.S. Post Offices and Social Security Administration offices. In their 2002 Technology Assessment, the US General Accounting Office (US GAO) estimates that 3 staff persons at each port of entry would be necessary to acquire biometric measurements and troubleshoot for a proposed

border security program. Because the proposed bill is very similar to the proposed border security program, we also assume a scenario of hiring 3 persons at each of 4,500 US Passport offices, a total estimate of 13,500 new staff. (This is likely an underestimate given the 27,000 U.S. Post Offices that alternatively could be utilized to administer the program. Another alternative scenario could be to utilize office capacity of 1,300 Social Security Administration (SSA) offices to verify identities. This option seems less viable because of the limited capacity of such a small number of offices and the time period allotted (5 years) to verify the number of workers involved (over 150 million)). The 2002 assessment also estimates \$5,000 spent per staff person to receive training in biometric technology. To obtain the final cost projection, we multiply the

estimated cost per staff person (\$5,000) by the estimated number of necessary staff (13,500) for a total cost of \$67.5 million. This is a lower-bound estimate because it does not include costs of recruiting applicants and other additional human resources needs that would be required by the initiation of the BELIEVE program. Technology costs are included in the section below ‘Expand E-Verify system to accommodate 7.4 million employers’ and are not reflected here.

*US GAO 2002 Technology Assessment (with number of US Passport offices): <http://www.gao.gov/new.items/d03174.pdf>*

### **Cost of Biometric Hardware for Each Passport Office**

In their 2002 Technology Assessment, the US GAO reports that fingerprint machines cost between \$1,000 and \$25,000 each. We estimate that each office will acquire three machines, one for each staff person trained in the technology, for a total of 13,500 machines. This reflects a lower-bound estimate, because the government may choose to acquire more expensive machines, and/or they may choose to acquire more than three machines on average at each office. Total estimates range from \$ 13.5 - 337.5 million.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>*

### **Expand E-Verify System to Accommodate 7.4 Million Employers**

A 2008 US GAO projects a mandatory E-Verify program to cost \$838 million to accommodate 7.4 million employers for years 2009-2012 to the USCIS (U.S. Citizenship and Immigration Service). In addition, the Social Security Administration (SSA) estimates staff needs for years 2009-2013 to cost another \$281 million. We sum these estimates to obtain a baseline for initial BELIEVE program costs over a 5-year period. Total estimate: 1,119 million.

*US GAO Employment Verification Report 2008 (with total number of employers): <http://www.gao.gov/new.items/d08895t.pdf>*

### **Establish National Birth and Death Registration System**

Three federal agencies (Health and Human Services (HHS), the Social Security Administration (SSA), and the Department of Homeland Security (DHS)) will work together to standardize birth and death information that the states collect and report. A 2009 Congressional Budget Office (CBO) Cost Estimate budgets \$150 million for

DHS to make grants to states to ensure the accuracy of birth records. Based on this estimate, we add an additional \$150 million for states to ensure the accuracy of death records. Total estimate: \$300 million. Set-up costs are likely to exceed these conservative estimates because of the costs related to coordination among the three agencies.

*CBO Cost Estimate ‘Providing for Additional Security in States’ Identification Act of 2009’: <http://www.cbo.gov/ftpdocs/106xx/doc10666/s1261.pdf>*

### **Enhance Current Capacity to Prevent Fraud**

The proposal is vague regarding enhancing fraud protection, an extremely important factor related to social security/identity cards. What agency would be in charge of fraud protection? How much would it cost that agency to hire staff and manage programs to prevent identity theft and fraud? We intentionally leave this item blank because we did not find a suitable benchmark. Leaving this cost projection blank will lead to an underestimation of total BELIEVE system costs.

### **Random Audits of Employers Who Deduct Employee Wages**

Again, the proposal is vague regarding its stipulation on conducting audits of employers. How much would it cost the agency to hire staff and manage programs to conduct audits? How many audits would be conducted per annum? We intentionally leave this item blank. Leaving this cost projection blank will lead to an underestimation of total BELIEVE system costs.

### **Public Education Campaign**

The government will need to educate over 156 million workers, along with millions of future workers, on their rights and obligations under the BELIEVE system. In addition, the campaign will need to educate 7.4 million businesses. We used the original public relations campaign budget as reported in a US GAO report for the 2010 US Census as a benchmark because the U.S. Census communications program is a large and expansive program designed to educate over 300 million people: \$410 million.

*US GAO 2009 Communications Campaign Has Potential to Boost Participation report: <http://www.gao.gov/new.items/d09525t.pdf>*

### Cost of Producing Cards for the 156.35 Million Workers

A US GAO 2009 report estimates that expenditures for staff plus producing and storing information on biometric ID cards equals \$132.50 per worker enrolled in the Transportation Worker Identification Program (TWIC). This program is very similar to the proposed BELIEVE program; it also requires that biometric identifiers be stored on a card to be scanned by potential employers. Multiply cost of card (\$132.50) by number of workers to receive card (156.35 million employed and unemployed) for a total cost of \$20,716.4. Both employed and unemployed workers will obtain the card to verify their current work or obtain future work.

*USGAO 2009 Transportation Worker Identification Credential Report: <http://www.gao.gov/new.items/d1043.pdf>*

### Cost of Producing Cards for the 20.23 Million Individuals Entering the Workforce in First 5 Years

We use the same US GAO 2009 report as mentioned above, estimating that expenditures for staff plus producing and storing information on biometric ID cards equals \$132.50 per worker enrolled in the Transportation Worker Identification Program (TWIC). Multiply cost of card (\$132.50) by number of new workers to receive card during the initial 5-year start-up (20.23 million) for a total cost: \$2,680.5 million.

*USGAO 2009 Transportation Worker Identification Credential Report: <http://www.gao.gov/new.items/d1043.pdf>*

## EMPLOYER COSTS—INITIAL SET-UP AND CARD ISSUANCE, YEARS 0-5

### Expenses Related to Verifying Work Authorization of Potential Employees

#### Purchase of Biometric Scanners

For employers with at least 500 employees, we assume it will be more cost effective for the employer to buy biometric equipment and train employees in-house rather than use a third party service. According to a 2007 Small Business Association report, the number of businesses with at least 500 employees or more was 18,311 in 2007. In addition, a 2005 report by the London School of Economics on a similar biometric identity program proposed in the United Kingdom estimates that biometric scanners to be used by employers for employment

verification would cost \$8,400. Multiply cost (\$8,400) by the number of employers in the United States with 500 or more employees (18,311): \$153.8 million. In an alternate scenario, the total or partial costs of the scanners could fall on the government, but we assume that employers will bear the cost.

*2005 London School of Economics report "The Identity Project" <http://is2.lse.ac.uk/idcard/identityreport.pdf>; 2007 Business Data: [http://www2.census.gov/econ/susb/data/2007/us\\_state\\_totals\\_2007.xls](http://www2.census.gov/econ/susb/data/2007/us_state_totals_2007.xls)*

### Training Employees to Use Biometric Card Scanner

In their 2002 Technology Assessment, the US GAO estimates it would cost \$5,000 to train each staff person to utilize the biometric technology. As mentioned above, we assume that it will be more cost effective for large employers to have an in-house biometric card-scanner. We also assume that 18,311 businesses will average 1 staff person trained in biometric technology - some businesses will have more, but some businesses will have none and opt to use a third party business specializing in employment verification. Multiply training cost (\$5,000) by number of staff (1) by number of businesses (18,311): \$91.6 million. *US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>*

### Expenses Related to Using a Third Party Service to Verify Work Eligibility of Hired Workers

The 2002 US GAO assessment outlines a biometric airport security program in the Netherlands in which users pay \$89 and go through a 2-stage verification process. First, passengers undergo a background check, a passport review, and an iris scan. The iris scan and other information are encrypted and embedded on a biometric ID card. The second phase identifies and verifies each registered traveler at the immigration checkpoint. We assume that the process and steps described here are comparable to the processes to be implemented by a third party service as part of the BELIEVE program. We assume that all employers with less than 500 employees will opt for this program because of the costs involved in staff training and acquiring biometric scanning equipment. In 2007, 59,866,924 people worked for business with less than 500 employees. Multiply number employed by small businesses (59,866,924) by the cost per person (\$89) for a

total cost to small businesses to verify the employment eligibility of their workers: \$5,328.2 million. This is an underestimate because it does not account for new labor force entrants into small businesses during the first 5 years.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>; Number of persons employed by business with less than 500 employees: 2007 Business Data: [http://www2.census.gov/econ/susb/data/2007/us\\_state\\_totals\\_2007.xls](http://www2.census.gov/econ/susb/data/2007/us_state_totals_2007.xls)*

## **COSTS TO EMPLOYERS AND WORKERS—INITIAL SET-UP AND CARD ISSUANCE, YEARS 0-5**

### **Loss of Productivity When Workers Take Time off to Get Card**

We assume that employed workers will have to be absent from work for 3 hours to obtain their card; this includes travel time, wait time, and the time it takes to fill out paperwork and scan biometric markers. The average hourly wage rate was \$22.53 in June 2010; this output will be ‘lost’ to employers. The total number of employed workers equals the total number of workers (156.35 million) minus the number of unemployed (14.623 million). The unemployed workers do not constitute a productivity loss for employers because they are not employed by any business or entity; therefore they are not included in this calculation. Multiply the average hourly wage rate (\$22.53) by the number of hours missed (3) by the number of employed workers involved (141.73 million). Total estimated cost: \$9,579.5 million.

*Bureau of Labor Statistics (BLS) average hourly wage rate June 2010: [http://www.bls.gov/news.release/archives/empsit\\_07022010.pdf](http://www.bls.gov/news.release/archives/empsit_07022010.pdf)*

### **Loss of Productivity Due to Errors - Current Workers Errors When Taking Biometric Measurements at U.S. Passport Offices**

A 2010 US GAO report on the 2010 US Census revealed a 22% error rate in fingerprinting acquisition among trained employees. We assume that biometric technology equipment and training will improve and we estimate a very conservative 1% error rate. In addition, we estimate that these errors will result in a range of one to four weeks’ missed wages because of the time and steps involved in correcting errors such as misidentification as

an individual ineligible to work in the U.S. In this example, the worker will need to investigate where the error occurred (in the record-keeping of some particular office, in the scanning of the biometric markers, in the information encrypted in the biometric ID card), and one to four weeks to complete these steps is a conservative estimate. The June 2010 average weekly wage rate for all workers was \$768.27. Multiply a 1% (.01) error rate by the number of workers (156.35 million) minus the unemployed (14.623 million) by the average weekly wage (\$768.27) or four weeks’ wages (4\*768.27) for a total estimated cost of \$1,088.8 to 4,355.4 million. Unemployed workers are not included here because errors and time lost for their card acquisition would not constitute a loss for employers. Assuming a 1% error rate may lead to underestimates of costs involved given that the U.S. Census experienced a 22% error rate.

*US GAO 2010 Census report: <http://www.gao.gov/new.items/d10430t.pdf>; BLS average weekly wage in 2010: <http://www.bls.gov/news.release/pdf/empsit.pdf>*

### **Errors When Verifying Employment Through Third Party Services/Place of Employment**

In addition to errors that occurred at the U.S. passport offices, the same productivity loss may occur during the employment eligibility verification process when one of the 141.7 million employed workers are verified at their current place of employment. We make the same assumptions as above in the ‘Errors when taking biometric measurements at U.S. passport offices’, replicating the cost range of \$1,088.8 to 4,355.4 million.

*US GAO 2010 Census report: <http://www.gao.gov/new.items/d10430t.pdf>; BLS average weekly wage in 2010: <http://www.bls.gov/news.release/pdf/empsit.pdf>*



## ANNUAL OPERATING COSTS FOR BELIEVE BIO-ID SYSTEM

| Costs to the Government   | (in millions)                 |
|---|-------------------------------|
| Ongoing Staff training on verifying identities (train 1 staff per 4,500 offices)        | \$22.5                        |
| Maintenance of biometric hardware   | \$2.0 to \$47.3               |
| Ongoing training of employer obligations  | \$0.46                        |
| Annual SSA report to Congress and Biennial GAO report                                   | \$0.67                        |
| Cards for 4 million new workers annually  | \$536.1                       |
| Replacement cards for 11.27 million workers annually                                    | \$1,493.3                     |
| <b>Total annual costs to government</b>   | <b>\$2,055.0 to \$2,100.3</b> |
| Costs to Employers  | (in millions)                 |
| Maintenance of biometric scanners   | \$21.5                        |
| New employee training on biometric scanners   | \$27.7                        |
| Third party employment verification services  | \$161.4                       |
| <b>Total annual costs to employers</b>  | <b>\$210.6</b>                |
| Productivity Costs  | (in millions)                 |
| Lost productivity for 12.08 million workers to replace card                             | \$816.5                       |
| Cost of errors for over 4 million new hires at employer/3rd party service verifications | \$31.1 to \$124.3             |
| Cost of errors for workers changing jobs  | \$36.4 to \$145.6             |
| <b>Total annual productivity costs</b>  | <b>\$884.0 to \$1,086.4</b>   |
| <b>TOTAL ANNUAL COSTS</b>   | <b>\$3,149.6 to \$3,397.3</b> |

Note that these estimates do not include costs for enhanced capacity of Office of Fraud Detection and National Security and employer audits.

### GOVERNMENT COSTS—ONGOING YEARLY COSTS, YEARS 6+

#### Ongoing US Passport Office Personnel Training and IT Maintenance

In their 2002 Technology Assessment, the US GAO estimates a cost of \$5,000 to train individual staff persons in biometric technology. We assumed earlier that 3 staff persons per office are necessary to initiate the program for 156.35 million employed and unemployed workers, but we assume that ongoing needs will be smaller. We assume that after the first 5 years, the initial large staff and budget needs will shift to lower ongoing maintenance. We assume that 1 staff person will be retained at each of 4,500 US Passport offices; this person will require updated training. Multiply training costs (\$5,000) by number of staff (4,500) for a total cost of \$ 22.5 million per year.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>*

#### Biometric Machine Maintenance

We earlier assumed that 4,500 U.S. passport offices would acquire three biometric machines at \$1,000 - 25,000 each. The 2002 Technology Assessment report points out that maintenance for these smaller machines equals 15% of their initial cost and for larger machines the cost equals 14% of their initial costs. Multiply number of total machines (13,500) by their initial cost (\$1,000-25,000) by their maintenance costs (0.14 or 0.15) for an estimate of \$2.0 - 47.3 million.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>*

#### Enhance Current Capacity To Prevent Fraud

The proposal is vague regarding enhancing fraud protection, an extremely important factor related to social security/identity cards. What agency would be in charge of fraud protection? How much would it cost that agency to hire staff and manage programs to prevent identity

theft and fraud? We intentionally leave this item blank because we did not find a suitable benchmark. Leaving this cost projection blank will lead to an underestimation of total BELIEVE system costs.

### **Random Audits of Employers Who Deduct Employee Wages**

Again, the proposal is vague regarding its stipulation on conducting audits of employers. How much would it cost the agency to hire staff and manage programs to conduct audits? How many audits would be conducted per annum? We intentionally leave this item blank. Leaving this cost projection blank will lead to an underestimation of total BELIEVE system costs.

### **Ongoing Training of Employer Obligations, Workers Rights**

We assume that the Equal Employment Opportunity Commission will be in charge of training employers and workers of their rights and obligations under the BELIEVE system. We assume the agency budget for its Education, Technical Assistance and Training Revolving fund (\$4.617 million) will increase by 10% (.10) to meet the new needs of the BELIEVE system for an estimated cost of \$0.46 million.

*Equal Employment Opportunity Commission (EEOC) Education, Technical Assistance and Training Revolving fund: <http://www.eeoc.gov/eeoc/plan/upload/2010budget.pdf>*

### **Costs of Annual SSA Report To Congress/Biennial GAO Report on BELIEVE System**

The Social Security Administration (SSA) for 2010-2012 (3 years) projects the cost of \$2 million to audit a variety of programs. We divide this number by 3 to obtain a yearly audit cost estimate of \$0.67 million.

*Social Security Administration estimate for audit costs: [www.ssa.gov/oig/recovery/workplan.pdf](http://www.ssa.gov/oig/recovery/workplan.pdf)*

### **Costs of Issuing Free Cards To People Entering Work Force For First Time**

The Bureau of Labor Statistics (BLS) projects an average of 40.46 million new entrants to the labor force over 10 years; divide 40.46 million by 10 to get an annual estimate of individuals entering the workforce for the first time each year (4.046 million). Multiply this number by the cost of the card per worker (\$132.50) to obtain an estimated cost of \$536.1 million per year in costs of issuing free cards to new workers.

*BLS estimate of annual new entrants in U.S. workforce: <http://www.bls.gov/opub/mlr/2004/02/art3full.pdf>.*

### **Cost of Replacement SS Cards To US Citizens**

The social security card administration does not currently charge fees for replacement cards; the government bears the costs. In a 2006 evaluation of the Social Security Administration, the US GAO reported that 11.27 million replacement cards were issued to US citizens. Multiply the number of replacement cards (11.27 million) by the cost of the card (\$132.50) to obtain an estimate of \$1,493.3 million.

*US GAO 2006 'Social Security Administration: Improved Agency Coordination Needed for Social Security Card Enhancement Efforts': <http://www.gao.gov/new.items/d06303.pdf>; SSA no charge for replacement cards: <http://www.ssa.gov/pubs/10002.html#cost>.*

## **EMPLOYER COSTS—ONGOING COSTS, YEARS 6+**

### **Maintenance of Biometric Scanners**

We earlier assumed that 18,311 employers would acquire one biometric scanner at \$8,400 each. The 2002 Technology Assessment report points out that maintenance for biometric machines equals 14% of their initial cost. Multiply number of total machines (18,311) by their initial cost (\$8,400) by 14% (0.14). Total estimated cost: \$21.5 million.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>*

### **Yearly Training on Biometric Scanners For Replacement Hires**

In their 2002 Technology Assessment, the US GAO estimates a cost of \$5,000 to train each staff person in biometric technology. We earlier assumed that 18,311 businesses will average 1 staff person trained in biometric technology. We also assume that workers will turnover, and replacement hires must be trained to use the biometric technologies. Multiply cost (\$5,000) by number of staff per business (1) by staff turnover rate (.0303) by number of businesses (18,311 million). The number of replacement hires expected based on these calculations is 5,548; at \$5,000 each, the estimated cost is \$27.7 million.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>; BLS turnover rate: <http://www.bls.gov/news.release/pdf/jolts.pdf>*

### Expenses Related To Using A Third Party Service To Verify Work Eligibility of Hired Workers

We use the same \$89 cost to employers using a third party service as described earlier in the section ‘Expenses related to using a third party service to verify work eligibility of hired workers’. Assuming a 3% (.0303) turnover rate of the 59,866,924 persons working at businesses with fewer than 500 employees, yearly costs projected: \$161.4 million.

*US GAO 2002 Technology Assessment: <http://www.gao.gov/new.items/d03174.pdf>; Number of persons employed by business with less than 500 employees: 2007 Business Data: [http://www2.census.gov/econ/subs/data/2007/us\\_state\\_totals\\_2007.xls](http://www2.census.gov/econ/subs/data/2007/us_state_totals_2007.xls); BLS turnover rate: <http://www.bls.gov/news.release/pdf/jolts.pdf>*

### COSTS TO EMPLOYERS AND WORKERS—ONGOING YEARLY COSTS, YEARS 6+

#### Lost Productivity Due To Workers Taking Time Off Work To Replace Lost/Stolen Card

In a 2006 evaluation, the US GAO reports that the Social Security Administration (SSA) issued 12.08 million replacement cards in 2005 to citizens and non-citizens. As described in earlier sections, we assume that workers will have to be absent from work for 3 hours to obtain their card; this includes travel time, wait time, and the time it takes to fill out paperwork and scan biometric markers. The average hourly wage rate was \$22.53 in June 2010; these wages will be ‘lost’ to workers. Multiply the average hourly wage rate (\$22.53) by the number of hours missed (3) by the number of workers involved (12.08 million) to obtain an estimate of \$816.5 million.

*Bureau of Labor Statistics (BLS) average hourly wage rate 2010: <http://www.bls.gov/news.release/pdf/empst.pdf>; US GAO 2006 ‘Social Security Administration: Improved Agency Coordination Needed for Social Security Card Enhancement Efforts’: <http://www.gao.gov/new.items/d06303.pdf>*

#### Lost Productivity Due To Correcting Errors From U.S. Passport Offices – New Workers

Not applicable. New hires should have corrected errors from US Passport offices when they first acquired the card (and they were not working for any employer yet), so we assume no lost productivity to employers at this stage.

### Lost Productivity Due to Correcting Errors with Third Party/Employer Verification Services - New Workers

As mentioned in earlier sections of this appendix, a 2010 US GAO report on the 2010 US Census revealed a 22% error rate in fingerprinting acquisition among trained employees. We assume a 1% error rate as a conservative estimate. In addition, we estimate that these errors will result in one to four week’s missed wages. The June 2010 average weekly wages was \$768.27. This is again a conservative estimate on the amount of time it would take to go through the steps to correct the errors. Multiply a 1% (.01) error rate by the number of new workers (4.046 million) by the average weekly wage (\$768.27); the upper range will include 4 weeks of missed wages (4\*\$768.27). Total cost: \$ 31.1 to 124.3 million. Unlike the initial start-up phase requiring two steps of error correction (at the post-office and at the employer/3rd party verification site) new workers should possess the card, and have already corrected any errors related to the initial acquisition of the card from the post office.

*US GAO 2010 Census report: <http://www.gao.gov/new.items/d10430t.pdf>; BLS estimate of annual new entrants in U.S. workforce: <http://www.bls.gov/opub/mlr/2004/02/art3full.pdf>*

### Lost Productivity Due to Correcting Errors—Worker Turnover

The average worker turnover rate is 3.03%; when workers change jobs, they must go through the process of matching their biometric markers with their biometric identification card for their new employers. We multiply the number of currently employed workers (141.7 million) by the turnover rate (.0303) by the 1% error rate described above (.01) and one to four weeks’ worth of wages (\$768.27 or 4\*768.27) to obtain the costs of errors associated with employee turnover. Total estimate: \$32.9 to 131.9 million.

*US GAO 2010 Census report: <http://www.gao.gov/new.items/d10430t.pdf>; BLS turnover rate: <http://www.bls.gov/news.release/pdf/jolts.pdf>*

## INITIAL AND ANNUAL POTENTIAL REVENUE FOR BELIEVE BIO-ID SYSTEM & INITIAL AND ANNUAL NET COSTS

| Initial Revenue: Launch through Year 5                              | (in millions)                   |
|---|---------------------------------|
| Fees collected from employers for non-citizen worker authorizations | \$81.9 to \$255.8               |
| Fees from noncitizen workers purchasing biometric ID cards          | \$841.2                         |
| Fees from legal permanent residents purchasing biometric ID cards   | \$870.5                         |
| <b>Total Initial Revenue</b>  | <b>\$1,793.6 to \$1,967.5</b>   |
| Annual Revenue: Year 6 and later                                    | (in millions)                   |
| Fees collected from employers for non-citizen worker authorizations | \$16.4 to \$51.2                |
| Fees from noncitizen workers purchasing biometric ID cards          | \$168.3                         |
| Fees from legal permanent residents purchasing biometric ID cards   | \$32                            |
| <b>Total Annual Revenue</b>   | <b>\$216.7 to \$251.5</b>       |
| <b>NET INITIAL COSTS (COST MINUS REVENUE)</b>                       | <b>\$38,163.4 to \$44,846.5</b> |
| <b>NET ANNUAL COSTS (COST MINUS REVENUE)</b>                        | <b>\$2,932.9 to \$3,145.8</b>   |

Note that these estimates do not include revenue from fines for non-compliance.

### POTENTIAL REVENUE SOURCES: INITIAL SET-UP AND CARD ISSUANCE, YEARS 0-5

#### Employment Authorization System Fee Issued to Employers Who Petition for Non-Citizen Workers

As with employment-based visas, we assume that employers interested in petitioning for non-citizen workers will have to pay a yearly fee to do so. According to public data available by the Department of Labor, we calculated that 51,166 business filed petitions for non-citizen workers in 2009. Current fees related to immigration-related petitions range from \$320 to \$1,000. Multiply the potential fee (\$320 to \$1,000) by the number of businesses per year (51,166) by the initial 5 year phase to estimate potential revenue at \$81.9 to \$255.8 million.

Department of Labor (DOL) non-citizen petition data: <http://www.flcdatcenter.com/CaseData.aspx>; United States Customs and Immigration Services Fee Schedule: <http://www.uscis.gov/portal/site/uscis/menuitem.eb1d4c2a3e5b9ac89243c6a7543f6d1a/?vgnnextoid=b1ae408b1c4b3210VgnVCM100000b92ca60aRCRD&vgnnextchannel=b1ae408b1c4b3210VgnVCM100000b92ca60aRCRD>

#### Cost of New Card For New Non-Citizens Admits Non-Citizens are the Only Persons to be Charged for New Biometric ID Cards

In Table 2 of their 2009 report on non-citizen admissions,

the Department of Homeland Security reports that 1.27 million non-citizen workers (a combination of workers & trainees and intracompany transfers) gained admission to the United States to work in 2009. We assume that non-citizen workers would pay the cost of a biometric identification card as described earlier in this appendix (\$132.50). Multiply \$132.50 by the number of non-citizen admits (1.27 million) to estimate potential revenue from this source for one year; the initial setup will take place over 5 years, so multiply that number by 5. Potential revenue estimate: \$841.4 million.

*Non-immigrant admissions to the United States 2009: [http://www.dhs.gov/xlibrary/assets/statistics/publications/ni\\_fr\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ni_fr_2009.pdf)*

#### Cost of New Card for Currently Present Legal Permanent Residents (LPRs)

##### Non-Citizens are the Only Persons to be Charged for New Biometric ID Cards

First we must estimate the number of LPRs currently working in the U.S. We multiply the 12.6 million legal permanent residents (LPRs) present in the U.S. currently as reported by the Department of Homeland Security (DHS) by 0.79 (DHS data on LPRs demonstrate that approximately 79% of the LPR group is of working age 16-65). We assume that LPRs participate in the labor force

at similar rates as the total U.S. population, a 66% (0.66) participation rate. Multiply 12.6 million LPRs by 79% of working age and a 66% labor force participation among those of working age. We obtain an estimate of 6.57 million LPRs in the labor force who will pay for a biometric identification card. This is an underestimate because new LPRs entering the labor force during the first 5 years are not included here. Revenue estimate: \$870.5 million.

*Estimates of Legal Permanent Resident Population in 2008:* [www.dhs.gov/xlibrary/assets/statistics/publications/ois\\_lpr\\_pe\\_2008.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_lpr_pe_2008.pdf); *BLS Civilian Labor Force Participation rates by age, sex, race and ethnicity:* [http://www.bls.gov/emp/ep\\_table\\_303.htm](http://www.bls.gov/emp/ep_table_303.htm)

### **Fines Charged to Persons or Entities Subject to the Immigration and Nationality Act Who Do Not Comply with This Law**

Intentionally left blank. The proposal is vague on what the fine might be, how many people may not comply with the law, what agency will be in charge of administering the fines and the costs of administration. Leaving this item blank underestimates net revenue arising from fines if the fines collected exceed the cost of administration; conversely, leaving this item blank overestimates the net revenue arising from fines if fines collected are less than the costs of administration.

## **ONGOING POTENTIAL REVENUE SOURCES, YEARS 6+**

### **Employment Authorization System Fee Issued to Employers Who Petition for Non-Citizen Workers**

We assume that employers interested in petitioning for non-citizen workers will have to pay a yearly fee to do so. According to public data available by the Department of Labor, we calculated that 51,166 business filed petitions for non-citizen workers in 2009. Current fees related to immigration-related petitions range from \$320 to \$1,000. Multiply the potential fee (\$320 to \$1,000) by the number of businesses per year (51,166) to estimate potential yearly revenue at \$16.4 to 51.2 million.

*Department of Labor (DOL) non-citizen petition data:* <http://www.flcdatacenter.com/CaseData.aspx>; *United States Customs and Immigration Services Fee Schedule:* <http://www.uscis.gov/portal/site/uscis/menuitem.eb1d4c2a3e5b9ac89243c6a7543f6d1a/?vgnnextoid=b1ae408b1c4b3210VgnVCM100000b92ca60aRCRD&vgnnextchannel=b1ae408b1c4b3210VgnVCM100000b92ca60aRCRD>

### **Cost of New Card for New Non-Citizens Admits Non-Citizens are the Only Persons to be Charged for New Biometric ID Cards**

As mentioned above, in Table 2 of their 2009 report on non-citizen admissions, the Department of Homeland Security reports that 1.27 million non-citizen workers (a combination of workers & trainees and intra-company transfers) gained admission to the United States to work in 2009. We assume that non-citizen workers would pay the cost of a biometric identification card as described earlier in this appendix (\$132.50). Multiply \$132.50 by the number of non-citizen admits (1.27 million) to estimate potential revenue from this source for one year. Potential revenue estimate: \$168.3 million.

*Non-immigrant admissions to the United States 2009:* [http://www.dhs.gov/xlibrary/assets/statistics/publications/ni\\_fr\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ni_fr_2009.pdf)

### **Cost of New Card for Newly Admitted Legal Permanent Residents (LPRs)**

In 2009, 463,042 LPRs entered the U.S. As previously mentioned, we assume that LPRs participate in the labor force at similar rates as the U.S. population, a 66% (.66) participation rate. DHS data on LPRs demonstrate that approximately 79% (.79) of the LPR group is of working age 16-65. Multiply number of admitted LPRs (463,042) by percentage of working age (.79) by the labor force participation rate (.66) to obtain an estimated 241,430 of LPRs annually who will need to obtain a BIOID card. Multiply this number by the cost of a new card (\$132.50) for \$32 million in potential revenue.

[http://www.dhs.gov/xlibrary/assets/statistics/publications/lpr\\_fr\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/lpr_fr_2009.pdf)

### **Fines Charged to Persons or Entities Subject to the Immigration and Nationality Act Who Do Not Comply with This Law**

Left intentionally blank. The proposal is vague on what the fine might be, how many people may not comply with the law, what agency will be in charge of administering the fines and the costs of administration. Leaving this item blank underestimates net revenue arising from fines if the fines collected exceed the cost of administration; conversely, leaving this item blank overestimates the net revenue arising from fines if fines collected are less than the costs of administration.