THE HAMILTON PROJECT

The Mobility Bank: Increasing Residential Mobility to Boost Economic Mobility

Jens Ludwig and Steven Raphael

MISSION STATEMENT

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments. We believe that today's increasingly competitive global economy requires public policy ideas commensurate with the challenges of the 21st century. Our strategy calls for combining increased public investments in key growth-enhancing areas, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first treasury secretary, who laid the foundation for the modern American economy. Consistent with the guiding principles of the Project, Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces.

THE
HAMILTON
PROJECT

The Mobility Bank:
Increasing Residential Mobility to Boost Economic Mobility

Jens Ludwig

University of Chicago, National Bureau of Economic Research, and the Brookings Institution

Steven Raphael

University of California at Berkeley

OCTOBER 2010

BROOKINGS

Abstract

The paper proposes the creation of a "mobility bank" at a government cost of less than $1 billion per year to help finance the residential moves of U.S. workers relocating either to take offered jobs or to search for work, and to help them learn more about the employment options available in other parts of the country. Whereas those with college degrees and savings are much more likely to move in response to job loss and to improve their job market outcomes, those with less skills and no savings may have difficulty financing such transitions. The government should target mobility bank loans toward displaced, unemployed, and underemployed people in depressed areas of the country and should help to insure people against job-outcome uncertainty by making repayment terms contingent on the borrower's postmove employment and income. This proposal extends government support for work-related moves that already are included in the U.S. tax code but that primarily benefit higher-income households. Calculations suggest that the benefits compare favorably with the costs from alternative federal efforts. Perhaps more importantly, our proposal helps address a persistent market failure that limits the ability of low-income families to borrow against future earnings to "invest" in job-promoting residential moves.

Table of Contents

Chapter 1: Moving for Work as an Investment

General Motors employed nearly 80,000 people in Flint, Michigan, during the late 1970s, nearly half the city's total population at the time. Since then, GM employment in Flint has shrunk by 90 percent and Flint's population, around 200,000 at the city's peak in 1960, had fallen to around 111,000 by 2009. Many of the people that remain are struggling to find a job in one of the most economically distressed cities in America. In August 2010, the city of Flint's unemployment rate was 23.6 percent, nearly two and a half times the national rate; that number does not even include people who have given up hope and stopped looking for work.[1]

Flint is just one example of the many American communities that have unemployment much higher than the national average. Many obstacles prevent an unemployed worker from moving from one city to another in search of a job. The decision of whether to move for work is not unlike the decision of whether to go to college. An unemployed or underemployed person who is thinking about moving for economic reasons faces a series of front-loaded costs such as moving expenses

Evidence shows that, on average, people who take the risk and move after losing a job have significantly higher reemployment rates than do nonmovers. But it is people with college educations—that is, those more likely to have savings to draw on and better access to nationwide job information—who are much more likely to have the mobility to become successful.

Barriers to residential mobility have been exacerbated by the credit market contraction associated with the Great Recession. For example, many unemployed people are locked into their current residences and, by extension, their current geographic locations, due to negative net equity in their homes. We estimate that perhaps one-fifth of the unemployed may be overleveraged homeowners.[2]

A mobility bank could break the logjam by helping to finance the residential moves of U.S. workers who are having difficulty finding new or better employment. Mobility loans of up to $10,000 targeted to people living in communities with unemployment rates at the top one-third of the national distribution would jumpstart a positive change. Eligibility would be limited to those who either currently qualify for or recently qualified for unemployment insurance receipt. Because moving involves uncertainty about job outcomes or how the worker will like a new area, the government should make repayment terms contingent on the borrower's postmove employment and income. Given our view that moving can be seen as a form of human capital investment, we note that the idea of income-contingent loan repayments in the area of education has a long tradition that dates back more than a half century to Milton Friedman (1955). To reduce the work disincentive effects that result from having loan payments that increase with income, loans should be amortized over a ten-year period so that the payments would represent just a modest share of income each year.

> ...on average, people who take the risk and move after losing a job have significantly higher reemployment rates than do nonmovers.

and leaving familiar surroundings, costs incurred in exchange for what are hoped to be longer-term benefits—ideally, a steady job or a higher-paying job. But, as with paying for college, there is a private-market failure that limits access to credit to fund human capital investments—namely, that people cannot use their future earnings as collateral to borrow money to finance their moves. Many people also may be uncertain about what job opportunities are actually available to them in distant locations, and may have limited information about amenities and quality-of-life issues in areas with stronger job growth.

To maximize effectiveness, the loans could be complemented by strong encouragement to take advantage of the currently underutilized information on nationwide job opportunities provided by the nation's One-Stop workforce development centers. Under our proposal, mobility bank loans could be used not just to relocate, but also to travel to different places to look for jobs or to learn more about local amenities. Our proposed rules on allowable uses of mobility bank loans follow current tax laws that enable households to deduct job-search costs and other expenses associated with moving for work. In 2007, deductions for moving expenses totaled $3 billion, with an average deduction of $2,600 per household (Bryan 2010). As would be expected, higher-income taxpayers claim a disproportionate share of this total.[3]

Our mobility bank proposal is in some sense intended to reduce the costs of moving for lower-income households that do not benefit from the deduction for moving expenses or from itemizing job-search expenses. The costs of the proposed mobility bank could at least be partially offset by capping deductions for moving expenses among higher-income households. The idea of using direct government expenditures rather than tax credits to help people move is not new: the government already offers such assistance to people displaced as a result of international trade through the Trade Adjustment Assistance (TAA) program. Current take-up of TAA mobility assistance is quite low, in large part, we believe, because workers also receive income supports through that program and fairly generous retraining support that may reduce their incentives to relocate for work. We expect take-up rates with the mobility bank to be substantially higher because our proposal does not offer these sorts of income subsidies.

Estimating the benefits and costs associated with a new mobility bank is complicated by the fact that there is no program exactly like this in existence, and the reemployment rates among people induced to move by this program could be different from what we observe among people who currently choose to relocate on their own. With these caveats in mind, our analysis suggests that the gross costs of the program would be slightly less than $1 billion per year. Society might get as much as one-fifth to one-half of that back in the form of increased tax payments by the new job matches created by the mobility bank, so the net costs range from $500 to $800 million per year. The total number of new job matches is relatively modest compared to the national job market, but more substantial as a share of the set of unemployed people living in the most economically distressed communities that the mobility bank tries to target. We estimate that the costs of putting a person back to work for a year using the mobility bank may be much lower than the costs of doing the same through stimulus spending and tax reductions. Perhaps more importantly, the proposed mobility bank helps address a persistent market failure that limits the ability of people without much savings to borrow against future earnings to "invest" in job-promoting residential moves.

Fully recovering from the Great Recession will require that some people move from high-unemployment areas to low unemployment areas.

Chapter 2:
Geographic Mobility and Labor Market Outcomes

After peaking in October 2009 at 10.1 percent, the national unemployment rate still hovered at 9.6 percent in August 2010. Nearly half of the unemployed are long-term unemployed (twenty-seven weeks or more). This persistent unemployment is driven principally by the sharp contraction in economic activity and the increasing gap between the economy's potential output and actual production levels. In other words, replacing the millions of jobs that have been destroyed since the start of the recession requires substantial and sustained economic growth.

Whereas the Great Recession has been a nationwide phenomenon, Table 1 shows that some states—such as Nevada, Michigan, California, Rhode Island, and Florida—have been

hit particularly hard with extremely high unemployment rates measured as of June 2010. In contrast, other states—such as North Dakota, South Dakota, New Hampshire, Vermont, Hawaii, and Kansas—have experienced relatively low levels of unemployment.

Fully recovering from the Great Recession will require that some people move from high-unemployment areas to low-unemployment areas. Usually a large decline in an area's employment base leads initially to lower wages, which in turn induces existing employers to increase hiring and for new employers to move into the area. However, a parallel and perhaps more important part of this economic adjustment process comes from people moving out of economically depressed places (Blanchard and Katz 1992). Yet barriers to

TABLE 1

Unemployment Rates in June 2010 by State

Low-Unemployment States		Medium-Unemployment States		High-Unemployment States	
State	Unemployment rates	State	Unemployment rates	State	Unemployment rates
ND	3.6	AK	7.9	DC	10.0
SD	4.5	WI	7.9	GA	10.0
NE	4.8	CO	8.0	KY	10.0
NH	5.9	ME	8.0	NC	10.0
VT	6.0	NM	8.2	IN	10.1
HI	6.3	NY	8.2	TN	10.1
KS	6.5	TX	8.2	AL	10.3
IA	6.8	DE	8.5	IL	10.4
MN	6.8	WV	8.5	OH	10.5
OK	6.8	CT	8.8	OR	10.5
WY	6.8	ID	8.8	SC	10.7
LA	7.0	WA	8.9	MS	11.0
VA	7.0	MA	9.0	FL	11.4
MD	7.1	MT	9.1	RI	12.0
UT	7.2	PA	9.2	CA	12.3
MT	7.3	AZ	9.6	MI	13.2
AR	7.5	NJ	9.6	NV	14.2
Average	6.35	Average	8.61	Average	10.98

mobility impede the process and, by extension, also impair national economic performance.

While geographic mobility rates always tend to decline during economic recessions (Wozniak and Saks 2009), current mobility rates fall below what the nation experienced during previous economic downturns. Figure 1 from Frey (2009) confirms that the United States is currently at a historic low point. During the 1990s, the share of Americans changing residences consistently exceeded 16 percent. As of 2008, this figure was down to 12.5 percent. While most mobility occurs within counties (accounting for 67 percent of all moves in 2008), Frey shows that there also have been large declines in cross-county and cross-state moves over the past ten years.

The recent housing market crash provides one plausible reason for our unusually low mobility rates: our calculation suggests that as many as one-fifth of the unemployed are overleveraged homeowners.[4] This problem may be causing particular hardship in the most distressed communities, since states with the highest unemployment rates also have the highest levels of housing market distress.

The immobility of unemployed people is certainly not limited to the Great Recession. For instance, the current situation in Flint—with an unemployment rate of nearly 24 percent—is not new. In 1980, the area's unemployment rate topped the nation at 17 percent, a distinction earned again in early 1982 with rates of around 22 percent.[5] Many parts of the country have been in long-term economic decline, and the combined processes of business in-migration and residential out-migration have not been enough to bring their economic conditions back in line with what we see in the rest of the country.

Of particular concern is the possibility that the most economically vulnerable U.S. families might be unable to respond to local economic downturns by moving away. Figure 2 shows geographic mobility rates among a national representative sample of people displaced from a job at any point during the period from 2005 to 2008. Specifically, the figure displays the proportion of respondents who have moved to a different city or county as of January 2008.[6] We break out these mobility rates by people's educational attainment, which economists consider to be one of the best indicators of someone's lifetime earnings prospects. The figure shows that around 16 percent of college-educated people who had lost a job had moved at some point following displacement compared to just 10 percent among high school dropouts and 11 percent among high school graduates.
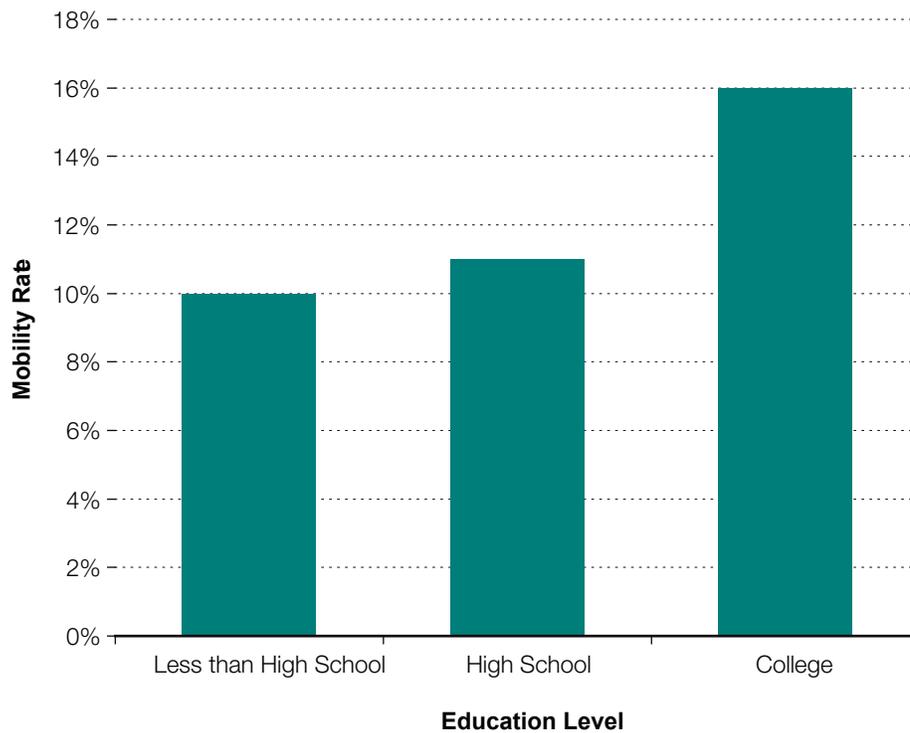
U.S. Mobility Rates, 1990 through 2008
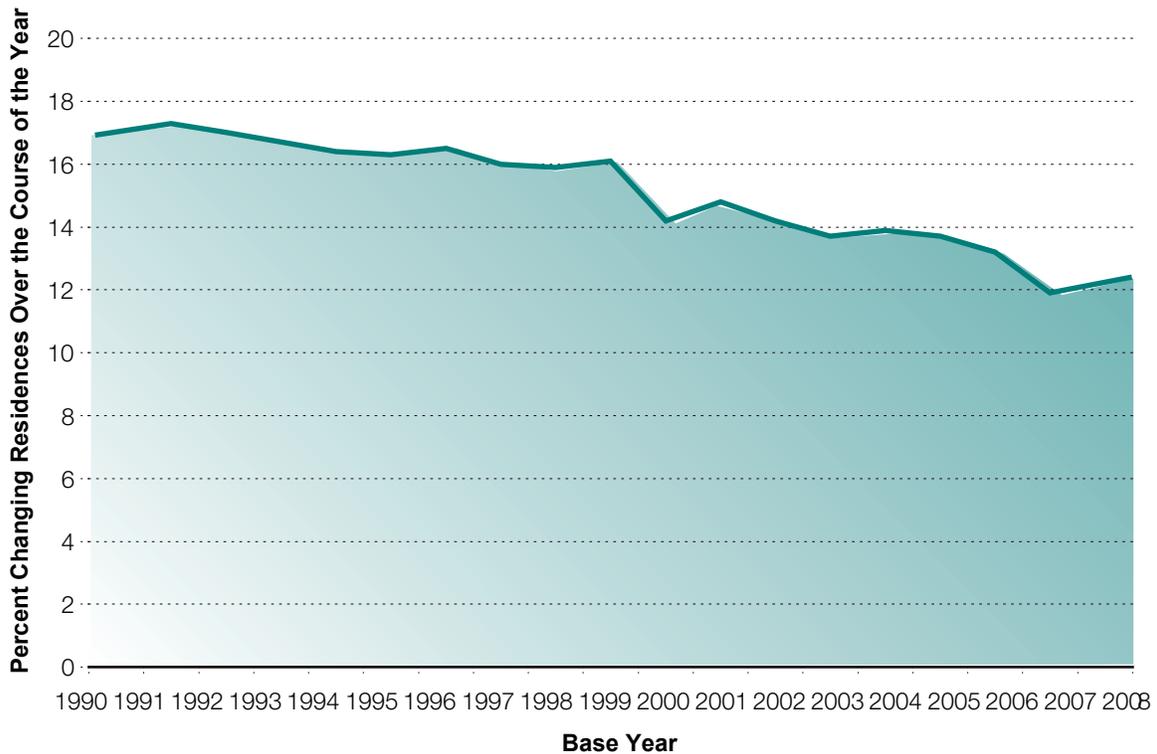
Source: Frey (2009)

FIGURE 2.
Mobility Rates for Displaced Workers

Author's Estimates using January 2008 Current Population Survey (CPS) Displaced Worker Supplement (DWS). Includes individuals displaced sometime between 2005 and 2007 who had moved by January 2008.

These differences in mobility rates are of concern because our analysis suggests substantial differences in reemployment rates between movers and nonmovers, on the order of around 12 percentage points even after statistically controlling for years since job displacement, age, educational attainment, gender, marital status, and household structure.[7] We recognize that the 12 percentage–point difference in reemployment rates between movers and nonmovers is not necessarily the "causal effect" of moving, but it does at least raise the possibility that residential mobility could be an important contributing factor toward labor market success.

The proposed mobility bank described in the next section would address these disparities in mobility rates. People with college degrees have, on average, much higher levels of lifetime income than other people, and also are much more likely to have savings and other assets that they can draw on to help finance a move to someplace that may provide better job prospects. People with lower levels of schooling are presumably less likely to have savings, and become more reliant on having to borrow to finance the up-front costs associated with moving—and so may have difficulty getting loans since they cannot use as collateral whatever future earnings gains they would experience as a result of the move. People with college educations also may have relatively better access to information about job prospects in different parts of the country, and may know more about what amenities and other aspects of life are like in different cities and regions of the country. The goal of the mobility bank is to reduce these sources of inequality in residential relocation, with a focus on those parts of the country whose local economies have been hit the hardest.

Chapter 3:
Proposal for a Mobility Bank Loan Program

The creation of a mobility-lending program, the mobility bank, would provide loans of up to $10,000 to households that wish to move to either take a job or search for work. Repayment of the loans should be structured such that the loans fully amortize over at least a ten-year period. Loan repayment schedules and amounts can be made contingent on the worker's postmove success at finding employment. Specifically, repayment should not commence and interest should not begin to accrue until the borrower has found a job. Repayment amounts should be capped at a relatively small percent of monthly income to minimize the effect of the loan payments on the effective marginal tax rate on earnings. With a fixed number of required monthly payments, the largest subsidy will go to those who find low-paying jobs and those who take a long time to find work. The program would be targeted toward places experiencing persistent economic problems, and toward unemployed or underemployed workers within such places.

These loans would be administered by the same part of the federal government that currently carries out the student loan program for college attendance—Federal Student Aid, an office of the U.S. Department of Education. That is, the government could expand the capacity of an existing organization for this program rather than have to develop a new bureaucratic infrastructure from scratch. Many of the rules governing how these loans could be used would follow U.S. tax code rules that govern allowable deductions for move-related expenses.

The mobility bank loan program should also be combined with an effort to encourage individuals to take advantage of the existing resources and information on job opportunities in distant communities at One-Stop job centers. Recent innovations in data gathering have facilitated a national jobs bank. This encouragement would most naturally be carried out by the U.S. Department of Labor and local state workforce agencies, which have already gone to commendable efforts to create national jobs databases and make them available at One-Stop shops around the country. Job seekers could be nudged toward taking up these resources.

While our mobility bank borrows heavily from existing program rules and infrastructures, it is nonetheless a new program with no guarantee of success. For that reason, the project should be implemented in a manner that allows for a randomized controlled evaluation. Other details and justification for the specific design features of the proposed mobility bank include the following:

A. SETTING A LOAN AMOUNT

The amount needed to finance a move to a new location will depend on moving costs between the origin and the destination, the cost of housing, and, for those moving to search for work, a small reserve fund needed to hold the worker over until she has become gainfully employed. We estimate these figures using data on allowable rent limits for housing programs administered by the U.S. Department of Housing and Urban Development,[8] rules of thumb about the usual ratio of housing costs to total living expenses,[9] and moving cost figures from other government programs.[10] About $10,000 per household should cover the costs of relocating for better job prospects.

The actual loan amount that each eligible applicant receives would be determined by the specifics of the person's proposed move, her liquid assets, and the availability of alternative sources of income. For example, if the worker is receiving unemployment insurance benefits or has savings, these alternative resources may be used to finance living expenses while she seeks work in the new location. Alternatively, workers who already have procured employment requiring a move should not have to borrow to finance living expenses or to finance housing expenses beyond what is needed at move-in. The program probably should also not be lending at a level that will let people consume at higher levels during their transition period than what they could reasonably expect to sustain given their past earnings history and future earnings prospects. For the purposes of projecting cost, we will assume that the typical loans will be $5,000, but acknowledge that larger loans of up to $10,000 may be required for some.

B. MAKING REPAYMENT CONTINGENT ON POSTMOVE SUCCESS

The unemployment rate in many of Iowa's cities are on the order of 5 percent, which means that, on average, the average resident of Iowa is much more likely to be successful in searching for a job than is the average resident of Flint, with its 24 percent

unemployment rate. But there is still some uncertainty regarding the results of any particular individual's job search. Uncertainty about postmove employment stability may loom particularly large in the decisionmaking of households with little or no savings. For households that have experienced long-term unemployment, taking on debt to finance an uncertain investment may be a particularly daunting prospect.

One way to reduce this uncertainty and to encourage additional moves is for the government to assume some of the risk of the worker's move. This could be accomplished through three mechanisms. First, loan repayment and interest accrual should not begin until the borrower is gainfully employed. Delayed interest accrual necessarily involves a public subsidy to the borrower, while the delay in repayment in isolation does not. Second, payment levels should never exceed 3 percent of the borrower's gross monthly earnings. Such a cap on repayment ensures that loan payments never become too burdensome, while reducing the expected variability of postmove consumption. Finally, the loans fully amortize over 120 payments, regardless of payment levels over the life of the loan. This means that in the case of someone who is not very successful at her new location and who holds only very low-paying jobs, 3 percent of her income over the ten-year

Uncertainty about postmove employment stability may loom particularly large in the decisionmaking of households with little or no savings.

repayment period may not be enough to repay the loan. For these people, the mobility bank program would make up the difference with an implicit interest (and in some cases even principal) subsidy.[11] For those who experience subsequent unemployment, payments can be suspended until the worker is reemployed. With this provision, the loan's ultimate repayment period may extend beyond ten years following reemployment after the first jobless spell. Nonetheless, the program should anticipate serial unemployment among some.

This feature of our proposed mobility bank is quite consistent with the spirit of other federal government activities designed to spur additional risk-taking with the goal of promoting economic growth. For example, limited corporate liability shields the owners of publicly traded corporations from the full costs associated with business failure.

In addition, the mobility bank program could improve the well-being of all residents in economically depressed areas by improving local labor market conditions, reducing the drain on local social programs, and, as discussed below, potentially reducing the prevalence of social problems more generally. Yet, absent a federal effort, only the migrant in search of work would bear the risk associated with the investment, and so would be likely to underinvest. That is, mobility rates would remain below the socially optimal, economically efficient level. By bearing some of this risk, the mobility bank would be serving a pooling role in which the risk faced by migrants would be borne in part by all taxpayers who stand to benefit from enhanced mobility levels.

C. SETTING REPAYMENT TERMS TO MINIMIZE WORK DISINCENTIVES

Although pegging loan payments to income helps insure borrowers against the uncertainty of "investing" in residential mobility, this feature of the mobility bank also has the consequence of increasing the effective marginal tax rate on people's earnings after they move. This could have the potential to be a significant work disincentive since, as noted above, moving costs can be quite substantial.

To make debt repayment affordable and minimize the work disincentives created by the program, we propose that monthly payment amounts be capped at no more than 3 percent of gross household earnings, and that loans be fully amortized over 120 monthly payments (perhaps with intermittent gaps in payment should the borrowers experience subsequent unemployment spells). The long payment period helps reduce monthly payments, and hence reduces their disincentive effects on work effort. The cap on the share of a family's income that goes toward rent means that borrowers who have relatively less success in their new locations will receive a larger government subsidy in the form of a lower implied interest rate on their mobility loan. Our calculations suggest that for a $5,000 ten-year loan, minimum wage workers and men and women below the 10th percentile of their respective earnings distribution would effectively wind up borrowing at low interest rates in order for payments to stay below 3 percent of gross income (with minimum-wage workers actually requiring a negative interest rate). Households with two workers would easily be able to afford these monthly payments even at a 6 percent implied interest rate. (Estimates of absolute

monthly payments at various interest rates, also expressed as a share of monthly income, are shown in Appendix Table A1.)[12]

The size of the public subsidy to any one borrower will depend on the rate at which the federal government can borrow, the monthly payment that people can afford if payments are set at 3 percent of income, and the prevalence of delays in repayment or outright default. To provide ballpark estimates of the total subsidy to those with strong repayment trajectories, Appendix

The mobility bank should be targeted at cities that have unemployment rates that fall within the top one-third of the national distribution.

Table A2 presents the discounted present value of the subsidy for workers at various points in the earnings distribution. These estimates assume an interest rate faced by the federal government at 3 percent, that each individual immediately finds work and makes 120 consecutive payments, and that earnings grow by 3 percent a year relative to the starting point indicated in the table. The largest subsidies go to workers with the lowest earnings (minimum-wage workers and those below the 10th percentile of the earnings distribution). Nonetheless, even the largest subsidies for those who repay are quite low (with a discounted present value for minimum-wage workers of the stream of subsidy payments over ten years slightly greater than $700). In our cost calculation below, we take several steps to factor in outright default.

D. TARGETING THE PROGRAM

The mobility bank should be targeted at cities that have unemployment rates that fall within the top one-third of the national distribution, which would include places like Detroit, Fresno, St. Louis, Cleveland, and Milwaukee, in addition to Flint. Targeting the city might be crucial in cases where the city's unemployment rate is much higher than it is in other parts of the metropolitan area, as it is in Flint.[13] We would rank cities on the basis of a multiyear average of each city's unemployment rate. While the list would be updated each year, the multiyear averaging would ensure some stability to program eligibility and guard against the possibility of subsidizing people to move out of an area that experiences a short-term economic dip.

Within eligible regions, eligibility for mobility bank loans should be limited to those who wish to move for work-related reasons, and specifically to unemployed workers that are currently eligible for unemployment insurance benefits (whether or not they receive benefits), unemployed workers who have exhausted their benefits yet are still unemployed, or anyone who has collected unemployment insurance in the recent past (say, the past three years). These individual eligibility limits help remove potential applicants who can finance a move themselves, and helps remove applicants who wish to move for reasons unrelated to a job search.

Obviously, the goal of the program is not to subsidize retirees moving from Michigan to Arizona or those who are moving for reasons other than work. By restricting eligibility to those with demonstrable labor force attachment, those seeking loans are more likely than not to be firmly attached to the labor market. Moreover, retirees (unless laid off near retirement) are generally ineligible for unemployment insurance, and hence for the most part are ineligible for a mobility loan. Restricting eligibility to those with strong labor force attachment is also likely to minimize default. We include people who have received unemployment benefits within the past three years to help support mobility among those who may be currently underemployed. Similar to joblessness, workers who are employed part time when they would prefer to work full time have reduced well-being; in addition, their underemployment reduces national income. Since these eligibility rules are all related to those routinely used for unemployment insurance purposes, it would be relatively simple to graft them onto this new program.

We are proposing that the program be targeted toward cities with the highest unemployment rates. In principle, policymakers could consider extending the program nationwide, allowing anyone who met the individual criteria outlined above to qualify for mobility loans. Such a nationwide program would enhance the efficiency of the U.S. labor market and would still disproportionately channel resources to people in distressed regions, since by definition these areas are home to disproportionate numbers of unemployed people.

E. CONSTRAINTS ON RELOCATION OUTCOMES

Mobility loans should be made available for moves of at least fifty miles, the same rule that is used to determine whether work-related moving expenses are allowable under current tax laws. But other than this minimum distance requirement, we believe that there should be no other programmatic restrictions on the ultimate destination of a program participant's move. Employment services should provide job-search assistance for target destinations; in fact, such services are already provided for job seekers who are willing to move. But the program should not be heavy-handed and should allow job searchers discretion to choose a location based on employment prospects and preferences regarding location amenities.

F. ENCOURAGE TAKE-UP OF NATIONAL JOB SEARCH RESOURCES AT ONE-STOP SHOPS

Facilitating geographic mobility from areas of high joblessness to areas of low joblessness requires job-search assistance that encourages job seekers to take full advantage of the existing resources for searching for jobs nationally. A new website sponsored by the U.S. Department of Labor is up and running as of a few weeks ago. This site—My Skills, My Future—is national in scope, and will likely replace the Jobs Central website that is currently used by many states for national listings. However, these resources for looking for jobs nationally are not always used; the default is for job searchers to look for and be directed to jobs in their local areas. If someone coming into a One-Stop shop is already very determined to look for jobs in distant labor markets, One-Stop staff will be able to identify these resources; if someone is doing a basic job search in (say) Michigan, though, a great job in (say) Iowa is not likely to pop up immediately. State workforce agencies and the Department of Labor could improve their laudable efforts at enabling job seekers to search for jobs nationally by better promoting these national job resources, providing more staff-assisted services aimed at making job seekers aware of different regions nationally where there are more jobs, and by changing default rules to encourage job searchers to expand their job searches. For example, computers at One-Stop shops could prompt users for whether they want to look for jobs locally or nationally when users first log on the computer, instead of automatically sending people to the state or local resources. Combined, these further efforts may be able to increase awareness of national job offerings and nudge individuals into looking for and taking jobs outside their local area.

G. THE MOBILITY BANK'S PROGRAMMATIC HOME

We suggest that the U.S. Department of Labor handle the provision of nationwide job search information and verify eligibility for individuals through their One-Stop employment service centers. But we suggest that the loans themselves be handled by the same agency that carries out the federal Direct Loan program operated by the U.S. Department of Education. The Direct Loan program provides low-interest loans to qualifying students pursuing postsecondary education. The federal government lends directly to students, and services the loans through the Direct Loan Servicing Center. The application process is uniform and efficient (requiring the completion of the Free Application for Federal Student Aid [FAFSA] form and some information verification). The Department of Education has an easy-to-use web page where applicants can check the status of their applications and where borrowers can check information on balances in their accounts.

H. RANDOMIZED CONTROLLED EVALUATION

For the reasons described above, we believe that our proposed mobility bank has the potential to address some of the key barriers to mobility among some of the nation's most economically vulnerable people living within the most economically distressed communities. We have tried to maximize the chances that our program is successful by borrowing heavily on existing program rules (for example, rules for student loans, unemployment insurance, and the tax credits that govern allowable deductions for work-related moving expenses), but the mobility bank loan program would still be a new program.

The program should be rolled out gradually and be closely monitored. Each year a subset of eligible communities would be selected via a fair, random lottery to receive the mobility bank program. Within the eligible locations, a fixed number of initial loans could be set (perhaps according to a region's population size) and oversubscription addressed through a randomized lottery. The use of a lottery to determine the order in which places and people receive the program would reduce political influences and favoritism, and also would facilitate a rigorous evaluation of the effects of the program— akin to a "gold standard" randomized clinical trial of the sort that is used regularly in medical research. Because neither intended program beneficiaries nor taxpayers are well served by funding ineffective programs, rigorous evaluation must be a crucial component of any new (or, for that matter, existing) government program.

Chapter 4:
Projecting Benefits and Costs

Nationwide, mobility loans could create 93,000 extra person-years of employment each year of its existence. The roughly $1 billion annual government investment in a mobility bank also has the potential to improve job prospects for those who stay behind in distressed areas, and to reduce the prevalence of social problems in those areas and nationwide. Since a mobility loan program has never been tested in this form, our estimates could vary. We calculate the government costs of putting a person back to work for one year through the mobility bank to be less than $10,000. Even if our estimates for the effectiveness of this program are wildly off the mark, the cost per job-year created with our mobility bank seems very likely to compare favorably to what has been estimated with other federal government job-creation efforts.

A. BENEFITS

The most obvious intended benefit of the mobility bank is to increase employment rates among unemployed people in economically distressed areas. Our best estimate is that the program would create 62,000 new job matches per year, reducing the aggregate amount of time Americans are unemployed by 93,000 years, which is the equivalent of around one-half of the number of new jobs that the American economy as a whole usually creates every month.

This estimate is derived as follows: As noted earlier, around 16 percent of college-educated workers relocate after being displaced from a job versus around only 10–11 percent among people with lower levels of schooling attainment. Let us assume initially that the mobility bank eliminates this difference—that is, that the program increases mobility rates among unemployed people without a college degree by 60 percent, or around 6 percentage points. We also assume that around 90 percent of the unemployed in the economically distressed parts of the country that would be eligible for our program have less than a college degree,[14] and that two-thirds of the nation's unemployed live in the one-third of cities that have the highest unemployment rates. Earlier we noted that reemployment rates are about 12 percentage points higher among displaced workers who move compared to those who do not move, even after adjusting for standard sociodemographic predictors of labor market success. We initially assume that

those induced to move through the mobility bank experience a 12 percentage point gain in employment rates as a result of the assisted moves, although below we discuss what the benefits of the mobility bank might look like if the reemployment effects on moving among those who are induced to move by this program are less than 12 percentage points.

The current U.S. unemployment rate in the United States is 9.6 percent, with a total of around 14.6 million people unemployed as of July 2010. Under our assumptions, the number of new job matches created would be on the order of 62,000 jobs per year. If we assume that the average person assisted under this program would have spent 1.5 years unemployed, then each year that our program is in operation nationwide we would reduce the aggregate amount of time Americans are unemployed by 93,000 years.

The program also would improve job matches and overall earnings among people who are underemployed in the nation's most economically distressed communities. We have no way of really knowing the program take-up rate or earnings among this target population, so we simply note this benefit would be added on top of the new job matches that are created. (We also exclude the potential moves by this underemployed population in our calculation of costs below.)

A different type of difficult-to-measure benefit comes from the beneficial impacts on the economically distressed communities themselves—that is, on nonmigrants. The outflow of unemployed people reduces the excess supply of workers in local labor markets, and so should improve the job prospects of those who remain. There will be some slight decline in aggregate demand in these areas, but that should be largely offset by the reduction in social service spending that is required by local communities to support those who are out of work.

Social scientists have long been interested in the possibility that the prevalence of social problems like crime or teen pregnancy may vary with the local rate of poverty or unemployment, and in particular that the rate of social problems may greatly increase once local economic conditions decline below some threshold or tipping level. Unfortunately, convincing empirical evidence on this point remains limited (see, e.g., Crane 1991, Kling, Liebman, and Katz 2007, and

Ludwig and Kling 2007). Yet the possibility of tipping points in social problems raises the possibility that redistributing unemployed people from more- to less-severely distressed areas could reduce the prevalence of social problems not only in highly distressed areas, but also in the country as a whole.

Also relevant are changes in the tax and transfer payments to and from people who are now more likely to work as a result of the mobility bank. People who get jobs more quickly as a result of the mobility bank would be less likely to participate in government transfer programs like unemployment insurance, SNAP (Food Stamp) benefits, TANF (Temporary Assistance for Needy Families), Medicaid, SCHIP (State Children's Health Insurance Program), and so on. To be conservative, we assume that unemployment insurance payments are just a payout of previous contributions, and ignore the change in other transfer payments because we would have great difficulty in trying to come up with even ballpark guesses about what participation rates might be among mobility bank participants.

But we can at least come up with a ballpark estimate for what the additional tax revenue might be that would be generated by increased employment among program participants. If we assume that all of our reemployed workers fell into the second quintile of the earnings distribution, they would have average pretax earnings of $27,674[15] with an average federal tax rate of around 6.6 percent.[16] Given our estimates that the mobility bank would generate 93,000 extra person-years of employment, if reemployed workers were in the second quintile of the earnings distribution, then the mobility bank would generate extra federal tax revenue of around $169 million. If reemployed workers were instead in the middle quintile of the earnings distribution (where average earnings are $46,213 per year, and average federal tax rates are 13.4 percent), the mobility bank would generate about $573 million in extra tax payments. These figures are between one-fifth and one-half of the gross costs of the mobility bank, as described below.

B. COSTS PER JOB MATCH CREATED

Our assumptions about the benefits of the mobility bank suggest that the program would lead to 520,000 additional moves across different areas. As noted above, the average loan amount per program participant would be $5,000 per household. The actual cost of the program to taxpayers would be less than this average loan amount, however, since successful job seekers would repay their loans. Our estimates for the costs of the program then hinge on our expectations about the degree to which these loans would be successfully repaid.

To get some sense of what is involved in estimating the cost of the public subsidy, consider a simple example. Imagine that someone moves as a result of receiving a mobility bank loan and then immediately locates a full-time minimum wage job. This person would be at the point of the earnings distribution where the necessary subsidy from the mobility bank is largest. Assume this person diligently makes 120 payments equal to 3 percent of her gross monthly income, that her earnings increase by 3 percent per year so that her annual income grows from $14,492 to $18,909 over the ten-year repayment period, and that the cost of capital to the federal government is 3 percent (based on the current yield on ten-year treasury bonds). An unsubsidized $5,000 loan under these terms would require monthly payments of $48.28 (see Appendix Table A1). The discounted present value of this stream of subsidies for our hypothetical mobility bank borrower is around $730 (see Appendix Table A2), or, put differently, is equal to around 15 percent of the loan amount.[17]

To estimate total program costs, we need to assess such costs for all those who take up benefits and then calculate an average cost per loan. To do so, we tabulate the average cost per loan for observed displaced workers as of January 2008. We assume that 30 percent of program participants default (based on the share of people in national samples who are displaced from a job, move, and still do not have a job after a year), so that the costs to the government of their loans would equal the full $5,000 average loan amount. For everyone else we assume an average subsidy of $505, using a train of thought similar to that in the example above for minimum wage workers.[18] The total annual costs of our program would then be equal to approximately $964 million. Our calculations above suggest that each year of program operations would create 93,000 extra person-years of employment. Our estimate for gross costs, together with this benefit estimate, implies that the total gross cost per person-year of employment created is equal to around $10,365. The net cost accounting for increased tax payments by reemployed workers obviously would be lower still.

One can compare the costs per job match to estimates of the cost per job associated with the American Recovery and Reinvestment Act (ARRA). In a May 2009 report, President Obama's Council of Economic Advisers (2009) estimates that the spending needed to create one job-year with funds from ARRA is roughly $92,000 for direct government spending, $145,000 of tax cuts, and $116,000 of state fiscal relief. The costs per person-year of work created by our mobility bank of less than $10,000 obviously look quite good in comparison.

Chapter 5: Challenges

The proposed mobility bank has the potential to be a very cost-effective way to improve the labor market outcomes for unemployed people living in some of our country's most economically distressed places, yet the program involves a number of design decisions that might be debated, and a number of other questions about how this might work in practice. This chapter addresses some of the most obvious of these questions.

WHAT IF THE PROGRAM IS LESS EFFECTIVE THAN WE ASSUME?

In the previous section, we assumed that the mobility bank program would increase mobility rates by fully 6 percentage points among unemployed, non-college-educated people, which is equal to the entire difference in mobility rates between college-educated and less-educated people following a job

> The proposed mobility bank has the potential to be a very cost-effective way to improve the labor market outcomes for the unemployed people living in some of the country's most economically distressed places...

loss. We also assume that the entire difference in employment rates between displaced workers who move versus those who do not move (12 percentage points) represents the causal effect on employment outcomes of moving.

What if these are overly optimistic assumptions? One way to think about the answer is to note that even if our program was only one-quarter as effective as we assume, it would still result in around 23,000 additional jobs matched per year (around 10 percent of the number of jobs normally created every month by the American economy) at a cost of about $40,000 per job year—which is still dramatically lower than the cost per job year associated with other government efforts at job creation. We note that our program would not necessarily increase employment by creating new jobs as much as it would do so by matching workers to existing job opportunities more quickly. Regardless, the effort would impact joblessness at a cost that compares favorably to the cost per job year from economic stimulus.

ISN'T THIS PROGRAM EXPENSIVE?

We estimate that the proposed mobility bank would have a net cost to society of considerably less than $1 billion per year. At least part of the program costs could be recouped by changing the current tax code to place an annual adjusted-gross-income cap on eligibility for deducting moving expenses. Alternatively, funds currently devoted for TAA efforts could be reallocated toward the proposed program, since eligibility for this program is certainly broader than eligibility for mobility assistance under TAA.

WHAT PREVENTS BORROWING UNDER FALSE PRETENSES?

Several mechanisms could be put into place to prevent fraudulent borrowing. For example, one could require that borrowers prove that they have relocated within, say, six months of receiving a loan by providing proof of a change in address (for example, a lease or utilities at the new address in the borrower's name). Failure to provide such evidence could be met with sanction in terms of suspension of delayed interest accrual and the charging of market interest rates on the outstanding balance. Alternatively, the funds could be held in an escrow account against which only moving-related expenses (renting a truck, hiring a mover, placing first and last months' rent on a new apartment in a new location) could initiate the

release of funds. While such additional requirements would certainly reduce take-up, some safeguards must be put into place for cost containment.

WON'T THIS DEBT JUST BE DISCHARGED IN BANKRUPTCY COURT?

It is certainly possible that at least some of these loans would be discharged in bankruptcy court unless legislation was passed to make such debt nondischargeable—that is, people could not evade their loan obligations by declaring bankruptcy. To keep with our investment metaphor, including such a provision should lower default rates and keep in parallel with the design of the federal subsidized student loan program.

DOESN'T THIS PROGRAM CREATE AN INCENTIVE NOT TO WORK?

In principle, yes, since repayment is conditional on working and repayment equals a fixed portion of monthly earnings. However, eligibility criteria are set to identify those with fairly strong attachment to the labor force. Research on the responsiveness of work effort to small changes in wages suggests that, among those with strong attachment, behavioral responses are small—in other words, those who with a strong work orientation are unlikely to withdraw from the labor market or to work less due to a 3 percent marginal tax increase (see Raphael 2007). But, more importantly, by capping loan repayment amounts at 3 percent of gross income and amortizing these loans over a long period (ten years) we have tried to keep the net effect of this program on marginal tax rates to participants as low as possible. Given the targeting of the program and this design feature, we do not anticipate large adverse labor supply responses to such a loan.

Eligibility criteria are set to identify those with fairly strong attachment to the labor force... Given the targeting of the program and this design feature, we do not anticipate large adverse labor supply responses to such a loan.

Chapter 6: Conclusion

One reason many jobless people may be stuck in distressed communities undergoing long-term economic decline are the up-front costs associated with moving to places with better economic conditions, and their inability to borrow in private credit markets to finance job-enhancing residential mobility. This market failure is compounded by uncertainty that many people may have about whether moving someplace else will improve things, and the difficulty of leaving friends and family behind. The mobility bank proposal has the potential to address these barriers to mobility. The program tries to hold down costs by providing subsidized loans rather than grants, and targeting the program only to those areas facing long-term economic decline.

We project that our proposed mobility bank would create an additional 93,000 person-years of employment each year, which is relatively modest in a national sense but much more significant as a share of the one-third of high-unemployment cities that would be eligible for the program. Moreover, our estimates suggest that the costs per job match are relatively modest compared to costs from other efforts to increase employment. Geographic targeting gives the mobility bank the potential to have important effects on the lowest-income people living in some of our nation's most distressed communities.

Authors

Jens Ludwig

Professor of Social Service Administration, Law and Public Policy, University of Chicago

Jens Ludwig is the McCormick Foundation Professor of Social Service Administration, Law, and Public Policy in the School of Social Service Administration and the Harris School and director of the University of Chicago Crime Lab. He also serves as a non-resident senior fellow in economic studies at the Brookings Institution, research associate of the National Bureau of Economic Research (NBER), and co-director of the NBER's working group on the economics of crime. His research on social problems in the area of poverty, education, and crime has been funded by the U.S. Departments of Justice and Housing and Urban Development and the Annie E. Casey, Smith Richardson, William T. Grant, Spencer and Joyce foundations, and has been published in leading scientific journals. His co-authored paper on race, peer norms and education was awarded the Vernon Prize for best article by the Association for Public Policy Analysis and Management (APPAM). In 2006 he was awarded APPAM's David Kershaw Prize for distinguished contributions to public policy by the age of forty. He received his Ph.D. in economics from Duke University.

Steven Raphael

Professor of Public Policy, University of California, Berkeley

Steven Raphael is Professor of Public Policy at UC Berkeley. His research focuses on the economics of low-wage labor markets, housing, and the economics of crime and corrections. His most recent research focuses on the social consequences of the large increases in U.S. incarceration rates. He also works on the economics immigration, racial inequality, labor unions, social insurance policies, homelessness, and low-income housing. Raphael holds a Ph.D. in economics from UC Berkeley.

Acknowledgments

Appendix

Monthly Payment Relative to Monthly Earnings for Full-Time Workers at Different Income Levels

		Monthly Payment Relative to Monthly Earnings						
Annual interest rate	Monthly payment	Minimum wage worker	10 percentile male	25 percentile male	Median male	10 percentile female	25 percentile female	Median female
9	63.34	0.052	0.040	0.029	0.019	0.046	0.033	0.023
8	60.66	0.050	0.039	0.028	0.018	0.044	0.032	0.022
7	58.05	0.048	0.037	0.027	0.017	0.042	0.030	0.021
6	55.51	0.046	0.035	0.026	0.016	0.040	0.029	0.020
5	53.03	0.044	0.034	0.025	0.016	0.038	0.028	0.019
4	50.62	0.042	0.032	0.023	0.015	0.036	0.027	0.018
3	48.28	0.040	0.031	0.022	0.014	0.035	0.025	0.017
2	46.01	0.038	0.029	0.021	0.014	0.033	0.024	0.016
1	43.80	0.036	0.028	0.020	0.013	0.032	0.023	0.016
0	41.67	0.034	0.027	0.019	0.012	0.030	0.022	0.015

Note: Debt payments are based on the fixed monthly payment needed to fully amortize the loan over ten years. Debt payment relative to income uses data on percentiles of the weekly earnings distribution for the second quarter of 2010 found at U.S. Department of Labor (2010) and assumes fifty weeks of work per year.

Discounted Present Value of Public Subsidy on $5,000

	$5,000 Loans
Minimum-wage workers	$730
Male workers	
10th percentile	$30
25th percentile	$0
50th percentile	$0
Female workers	
10th percentile	$289
25th percentile	$0
50th percentile	$0

Note: Discounted present value calculations assume that each individual finds work immediately, each individual makes 120 consecutive payments equal to the smaller of 3 percent of her monthly earnings or the payment on 3 percent fully amortized loan, and experiences earnings growth of 3 percent per year. Monthly subsidies are discounted to the present value using a 3 percent interest rate.

Endnotes

1. Note that we are reporting unemployment rates for the city of Flint itself; unemployment rates for the surrounding county as a whole, or for the Flint metropolitan statistical area, tend to be lower. The economic boom of the 1990s caused conditions to be somewhat less bleak in the Flint metropolitan statistical area as a whole, with an unemployment rate that was below 5 percent, although in the city of Flint itself the unemployment rate even in 2000 was still 9.5 percent.

2. The details behind this tabulation are discussed in the next section.

3. The distribution of the $3 billion in mobility deductions is spread out across the income distribution, with roughly 40 percent of these deductions taken by taxpayers with adjusted gross income (AGI) below $50,000 and an additional 27 percent taken by households with AGI between $50,000 and $100,000. Nonetheless, taxpayers with AGI above $100,000 account for only 13 percent of tax filing units yet claim 33 percent of the total moving cost deductions taken in 2007. Taxpayers with AGI above $200,000 account for only 3.2 percent of taxpayers yet claim 11 percent of the moving cost deductions. Moreover, since these households face higher marginal tax rates, the proportion of the implicit subsidy for mobility accruing to these upper-income households is even larger still.

4. This calculation is based on the following: We tabulated the proportion of the unemployed who are homeowners for each state using the March 2009 Current Population Survey (CPS). We then multiplied this number by the proportion of subprime financed properties that are under water, using estimates from the GAO using overleverage rates for the first quarter of 2009 (GAO 2010). Next, we averaged these state level estimates weighting by the proportion of the unemployed accounted for by each state. The tabulation implicitly assumes that the overleverage rate for subprime borrowers applies to unemployed homeowners. The tabulation suggests that 17.2 percent of the unemployed are overleveraged homeowners. Ferreira, Gyourko, and Tracy (2010) show that mobility rates are about one-half as high for households with negative equity in their homes as they are for households that own their homes.

5. *Flint Journal* 1980–89 (nd).

6. As the survey asks this question of those displaced from work at any point between 2005 and 2008, the figure measures the average mobility rate for some individuals who have been only recently displaced as well as some individuals who have been displaced as much three years ago. Mobility rates clearly increase with time since losing one's jobs. In this 2008 survey, 8 percent of workers who were displaced in 2007 had moved by January 2008. The comparable figures for those displaced in 2006 and 2005 are 13 percent and 18 percent, respectively.

7. These analyses come from using data from the January 2008 CPS Displaced Worker Supplement (DWS). The DWS is a supplemental set of questions attached to the Bureau of Labor Statistics monthly CPS household survey; these questions were asked of workers who had been displaced from a job during the past three calendar years (i.e., 2005 through 2008). The survey asks about various aspects of the lost job, about each person's current employment status, and, if employed, the nature and compensation at the person's new job. The survey also asked about people's geographic mobility since displacement.

8. Housing is probably the easiest cost to estimate since the U.S. Department of Housing and Urban Development (HUD) regularly publishes Fair Market Rents for each county in the nation, which include median rents in regional housing markets for apartments of different sizes (studio, one-bedroom apartments, etc.). For example, median rents for a two-bedroom apartment in 2010 range from a low of $507 to a high of $1,466, with an average of approximately $800. For a four-bedroom unit, median rents range from

$622 to $3,380, with an average of roughly $1,200. The housing needs of a borrower can be estimated by program administrators based on household size and composition, and lending for housing could be set to cover the first two months of rent and a deposit equal to one month of rent. For example, a two-bedroom rental in an area with average costs could require $2,400.

9. We estimate nonhousing living expenses for families by noting that HUD caps the rental payments that families make in housing programs to be equal to 30 percent of (adjusted) monthly income. The 30 percent threshold is commonly used as an indicator of housing affordability, with households paying greater than 30 percent of their income in rent considered to be carrying excessive rent burdens (Quigley and Raphael 2004). Since the mobility bank seeks to provide resources to finance up to two months of job search in the borrower's new location, we can divide estimated rental expenditures for two months by 0.3 to obtain a rough benchmark of the resources needed for utilities, food, transportation, and other necessities. For our hypothetical job seeker moving to a two-bedroom apartment in a region with average housing costs, living expenses for the first two months would be approximately equal to $5,300.

10. Regarding moving costs, such expenses certainly depend on distance travelled and on the size of the household that is being moved. As a rough ballpark estimate of moving expenses, we employ the maximum allowance for relocation expenses provided to workers qualifying for assistance under the TAA program. TAA provides relocation allowances of up to $1,500 for displaced workers who locate suitable employment outside the region of displacement. When added to housing and living expenses, total funds needed to finance the move amount to $9,200.

11. This particular feature of the loan can be contrasted with a variable-term loan where payment amounts are conditional on income while repayment terms are allowed to vary to ensure that the borrower repays the full amount of the loan. Using variable-term loans rather than fixed-term loans in conjunction with income-contingent payment plans would certainly reduce the costs of the program. However, it also would increase the risk faced by individual borrowers.

12. Appendix Table A1 tabulates the monthly payment on fixed-rate $5,000 loans amortizing over a ten-year period. For each loan amount, the table presents the fixed monthly payment for loans with annual interest rates of 0 percent to 9 percent. We present estimates of the proportion of monthly income for full-time workers at various points in the earnings distribution that would be needed to service the loan at the given interest rate. We present such estimates for workers earning minimum wage, for male workers with weekly earnings at the 10th, 25th, and 50th percentiles of the weekly earnings distribution for full-time male wage and salary workers, and for female workers at the 10th, 25th, and 50th percentiles of the weekly earnings distribution for full-time female wage and salary workers.

13. The difference in unemployment rates between cities and their surrounding metropolitan areas could reflect the fact that there are two separate labor markets in these areas—a version of the "spatial mismatch" idea that John Kain first articulated more than forty years ago (Kain 1968)—or just that low-income people often wind up living in cities. The research literature remains something less than definitive about the relative importance of each of these mechanisms.

14. Nationwide, as of 2007 around 28 percent of American adults twenty-five years of age and over have a bachelor's degree or more. See U.S. Department of Commerce (2009).

15. See U.S. Department of Labor (2007).

16. See Urban Center and Brookings Institution (2009). These estimates account

for the refundable tax credits through the child tax credit and the earned income tax credit.

17. If payments are capped at 3 percent of income, monthly payments for this individual would begin at $36 per month and increase to $47 per month at the end of ten years as the person's earnings rise. Conversely, the implicit monthly subsidy would fall from approximately $12 per month at the beginning of the period to $1 per month at the end.

18. To estimate the average cost per loan, we first tabulated the discounted present value of the loan subsidy to each displaced worker observed in the CPS DWS dataset (described in Footnote 9), assuming that each worker finds a job paying an amount equal to her predisplacement earnings. To simplify these tabulations, we assume that wages do not grow over the ten-year repayment period and that there is no delay in repayment. For each displaced worker observed in the DWS who moves, we tabulate 3 percent of monthly earnings and calculate the difference between this payment and the payment needed to repay the loan without a subsidy. The discounted present value of the subsidy stream is then calculated according to the formula $DPV = S/i \, [1-1/(1+i)^{120}]$, where S is the tabulated monthly subsidy and i is the implicit monthly interest rate. We assume that the current cost of capital faced by the federal government is 3 percent (roughly equal to the current interest rate on ten-year Treasury Notes).

References

Blanchard, Olivier J., and Lawrence F. Katz. 1992. "Regional Evolution." *Brookings Papers on Economic Activity* (1): 1–75.

Bryan, Justin. 2010. *Individual Income Tax Returns, 2007.* http://www.irs.gov/taxstats/indtaxstats/article/0,,id=98123,00.html (accessed September 19, 2010).

Council of Economic Advisers. 2009. *Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009.* Executive Office of the President, Washington, DC.

Crane, J. 1991. "The Epidemic Theory of Ghettos and Neighborhood Effects on Dropping Out and Teenage Childbearing." *American Journal of Sociology* 96: 1226–1259.

Ferreira, Fernando, Joseph Gyourko, and Joseph Tracy. 2010. "Housing Busts and Household Mobility." *Journal of Urban Economics* 68: 34–45.

Flint Journal 1980–89. n.d. "Journal of the Twentieth Century." http://www.flintjournal.com/20thcentury/1980/1980main.html (accessed September 24, 2010).

Frey, William H. 2009. *The Great American Migration Slowdown: Regional and Metropolitan Dimensions.* The Brookings Institution, Washington, DC.

Friedman, Milton. 1955. "The Role of Government in Education." In *Economics and the Public Interest*, ed. Robert A. Solow. New Brunswick, NJ: Rutgers University Press.

Kain, John D. 1968. "Housing Segregation, Negro Employment, and Metropolitan Decentralization." *Quarterly Journal of Economics* 82:175–197.

Kling, Jeffrey R., Jeffrey B. Liebman, and Lawrence Katz. 2007. "Experimental Analysis of Neighborhood Effects." *Econometrica* 75(1): 83–119.

Ludwig, Jens, and Jeffrey Kling. 2007. "Is Crime Contagious?" *Journal of Law and Economics* 50(3): 491–518.

Quigley, John, and Steven Raphael. 2004. "Is Housing Unaffordable? Why Isn't It More Affordable?" *Journal of Economic Perspectives* 18(1): 191–214.

Raphael, Steven. 2007. "Boosting the Earnings and Employment of Low-Skilled Workers in the United States: Making Work Pay and Reducing Barriers to Employment and Social Mobility." In *A Future of Good Jobs? America's Challenge in the Global Economy*, ed. Timothy J. Bartik and Susan M. Houseman, 245–305. Kalamazoo, MI: W. E. Upjohn Institute.

Urban Center and Brookings Institution. (2009). "Average Effective Tax Rates Under Current Law, By Cash Income Percentile, 2009." http://www.taxpolicycenter.org/numbers/displayatab.cfm?DocID=2432 (accessed October 3, 2010).

U.S. Department of Commerce. 2009. "Educational Attainment in the United States: 2007." http://www.census.gov/prod/2009pubs/p20-560.pdf

U.S. Government Accountability Office (GAO). 2010. "State Level Information on Negative Home Equity and Loan Performance in the Nonprime Mortgage Market." Report # GAO-10-633R. Author, Washington, DC.

U.S. Department of Labor. 2007. "Quintiles of Income Before Taxes: Average Annual Expenditures and Characteristics, Consumer Expenditure Survey, 2007." Bureau of Labor Statistics, Washington, DC. http://www.bls.gov/cex/2007/Standard/quintile.pdf (accessed October 2, 2010).

_____. 2010. "Table 5. Quartiles and selected deciles of usual weekly earnings of full-time wage and salary workers by selected characteristics, second quarter 2010 averages, not seasonally adjusted." Bureau of Labor Statistics, Washington, DC. http://www.bls.gov/news.release/wkyeng.t05.htm (accessed August 17, 2010).

Wozniak, Abigail, and Raven Saks. 2009. "Labor Reallocation Over the Business Cycle." Unpublished working paper.

THE HAMILTON PROJECT

ADVISORY COUNCIL

WWW.HAMILTONPROJECT.ORG