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WHY PRESIDENT OBAMA SHOULD CARE ABOUT "CARE": AN EFFECTIVE AND EQUITABLE INVESTMENT STRATEGY FOR JOB CREATION

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Preface

In President Obama's State of the Union address he acknowledged the plight of unemployed Americans and promised to make jobs the number one focus in 2010. A move toward full employment, he says, will lay a new foundation for long-term economic growth and ensure that the U.S. government creates the necessary conditions for businesses to expand and hire more workers.

Past efforts by the Obama administration to save jobs included stabilizing the financial system, tax cuts for small businesses and working families, and the American Recovery and Reinvestment Act. In spite of these efforts, however, one in ten Americans still cannot find work, and seven million jobs have been lost over the last two years. Looking ahead, the president proposes to build the infrastructure of tomorrow, support community banks, legislate new tax incentives for businesses, invest in clean energy, double exports over the next five years, and revitalize the educational system.

According to Research Scholars Rania Antonopoulos, Kijong Kim, and Thomas Masterson, and Senior Scholar Ajit Zacharias, the government needs to identify useful projects that have the potential for massive public job creation, and to select investments that maximize job creation both immediately and equitably. They conclude that social sector investment, such as early childhood education and home-based care, generates the most jobs and caters to the most vulnerable segments of the workforce. Moreover, social care investment generates more than twice the number of jobs as infrastructure spending and almost 1.5 times the number of jobs as green energy spending. In addition, it is relatively more effective in providing jobs to people with the least education. Thus, the social and psychological impacts of social care investment are beneficial for both the recipients and their communities.

Using input-output analysis and a microsimulation model, the authors analyze interindustry linkages, classify new direct and indirect jobs created in each industry by occupation, and match worker socioeconomic characteristics to the available jobs. They then simulate an investment of $50 billion on projects that enhance social care and compare the results with a commensurate investment aimed at infrastructure (construction). They find that the relatively high labor intensity of investing in the social sector is particularly beneficial for women (new jobs are concentrated in teaching, child care, and home health care), low-income households, and people with limited education. The social sector also creates more absolute jobs requiring some college education and geared toward the middle and top income groups.

The authors note that the government has focused on rescuing Wall Street and the banks—the main beneficiaries during times of economic prosperity—rather than low-income households, who continue to lose their homes and their jobs. They recommend a second stimulus package, one aimed at state and local governments that currently lack the resources to deliver increased levels of social care.

While Obama's proposals are part of the solution to mitigating double-digit unemployment, he seems to have overlooked the relative job creation effects of comparable investments in various sectors of the U.S. economy. I urge his administration to consider this brief's findings and the merits of focusing on social care investment. Such investment is critical in the near term if we're to alleviate the plight of unemployed Americans while building tomorrow's infrastructure.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
February 2010

Why President Obama Should Care about "Care"

Introduction

Since the onset of the current recession, the most vulnerable of its victims—the poor and the vast majority of the unemployed—have gotten very little coddling relative to the Wall Street chieftains who perpetrated the crisis, and several big companies. In an effort to restore confidence and avoid further shrinkage of the economy, the sectors deemed "too big to fail" have been disproportionately privileged, while the household sector has received far less significant support. When employment and household income plummet, accompanied by sharp declines in household wealth, aggregate demand is bound to suffer. The household sector, it must be understood, is also too big to fail.

Despite some positive economic signs, unemployment in the United States stood at 10 percent, or about 15.4 million people, in December 2009—double the level at the beginning of the recession in December 2007. An even direr picture emerges when we add to that the 9.4 million people who work part-time because they either could not find full-time jobs or faced cutbacks in hours by their employers, and the 2.5 million who have been looking for a job over the past year. A conservative estimate brings the jobs deficit to more than 20 million, and the distribution of this hardship adds fuel to the fire. Parts of the country, underprivileged communities in particular, face unemployment rates exceeding 25 percent. For single mothers the official unemployment rate is 13 percent, while the rates for African American and Latino workers are 16 and 13 percent, respectively, and youth unemployment stands at about 27 percent (BLS 2010).

Recognizing that market forces alone cannot be expected to overcome the jobs deficit, the Obama administration has engaged in expansionary fiscal policy to rein in rising unemployment. In addition to the American Recovery and Reinvestment Act (ARRA), passed in February 2009, President Obama called for a jobs summit, and followed up with a job-creation proposal. Also, last December on Capitol Hill, the House of Representatives passed a bill, the Jobs for Main Street Act of 2010, that includes appropriations for the extension of the term limits for unemployment benefits, infrastructure spending (mainly on highways and public transit), and public sector jobs (primarily in education). These efforts are welcome, but as the president highlighted in his January 27, 2010, State of the Union address, more needs to be done in order to overcome the jobs crisis.

What is urgently needed at this juncture is identification of useful work projects that have the potential for *massive public job creation*, and spending allocations commensurate with the *scale* of the problem at hand. Policy design that frets over "deficit spending" on job creation while generously disbursing billions to provide the necessary lifelines to those firms considered "too big to fail" discredits the social-inclusiveness principles of democratic states. This is not only unjust but also a very dangerous message to be sending, both to those here at home and to the rest of the world.

Direct job creation so far has come in the form of investing in physical infrastructure and green energy, which are critical to the future of our economy and should be a part of our national strategy. But given the astounding numbers of unemployed, public investments must be (1) selected with a view to *maximizing* the extent of immediate job creation and (2) equitable, ensuring that the benefits of job creation do not favor some while excluding others.

Both issues are particularly important for the most vulnerable groups among the unemployed. According to official estimates, ARRA is expected to create (or save) about 3.5 million jobs by the end of 2010, providing relief to households while at the same time supporting aggregate demand. Keeping in mind the 8.4 million jobs lost since the onset of the recession and the conservative estimate of 20 million individuals seeking work, the number of ARRA jobs, even if they were to materialize, is clearly insufficient given the broadly expected lag in job creation by the private sector in the near term. Cutbacks in state and local government budgets across the country are certain to increase vulnerabilities: more jobs will be lost and lower levels of public services delivered. Many indicators testify to the deterioration of households' economic positions, including the expanding use of food stamps and soup kitchens, and the rise of hunger in America.[1]

To keep the "audacity of hope" alive, it is crucial that new job creation interrupts the cycle that keeps poor men, women, and young people locked out of the job market. In this context, the Obama administration's job-creation strategists must take a closer look at *social sector* investment.

Why a Focus on Social Sector Public Job Creation?

Social service delivery is important in and of itself. Yet in the context of the current crisis its employment generation ability merits its particular consideration. Treasury Secretary Timothy Geithner acknowledged last year that "social sector job creation delivers more bang for the buck" (Fackler 2009). In other words, public funds invested in social care sectors create more jobs than several other common stimulus programs combined. Research and the historical experience of countries around the globe provide strong evidence to that effect (Antonopoulos and Kim 2008, Simonazzi 2009, Warner and Liu 2006).[2] Our study indicates that the United States is no exception to this rule.

Simply put, as compared to physical infrastructure and green energy—the favored job-creation sectors under ARRA—investing in social care sectors such as early childhood education and home-based care (1) generates *more jobs* and (2) provides these job opportunities to *the most vulnerable* segments of the population. Table 1 shows estimates of the number of jobs created for every $1 million spent, in each of three sectors: social care, physical infrastructure, and green energy. It also shows the distribution of these jobs to workers of differing levels of education.[3]

In a nutshell, investing in social care results in much higher job creation. Social care investment generates more than twice the number of jobs as infrastructure spending, and almost one and a half times the number of jobs yielded by investing in green energy. It is also more effective in reaching the least-educated group in the labor market, creating twice as many jobs for those with a high school diploma or less as compared to infrastructure investment.

Social care expansion represents an investment in direct job creation in social infrastructure; it is neither a welfare-to-work program, as enacted by the Clinton administration in the name of "welfare reform," nor public cash assistance. As does any successful investment in infrastructure, it also generates benefits—both social and economic. Besides resulting in higher job creation, as shown above, researchers have found significant positive psychological and social impacts on participants and their communities, as well as on the children who receive early childhood development care (NICHD 2000; Dickens, Sawhill, and Tebbs 2006). The latter tend to pursue more education, and thus become productive members of society (Heckman and Masterov 2007). Home-based health care is more cost effective than hospital or institutional care for certain chronic patients (Fields et al. 1991; Rich et al. 1995), and the benefits to the individual of staying at home and maintaining his lifestyle are also noteworthy.

Table 1 Number of Jobs Created per $1 Million in Spending, by Sector and Educational Level

Education (≥16 years old)	Social Care	Infrastructure	Green Energy
High school or less	16	8	8
Some college	4	1	5
College graduate	3	2	4
Total	23	11	17

Note: The green-energy job creation estimates are based on Pollin, Wicks-Lim, and Garrett-Peltier 2009. Their analysis includes an induced job effect from consumption of earned income (expenditure multiplier), and is roughly 40 percent of the total. Our own estimates for social care and infrastructure provide the lowest job creation boundary. If the induced effect is accounted for in social care estimates, the job impact of social care would be even stronger relative to green energy. We justify our choice on empirical grounds in our forthcoming working paper.

Source: Authors' calculations, based on the Levy Institute Microsimulation Model; see Zacharias, Masterson, and Kim 2009 for details.

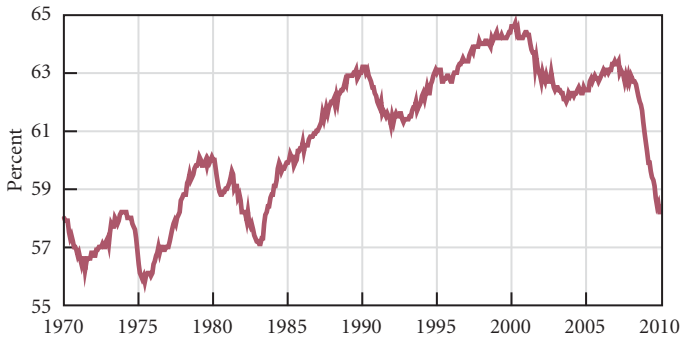
Additionally, home-based care relieves the burden of family members and allows them to be more productive at work, thus saving the economy over $33 billion a year in lost productivity.[4] These benefits will be strongly felt in poor communities, whose members suffer disproportionately from a combination of social exclusion, high unemployment, and insufficient services. It will also benefit women directly, as they are the primary providers of unpaid care to children and the elderly.

With these long-term benefits in mind, we now turn to a brief overview of our study, which will be detailed at length in a forthcoming paper. We begin with a profile of the unemployed. We then turn to our methodology, which describes key elements of our model, on the basis of which we simulated the job-creation potential by sector and estimated the distribution of new jobs among employable individuals. We conclude with a few comments on the current state of political debate in regard to government's reluctance to "bail out" households—poor households in particular.

Profile of the Unemployed by Income, Educational Level, and Occupation[5]

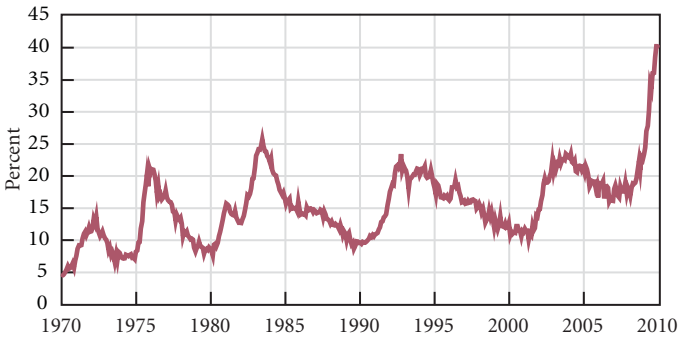
There are good reasons why this crisis has been termed the Great Recession, differentiating it from other economic downturns. From the standpoint of its employment impact, it is clear that, compared to previous recessions, the picture is dismal. At the

Figure 1a Employment-to-Population Ratio, 1970–2009



Source: Labor Force Statistics, December 2009 Current Population Survey (CPS), BLS

Figure 1b Workers Unemployed for 27 Weeks or More, 1970–2009 (percent of total unemployed)



Sources: Labor Force Statistics, December 2009 CPS, BLS; percent of totalunemployed has been computed using the BLS data series LNS13008396, LNS13008756, LNS13008516, and LNS13008635.

Table 2 Distribution of Unemployment by Educational Level, 2008 (in percent)

Education (≥16 years old)	Unemployed (strict)	Marginally Attached	Part-time (forced)	Unemployed (broad)	Share (%)
High school or less	8.3	0.8	5.4	14.5	59
Some college	3.7	0.4	2.4	6.4	26
College graduate	2.1	0.2	1.4	3.7	15
Total	14.1	1.4	9.2	24.6	100

Note: Due to differences in seasonal adjustments and samples included in the estimates, these numbers may not exactly match the official BLS unemployment statistics.

Source: Authors' calculations from March 2009 CPS, BLS

aggregate level, the employment-to-population ratio in December 2009 was the lowest it has been in 26 years, and the drop from the peak the largest on record (Figure 1a). Data also reveal that the unemployed have a rough time finding work for extended periods of time. The number of workers looking for a job but unable to find one for over 27 weeks stood at 40 percent in December—the highest figure since estimates were first published in 1948 (Figure 1b). The official unemployment rate reached 10 percent in December. Released by the Bureau of Labor Statistics (BLS) in January 2010, it corresponds to those among the unemployed who have looked for work sometime during the past four weeks (the strict unemployment measure).

A broader and more accurate picture of the unemployed, especially important for policy, emerges when we consider the rest of the jobless as well. The BLS indeed collects and reports data on (1) those compelled to work part-time because they cannot find full-time work—currently 9.5 million persons, and (2) those marginally attached to the labor force—that is, the 2.5 million discouraged workers who have looked for work some time in the past year but not in the four weeks preceding the survey.

In our study we make use of the March 2009 Current Population Survey data to compare our results to other studies pertaining to the ARRA and green jobs. Turning to the educational characteristics of the unemployed and their household incomes, the tables and two graphs below are instructive. Table 2 illustrates that less educated workers are more vulnerable in the labor market at the moment. Workers with a high school diploma or less constitute almost 60 percent of the unemployed in all measures, while college graduates make up 15 percent of the total. This is significant in view of our study: among home-based health aides, 58 percent have an education level of a high school diploma or less. Given that the composition of workers' educational attainment will likely remain as it is, the expansion of social care would greatly benefit the workers in this group. Child care workers would also benefit from the proposed expansion, as most of them are required to have at least some college-level education—under federal and state regulations, an associate degree in child development from a community college or a vocational school.

In terms of income, almost 40 percent of unemployed workers are from households that are below the 40th percentile (approximately $39,000 a year), as shown in Table 3. Over 25 percent of home health aides and 30 percent of child care workers fall within this income group (BLS/USCB 2009). Again, expansion of

Table 3 Distribution of Unemployed Persons by Household Income, 2008 (in millions)

Household Income (by decile)	Unemployed (strict)	Marginally Attached	Part-time (forced)	Unemployed (broad)
1st–4th	5.6	0.7	3.7	10.1
5th–8th	6.2	0.6	4.1	10.9
9th–10th	2.4	0.3	1.5	4.1
Total	14.2	1.6	9.3	25.1

Source: Authors' calculations from March 2009 CPS, BLS

social care would definitely benefit workers by providing more employment opportunities.

What emerges for the above data is that, in order to be equitable, public job creation ought to reach households whose members have low levels of skills and belong to the lower end of the income distribution.

Methodology

To analyze the employment impact of our proposed intervention we combine two different quantitative methods. At the macro level we make use of input-output analysis, and at the micro level, we employ a microsimulation model. Input-output analysis allows for the calculation of aggregate changes in employment, while the microsimulation model distributes these jobs by matching them to the individuals who are most likely to occupy them (Zacharias, Masterson, and Kim 2009).

The method we utilize shows the specific linkages of output growth between industries and the corresponding job creation: as one sector of the economy experiences an increase in demand for its own output, it demands more goods and services from several other industries, which in turn results in both direct and indirect job creation downstream. For example, the additional expenditures on social care would directly create jobs for preschool teachers and assistants, home health aides and administrative staff, et cetera; but, in addition, employment would be created in several other industries (sectors) that supply the inputs for the social care sector. To estimate the employment multiplication through the industry linkages, we used the 2006 input-output (I-O) table, recompiled by the BLS from the original I-O table issued by the Bureau for Economic Analysis. This I-O table depicts the inter-industry linkages of 201 industries, from which one can calculate the employment multipliers.

In the next stage, we classify the new jobs, direct and indirect, created in each industry, by occupation. The original data comes from the BLS National Industry-Occupation Employment Matrix. This proves to be particularly important in providing the complete industry-occupation table that is subsequently used in the third step of our modeling; namely, in the microsimulation portion of our study.

The microsimulation model we employ assigns jobs by matching workers' socioeconomic characteristics to the available jobs. We assume that the additional demand for labor created by each alternative scenario proposed in this study would be met by an increased supply of labor from the pool of "employable" individuals, drawn from the Annual Social and Economic Supplement of the Current Population Survey in year 2009. The employable pool is composed of civilians age 16 and older who were unemployed or out of the labor force due to reasons other than being ill, disabled, retired, making a home, or in school and under the age of 20. To assign jobs, we create a statistical ranking of occupations and industries for each individual by estimating the likelihood of being employed in each job category. Then, we assign employment status to those in the employable pool using an iterative procedure, stepping through industry and occupation pairs, and selecting those individuals most likely to be employed in that industry-occupation pair, until all the available jobs are assigned. Once we assign jobs, we proceed to allocate earnings to those individuals who receive a new job.[6]

Job Creation Impact of Government Investment

We simulate an investment of $50 billion on projects that enhance the social infrastructure of care provisioning. Divided equally between home-based health care and early childhood development for children under the age of 5 (including, therefore, preschool education), the size of such an intervention is equivalent to half the combined gross output of the two industries in the year 2006. Estimates on child care obtained in a recent national survey by the Department of Education (Iruka and Carver 2006) indicate that 40 percent of children under age five do not have any nonparental day-care arrangements. The additional cost for providing voluntary, universal preschool is estimated to be in the range of $15.6 billion to $38.7 billion per year, according to the Committee for Economic Development (CED

Table 4 Occupational Composition, by Sector

Occupation	Social Care		Infrastructure	
	Jobs	Share (%)	Jobs	Share (%)
Manager	69,256	5.8	47,685	8.6
Professional	159,307	13.4	27,748	5.0
High-end service	448,077	37.8	7,273	1.3
Low-end service	450,660	38.0	133,462	24.0
Production	59,043	5.0	339,774	61.1
Total	1,186,343	100.0	555,942	100.0

Note: "Manager" includes "management, business, & financial" occupations. "Professional" includes "computer and mathematical science; architecture and engineering; life, physical, and social science; legal; and healthcare practitioner and technical" occupations. "High-end service" includes "community and social service; education, training, and library; arts, design and entertainment; and healthcare support" occupations. "Low-end service" includes "protective service; food preparation and serving; building and grounds cleaning, and maintenance; personal care and service; sales and related; and office and administrative support" occupations. "Production" includes "farming, fishing, and forestry; construction and extraction; installation, maintenance, and repair; production; and, transportation and material moving" occupations.

Source: Authors' calculations

Table 5 Employment Distribution across Industries, by Sector

Industry	Social Care	Infrastructure
Agriculture	2,928	1,969
Mining	520	2,463
Utilities	773	1,808
Construction	4,489	345,955
Manufacturing	16,797	46,402
Wholesale	7,139	11,421
Retail	4,432	36,628
Transportation and warehousing	7,020	12,715
Information	4,989	4,312
Financial and real estate services	13,621	11,474
Professional and business services	57,672	55,675
Education	688	719
Health care and social assistance	21,046	675
Social care	956,082	107
Leisure and hospitality	15,650	6,509
Other services	3,113	5,009
Government	69,384	12,099
Total	1,186,343	555,940

Note: Component figures may not sum due to rounding.

Source: Authors' calculations

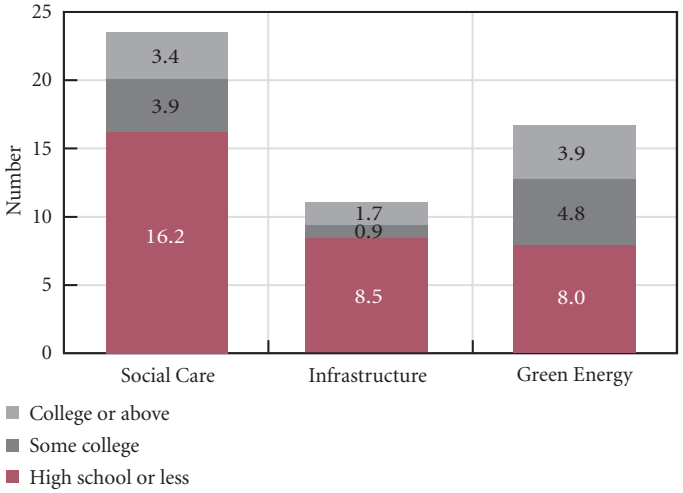
2006). Even for nonparental care cases, Burton et al. 2002 find that the true work burden of child care in the nation is probably seriously underestimated, as half of all child care workers are unpaid, unaccounted for in data gathering, and thus dropped from policy consideration. In addition, a report from the Congressional Budget Office (CBO) in 2004 on long-term care for the elderly indicates that more than one-third of the care burden falls into the category of informal care by family and other volunteers. The BLS predicts that home-based direct care will be one of the fastest-growing occupations in the next decade as the population grows older and lives longer.[7] Given these large, hidden current and future needs for social care, we feel that $50 billion is not an exaggerated estimate.

We compare the results of estimates for a social care expenditure package with one of an equal size aimed at infrastructure, the closest approximation of which in the I-O table that we use is labeled "construction." The rationale behind our choice is that the industrial classification of this sector encompasses highway construction, the single largest item of infrastructure expenditure provided for in ARRA.

The first striking result from our simulation is that the social care intervention generates almost 1.2 million jobs, as opposed to 556,000 jobs in the case of infrastructure building (Table 4). The job-creation potential of the social sector is roughly 2.1 times that of infrastructure: $1 billion spent on social care is likely to generate 23,727 jobs, as compared to only 11,119 jobs that the same expenditure on infrastructure can create. This is, of course, a reflection of the relatively high labor-intensity of the social care sector. Second, in the social care case, 76 percent of new jobs are in high-end and low-end service—that is, teaching, child care, and home health care. These are jobs that women have a better chance of obtaining. In the infrastructure scenario, 61 percent of all jobs are production related—factory and construction work, farming, and truck driving—and thus traditionally more male-dominated. Although current public sentiment may favor reviving the American manufacturing sector and creating construction jobs for the workers hit hardest by the Great Recession, investment in human capital for the future through expanding social care is in fact a more effective way to maximize job creation than investment on physical infrastructure alone, especially at this time.

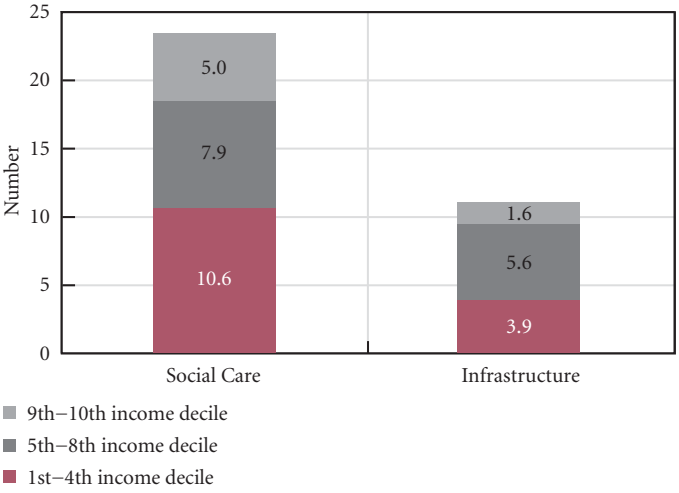
Table 5 presents the distribution of employment by industry under the social care and infrastructure scenarios. Most jobs are concentrated in the respective industries in both scenarios, and more so in the social care scenario. These results corroborate the pattern that we observe in the occupational distribution:

Figure 2 Number of Jobs Created per $1 Million in Spending, by Educational Level



Sources: Pollin, Wicks-Lim, and Garrett-Peltier 2009; authors' calculations

Figure 3 Number of Jobs Created per $1 Million in Spending, by Household Income



Source: Authors' calculations

social care creates relatively more jobs. Looking at the distribution, infrastructure spending produces more indirect impacts to other industries, as the sector requires more diverse inputs than social care does. Thus, one might come to a conclusion in favor of infrastructure construction. However, again, the opportunity cost of infrastructure construction is higher, as the investment creates less than half the number of jobs for the same amount of spending when compared to the social care expansion.

Distribution of Jobs: Who Benefits?

Figure 2 depicts our estimates of job creation for workers with different levels of educational attainment for the three sectors. As we have indicated above, social care expansion is well suited to creating jobs for groups with lower levels of educational attainment. In particular, the expansion would benefit a very vulnerable part of the workforce—those with a high school diploma or less—creating 16.2 jobs for this group per $1 million in spending, as compared to 8.5 jobs in infrastructure. In absolute terms, given the magnitude of jobs created, the social sector also creates more jobs for the more educated group (comprising those with some college and those with a minimum of a college degree) relative to infrastructure construction: 7.3 jobs (3.4 plus 3.9) per $1 million in spending are created from social care expansion, whereas infrastructure generates merely 2.6 jobs (1.7 plus 0.9) for the group. Early childhood development workers are, in some cases, required to have at least an associate degree in their field; this regulation in part explains why the more educated group receives more jobs through social care expansion than in the infrastructure scenario. Green energy investment produces 8.0 jobs for the less educated workforce, indicative of employment generation for home retrofitters, solar panel installers, and other construction-related field workers (see Pollin, Wicks-Lim, and Garrett-Peltier 2009). Green investment benefits the more educated group even more than the less educated one, providing 8.7 and 8.0 jobs for each group, respectively. Some of the jobs created by the investment are for engineers and technicians, who generally have higher education credentials.

Figure 3 shows the number of jobs assigned by our microsimulation model to workers from different levels of annual household income by decile, grouped into three categories.[8] Social care expansion outperforms infrastructure in terms of job creation for the lower-income households. Social care expansion generates for the bottom 40 percent of households 10.6 jobs per $1 million in spending, compared to 3.9 jobs for infrastructure construction. This result is consistent with the previous finding on job assignment by education, for income levels are highly correlated to workers' level of educational attainment. Home health aides, who comprise one of the major occupation groups in social care, are mainly women from low-income households: 88 percent of the workers are women, 58 percent have a high school diploma or less, and 45 percent of the workers are from households under

200 percent of the federal poverty line.[9] The social care expansion thus aids those workers specifically.

What is equally important to notice in these figures is that the care expansion generates more jobs for the middle income and top income groups—7.9 and 5.0 jobs, respectively, for each $1 million in expenditure—compared to infrastructure spending. This is because some care workers, early-education workers in particular, are likely to come from dual-earner households whose combined income places them in higher income groups to begin with. Still, proportionately speaking, the social care scenario provides more jobs to low-income workers, relative to the higher-income groups, than the infrastructure scenario does.

Conclusion

The administration claims to be painfully aware of the devastating impact unemployment has on families and the economy. Yet government resources have flowed much more freely to save Wall Street, banks, and the automobile industry. Income distribution figures tell a clear story: in good years, those at the top reaped the benefits, while median household income stagnated and those at the bottom of the income ladder suffered losses. Prosperity was not broadly shared to begin with. Now, with grim days facing us all, those that really benefited during times of prosperity are being "saved," while lower-income people continue to lose their homes and their jobs.

To the degree that the government has attempted to create jobs via expansionary fiscal policies, it has focused on tax cuts, transfers to individuals, transfers to state and local governments for education and Medicaid, and a variety of expenditure programs that focus on encouraging energy-efficiency measures and repairing and upgrading the physical infrastructure. These measures are needed, but in striving for the maximum job creation potential it is urgent, efficient, and fair to invest in social care.

The need for a second stimulus package is clear. State and local governments already have the administrative and delivery structures in place. As they are expected to face a combined budget shortfall of about $350 billion for 2010 and 2011 (McNichol and Johnson 2009), they lack the resources to deliver the increased levels of social care. This is where the Obama administration needs to be bold. The president is well positioned to undertake the task: he was elected because he is a thorough and thoughtful man, and the results we have presented here should resonate with his past experience as a community organizer.

Notes

1. Goldstein 2009 provides an overview of hunger in the United States based on a recent report by the Department of Agriculture (DoA) on household food security; see Nord, Andrews, and Carlson 2008. The DoA collects data on the Supplemental Nutrition Assistance Program (aka food stamps), available at www.fns.usda.gov/pd/snapmain.htm.
2. See Antonopoulos 2009 for a brief discussion of ARRA in the context of social care and gender equality. Antonopoulos and Kim 2008 demonstrate in detail the effectiveness of social care expansion for job creation in South Africa; Simonazzi 2009 reviews European models of elderly care.
3. For the purpose of illustration, we analyze the job creation impacts of early childhood education and home-based care—here defined as social care—and compare it to job creation in green technologies and physical infrastructure projects.
4. See MetLife 1999. The amount would be over $41 billion in year 2009.
5. We use March 2009 data to maintain consistency with the database for microsimulation. Labor market conditions have deteriorated further since last March. As of November 2009, less educated workers—those who have a high school degree or less—face an unemployment rate of 10.4 to 15 percent, an increase of almost 50 percent compared to the situation a year ago.
6. The method we employ is imputation by hot-decking. A three-stage Heckit model is used to predict imputed wage and usual hours for each individual in the pool, within age-sex cells. These, together with census division, metropolitan status, marital status, spouse's labor force status, industry and occupation of assigned job, and dummy variables for the age category of the youngest child and the number of children in the household, were used in the imputation procedure.
7. See www.bls.gov/news.release/ecopro.t06.htm for the complete table of the 30 fastest-growing occupations, 2006–16 (accessed December 2, 2009).
8. The green-energy investment scenario is not included, since the original data were not available for microsimulation analysis.
9. The federal poverty line for a family of four was $20,650 in the 48 contiguous states and Washington, D.C., in 2007.

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