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BY NAN L. MAXWELL AND DANA ROTZ

Building the Employment and Economic Self-Sufficiency of the Disadvantaged: The Potential of Social Enterprises

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Abstract

Social enterprises are financially viable businesses that put social objectives at the forefront of operations. This study provides some of the first evidence on the impacts, costs, and benefits of social enterprises, using information from seven organizations that intentionally hire individuals with severe employment barriers. Results suggest that social enterprises have the potential to create value: the average dollar invested in a social enterprise produces benefits valued between $0.42 and $1.31 for taxpayers and at least $1.34 for society as a whole, implying a 34 percent social return on investment. Furthermore, the returns to society of converting a profit-driven business into a social enterprise exceed 100 percent.*

Keywords: social enterprises, transitional jobs, job training, employment barriers

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A. Introduction

Social enterprises have recently emerged as a business model enabling an organization to maintain financial viability and independence while developing workers' employability and enhancing community welfare (Bull, 2008). Although slight variations exist in how social enterprises operate (Kerlin, 2006), the formal United Kingdom definition applies to most: "a business with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community" (Department of Trade and Industry, 2002).[1] Within this environment, the social mission (such as workforce development) and the business mission (financial viability) have equal footing, as the organization's financial sustainability is critical to achieving its social goals and organizations pursue a "double bottom line" of both business and social accountability.

Despite the growth of social enterprises in the 21st century, no study has rigorously assessed their outcomes, impacts, costs, and benefits. Past work has largely explained the social enterprise strategy (Katz, 2014; Ferguson, 2007), discussed the business knowledge needed for operations (Brinckerhoff, 2000; Dees, 1998; Patton, 2003), developed theoretical approaches (Borzaga and Defourny, 2001; Weisbrod, 1998), or described the functioning and outcomes of a single social enterprise (Ferguson, 2013; Haugh, 2006; Rotheroe and Richards, 2007). However, none of these studies can identify the causal impacts of social enterprises. This study examines outcomes following employment in social enterprises with a social mission to provide employment and build skills for individuals with employment barriers. Its results provide an assessment of whether social enterprises might be an efficient way to improve the employability and lives of individuals with some of the most severe barriers to employment. Such a strategy is appealing because the positive returns from private-sector training programs (Leuven, 2004) have not yet generally been translated into publicly funded ones (Barnow and Smith, 2008). If private-sector success could be applied to public-sector problems, workers with only bleak employment prospects might be able to gain skills and find stable employment.

The study uses three complementary sets of analyses. First, it uses a pre-post analysis of 282 social enterprise workers in seven social enterprises to assess changes in employment and economic self-sufficiency between when an individual started a social enterprise job to about one year later. This analysis provides estimates that require strong assumptions to be interpreted casually but offers evidence on a wide range of social enterprises. Second, it uses a case study and propensity-score methods to compare 154 social enterprise workers employed by a single organization (the case study enterprise) to 37 similar workers who did not work at the social enterprise to assess impacts on employment and economic self-sufficiency. This analysis provides a higher degree of internal validity than the pre-post analysis and enables us to estimate the impact of the social enterprise experience, although its generalizability is limited. Third, it uses a cost-benefit analysis (CBA) to determine the net value of these social enterprise jobs to society, social enterprise workers, the social enterprise as a business, and taxpayers (those not directly involved in the social enterprise). It compares the benefits of social enterprises against their operating costs and provides insights into the feasibility of using private-sector firms to provide workforce development services more frequently provided by the public sector.

[1] The definition is roughly consistent with those used in the United States but less consistent with definitions used in other parts of Europe, particularly western Europe, which use more governance-oriented definitions (Kerlin, 2006).

B. Setting, data, and samples

In addition to the social mission of increasing employment and economic self-sufficiency of individuals with severe employment barriers, all social enterprises in this study had a business mission to generate revenues in the market, cover operating costs, and partially offset the additional costs associated with their social mission.[2] Each had a nonprofit host organization and provided transitional employment, training, services, and supports to help workers overcome employment barriers and increase their employment and economic self-sufficiency.[3]

1. The seven California social enterprises and their workers in the pre-post analysis

The seven social enterprises in this study were purposefully selected by a venture philanthropic organization through a competitive process to receive financial and technical assistance to start or run revenue-generating businesses in California that hired people with severe employment barriers. The structure of business operations differed across enterprises (Table 1). They varied greatly in size and maturity: one employed nearly 500 people annually and two employed only 10 to 12; two had been operating for more than 10 years and two started in 2012, right before the study began. In total, the enterprises spanned seven industries, with one operating as a for-profit firm and three operating two distinct business lines. Some business lines required high-skilled workers (for example, construction), whereas others required less-skilled workers (for example, street cleaning).

Table 1. Description of Social Enterprises in the Pre-Post Analysis

Social enterprise	Profit status	Business line(s)	Annual employment	Year started	Target population of employees
1	Nonprofit	Cafés	18	1986	Mental health disabilities
		Janitorial services	23	2009	
2	Nonprofit	Street cleaning	108	2011	Parolees
3	Nonprofit	Staffing Street cleaning	500	1991	Formerly incarcerated, homeless
4	Nonprofit	Lobby services	55	2007	Homeless
		Maintenance services	30		
5	Nonprofit	Retail	36	2012	Low income, mental illness, homelessness, parolees, and youth not in school or the labor market
6	For-profit	Construction	12	2007	Young adults ages 16-25 not in school or the labor market
7	Nonprofit	Pest control	10	2012	Homeless

All social enterprises intentionally employed individuals with employment barriers (Table 2). About 38% of the 527 social enterprise workers in our study lived in temporary housing when they started the job. More than 80% had been arrested, with nearly 70% convicted and sent to jail.[4] When compared to all adults in California, social enterprise workers had notably low levels

[2] See Maxwell et al. (2013) and Rotz et al. (2014) for details.

[3] Transitional employment has been successful in increasing employment in the short term for people who would have otherwise been unlikely to work and has reduced their recidivism and welfare receipt, but has been less successful in increasing long-term employment (Bloom, 2014).

[4] The average employee faced 4.7 of the following 8 barriers: not working in the past year, a mental or physical health issue limiting work, substance abuse, not owning or renting a residence at any point in the past year, being

of employment, education, and income. Nearly 30% had dropped out of high school and another 40% had no education past high school. When they started their social enterprise job, only about half had worked for six consecutive months in the past two years, and nearly all had annual incomes below 200% of the federal poverty level (FPL).[5] Even when compared to adults in California who also had income below this threshold, social enterprise workers had less education, were less likely to have worked in the past week, and had slightly lower total income and much lower earnings.

Table 2. Comparison of Social Enterprise Workers to Other Groups

	All working-age adults (18–64 in California)	California adults living under 200% FPL	Hired by all social enterprises	Hired by case study enterprise
Sample size	25,112	8,894	527	301
Employment				
Employed week before starting social enterprise	66.2	46.7	16.3	18.0
Worked last year	72.2	53.1	63.1	70.5
Worked at a job 6 consecutive months in past 2 years	n/a	n/a	52.5	65.2
Education				
No high school diploma	13.8	26.6	28.5	26.8
High school diploma/graduate/GED only	23.3	28.0	43.2	48.3
Income				
Income below 200% of federal poverty line	33.9	100.0	99.8	100.0
Average total income (dollars per month)	3,243	870	785	539
Average total wage and salary income (dollars per month)	2,717	606	338	168
Share of income from work (mean)	72.7	59.0	23.2	17.3
Housing				
In temporary housing the week before starting work	n/a	n/a	38.2	43.6
In temporary housing in 6 months before starting work	n/a	n/a	51.3	52.7
Crime				
Ever arrested	n/a	n/a	82.6	83.2
Ever convicted and sentenced to jail	n/a	n/a	68.6	70.9
Health condition limiting work				
Any	6.6	10.5	9.6	6.3
Mental	n/a	n/a	4.8	2.3
Physical	n/a	n/a	5.0	4.0
Demographics				
Male	49.9	47.5	80.0	80.1
Average age	39.8	37.3	40.5	43.6
Currently married or in a domestic partnership	50.5	38.9	9.6	11.1
No dependents	n/a	n/a	56.2	65.4
Hispanic	37.5	54.3	17.1	17.2
White, not Hispanic	40.3	26.4	16.8	9.6
Black, not Hispanic	5.6	7.5	58.7	69.4

Notes: GED = general educational development test; n/a = not available. All values are percentages except where noted. The first two columns are a weighted average of March 2012 and March 2013 Current Population Survey data (King et al., 2010). The second two columns use the data from Rotz et al. (2014).

homeless in the past year, ever arrested, ever convicted of a crime, and lacking a high school diploma or equivalent. Fifty-seven percent reported five or more such issues and about 10% had two or fewer.

[5] In 2013, the FPL was $11,490 for a single individual and increased by $4,020 for each additional household member (Office of the Assistant Secretary for Planning and Evaluation, 2012).

The severity of the employment barriers suggests that sustained employment and economic self-sufficiency might only be obtainable through large efforts to overcome these barriers. In response, social enterprises provided workers with training and supportive services (Maxwell et al., 2013; Rotz et al., 2014). Training was designed to build both general life and soft skills (for example, social skills and work ethic) and help workers gain a sense of the structure of the work environment and their responsibility in it.[6] Social enterprises also received grant funds to provide services and supports to help workers reduce barriers both during and after enterprise employment.[7]

At the heart of the social enterprises studied is a transitional employment model to achieve the proximate goal of helping individuals gain one year of work experience (either within or outside of the social enterprise) and the more distal goal of increasing individuals' long-term ability to maintain a job and earn income. Employees averaged about 23 hours of work per week and 16 weeks of work at the enterprise, with a wide range in the total hours worked. More than 25% were employed for more than 640 hours (about 16 weeks of full-time work) and 7% worked more than 960 hours (about 24 weeks of full-time work), but about 5% worked less than eight hours.

2. The case-study social enterprise

The description of social enterprises and their employees in the pre-post analysis largely applies to the case study enterprise, although some notable differences exist (Maxwell et al., 2013). The case study enterprise is the oldest and largest of the social enterprises in the pre-post analysis, having been in operation since 1991 and employing about 500 individuals annually at the time of the study. It offered two business lines, a temporary staffing service and a street-cleaning service, and targeted employment toward both formerly incarcerated and homeless populations. Barriers to employment were slightly more common among employees at this enterprise.[8]

The case study social enterprise provided employment services to all individuals who requested employment assistance, with these requests processed in a predetermined manner. Staff first assessed individuals for employment barriers and then helped individuals enroll in a variety of training and counseling programs. Individuals with the most severe employment barriers entered the labor pool for social enterprise employment. As work shifts became available, members of the labor pool were offered work. Those hired from the labor pool form our treatment group and those not hired form the comparison group. Evidence suggests that individuals in the treatment group might have been less work-ready on average than those not

[6] Training methods ranged from formal, classroom-style lectures to informal coaching before a work shift. Social enterprises that required a more skilled workforce frequently provided intensive on-the-job training with employees typically spending at least part of each assignment with supervisors or mentors to learn required technical skills.

[7] Services focused on preparing individuals for work (for example, individualized case management, job coaching or counseling, job search assistance, job mentoring, and job development) and developing a lifestyle conducive to work (for example, housing assistance or referrals, financial education, assistance with food security, creating a plan to avoid behavior relapse, and assistance in accessing public benefits). Supports and services after leaving the social enterprise included case management, job coaching, or additional job search assistance.

[8] Workers at this enterprise also were slightly older, were more likely to be black, had lower income, and worked more hours in the social enterprise than other workers in the pre-post study.

hired (Maxwell et al., 2013; Rotz et al., 2014). For example, individuals who worked in the social enterprise were less likely to have a high school diploma and more likely to have lengthy arrest records compared with those who entered the labor pool but never worked at the social enterprise. Such differences could lead us to underestimate the impacts of the social enterprise experience.

3. Data

All enterprises were required to provide data for an evaluation, which focused on understanding the experiences of individuals who started employment at a social enterprise between April 1, 2012, and March 31, 2013 (Maxwell et al., 2013; Rotz et al., 2014). Administrative and survey data were collected on individuals shortly before they started social enterprise work (or entered the labor pool at the case study enterprise), and a follow-up survey was fielded about one year later.[9] Information on key outcomes after leaving the social enterprise included employment and economic self-sufficiency. We capture employment as whether the individual worked in the prior week (to surveying) and economic self-sufficiency as wage and salary income, total income, share of income from work, and share of income from government programs in the prior month.[10] Both the pre-post and the propensity-score analyses focus on changes in these key outcomes between the administration of the baseline and follow-up surveys, roughly corresponding to the year after starting a social enterprise job or entrance into the case study social enterprise's labor pool.

Information is also available on an individuals' employment history[11] and employment barriers. Barriers included housing instability (not owning or renting a residence), criminal activity (arrests), self-rated physical health (on a 5-point scale), mental health (an index measuring depression symptoms), and substance abuse (receiving substance-abuse counseling services). This information enabled us to estimate additional benefits from the social enterprise experience and to control for differences between members of the treatment and comparison groups. Finally, information is available on standard demographic characteristics and facilitating factors for positive outcomes (for example, attitudes toward work and the future), enabling us to assess the a priori comparability of the treatment and comparison groups.

The venture philanthropic organization funding the social enterprises compiled revenue and cost information for the enterprises from April 2012 to September 2013, a period that roughly corresponds to the period during which study participants worked in social enterprises. Six of the seven organizations provided data from their balance sheets and other data sources to report revenues received during the same period from goods and services sold (business mission) and its social mission (for example, grant money or government subsidies) and on the costs that

[9] Follow-up surveys were completed, on average, 405 days after starting social enterprise work or entering the labor pool (range = 8 to 23 months). We use the phrase "one year" to describe this time frame for ease in exposition.

[10] Total income was mostly wage and salary income and government transfers but also included transfers from friends or family.

[11] Measures of employment history include employment in week before labor pool entry, employment in month before labor pool entry, employment in year before labor pool entry, and indicators for last time worked continuously for six months or more (less than one year ago, one to two years ago, two to five years ago, more than five years ago, and never worked continuously for six or more months).

accrued.[12] Costs were defined as expenditures needed to run a business (business mission) and those needed to provide employment to people with multiple employment barriers (social mission).

4. Samples

Almost 90% of individuals hired into social enterprises or placed into the case study enterprise's labor pool consented to be in the study (study participants) and completed a baseline survey (Maxwell et al., 2013), but the 51% response rate in collecting follow-up information one year later restricts the analytic sample. Most information collected at one year was obtained from this survey; however, a non-trivial number of individuals contacted for this survey were incarcerated. Because knowledge of incarceration provides information on some key outcome measures—employment status (they were not employed) and wage and salary income (none)—and one key employment barrier—criminal activity—we can include incarcerated individuals in many key analyses. We therefore define two analytic samples: the full sample, which includes those who responded to the follow-up survey and those who were incarcerated at the time of the survey, and the noninstitutional sample, which includes only those who responded to the follow-up survey. We use the more restrictive noninstitutional sample only when necessary.

The full sample used in the pre-post analysis includes 55% of hired study participants, who either were incarcerated (N = 40) or completed the follow-up survey (N = 242). We developed and applied inverse probability weights to capture differences in the propensity of individuals with different characteristics to be sample members.[13] These weights make the characteristics of the full sample more similar to those of all social enterprise workers hired over the study period. The case study full sample includes 51% of study participants placed into the labor pool in the case study enterprise, including follow-up survey respondents and those incarcerated in the treatment group (N = 154, 51% of study participants hired by the case study enterprise) and the comparison group (N = 37, 45% of non-hired study participants).[14] We corrected for nonresponse by using and applying weights constructed in a parallel fashion to those used in the pre-post analysis sample.

C. Analysis of outcomes and impacts of the social enterprise experience

1. Estimating social enterprise outcomes using pre-post analysis

We use a fixed-effects model to compare employment and economic self-sufficiency one year after individuals started a social enterprise job with those measures in the week before they started it to provide evidence on the outcomes of social enterprise employment across

[12] Because one social enterprise in the pre-post analysis did not provide balance sheets, cost information is based on information from only six organizations. We used point estimates for benefits from these six organizations to capture benefits for the CBA, which excluded 8% of workers from analysis. This exclusion does not influence the conclusions of either the pre-post analysis or the CBA.

[13] Rotz et al. (2014) provides details on the differences in response rates across organizations and in characteristics of respondents and nonrespondents as well as the comparability of samples after weights are applied.

[14] Rates did not significantly differ by treatment status, conditional on background factors.

organizations. This model enables us to control for time-invariant characteristics that might be correlated with improved outcomes:

$$(1)\quad Y_{it} = \alpha + \beta Post_{it} + \varphi_i + \theta u_{it} + \varepsilon_{it}.$$

Y_{it} is social enterprise worker *i*'s outcome before starting the social enterprise job *(t = 0)* or one year later *(t = 1)*, *Post* takes a value of 1 if an observation occurred one year after starting the social enterprise job and 0 if before it, and φ is an individual-level fixed-effect. u_{it} is the unemployment rate prevailing in the area in which the social enterprise operates at time *t*.[15] ε is the regression error term. β is interpreted as the average change in the outcome over the year, holding constant factors that do not vary over time and the local unemployment rate. We use ordinary least squares (OLS) to estimate the model for several outcomes: employment, wage and salary income, total income, share of income from wage and salary, and share of income from government benefits.[16]

Results from the fixed-effects analysis show improvements in individuals' employment status during the course of the year following the commencement of a social enterprise job (Table 3). Social enterprise workers were 36 percentage points more likely to be employed about one year after starting the social enterprise job than before starting it (column 1). The change is statistically significant and represents a more than tripling of the employment rate, from 17% to 53%. Results are even larger in the sample excluding incarcerated individuals, all of whom were considered not employed (column 2), suggesting imprisonment does not drive our results. Results could be driven by employment at the social enterprise, however. Although social enterprise employment was designed to last six months or less, some workers were employed longer: 25% were employed more than 34 weeks and almost 10% were employed for more than a year. Column 3 of Table 3 removes the possibility that employment estimates are contaminated by the social enterprise job itself by examining the change in the probability that an individual worked at a non-social enterprise job. Employment increases are smaller using the more restrictive measure: the share employed increases by 17 percentage points, or about half the previous change, but is still statistically significant. This reduction suggests that some of the observed improvement in employment might result from continued social enterprise employment.

Results from the fixed-effects analysis suggest large gains in economic self-sufficiency, as measured by income (Table 4). One year after starting a social enterprise job, individuals earned $565 more per month (column 1), a significant increase. The change is particularly large when compared to earnings before starting the social enterprise job, $250 per month. The pre-post difference in wage and salary income is even larger when we exclude incarcerated individuals from the analysis (column 2), with income increasing $718 dollars per month during the year after the social enterprise job began. Although we cannot estimate total income from the full

[15] We normalize the unemployment rate to have a mean of 0 and standard deviation of 1 in this regression.

[16] We used OLS because nonlinear models (such as a probit or logit) typically perform poorly when fixed-effects are included in the specification (Nickell, 1981). A parallel fixed-effects analysis used measures of employment barriers as outcomes to compute changes for the CBA. Rotz et al. (2014) provide the details. Results suggest that one year after starting the social enterprise job, workers were more stably housed and less likely to be arrested than in the past. They also had higher levels of depression and less positive attitudes toward employment and the future.

sample, analysis of the noninstitutional sample suggests it increased $594 dollars per month. Furthermore, the sources of income changed in the year following the start of a social enterprise job. Before starting the job, only 22% of the average worker's income came from work. This increased by 45 points over the course of a year, a statistically and economically significant change. The share of income from government transfers decreased similarly.

Table 3. Changes in Employment Over Time: Fixed Effects Regressions

	(1)	(2)	(3)
Outcome (past week)	Employed	Employed	Employed outside social enterprise
Sample	Full	Noninstitutional	Full
One year after starting social enterprise job	0.357*** (0.038)	0.456*** (0.070)	0.167*** (0.043)
Constant	0.161*** (0.017)	0.161*** (0.036)	0.158*** (0.072)
Observations	561	482	561
Individuals	282	242	282

Notes: Weighted analysis. Numbers show estimated coefficients with robust standard errors clustered by organization in parentheses. Observations indicates the number of individual-time observations and individuals indicates the number of unique workers included in the analysis. The first number is less than twice the second because some individuals might not contribute both times with item-specific nonresponse in one year. ***$p < 0.01$.

Table 4. Changes in Economic Self-Sufficiency Over Time: Fixed Effects Regressions

	(1)	(2)	(3)	(4)	(5)
Outcome (past month)	Wage and salary income	Wage and salary income	Total income	Share of income from work	Share of income from government
Sample	Full	Non-institutional	Non-institutional	Non-institutional	Non-institutional
One year after starting social enterprise job	565.0*** (82.5)	718.0*** (109.1)	593.6*** (101.7)	45.1*** (5.2)	-45.4*** (6.0)
Constant	213.3*** (43.7)	222.8** (62.4)	657.4*** (57.5)	22.7*** (2.9)	70.5*** (3.6)
Observations	546	466	419	389	389
Individuals	282	242	239	234	234

Notes: Weighted analysis. Numbers show estimated coefficients with robust standard errors clustered by organization in parentheses. Observations indicates the number of individual-time observations and individuals indicates the number of unique workers included in the analysis. The first number is less than twice the second because some individuals might not contribute both times with item-specific nonresponse in one year. **p < 0.05, ***p < 0.01.

2. Estimating the impacts of the social enterprise experience in the case study

The pre-post analysis provides insight into how individuals' lives changed after starting social enterprise jobs. It cannot, however, address whether the social enterprise experience caused these changes because individuals might seek social enterprise employment after a negative shock to their employment or earnings capacity and their situations might improve over time even without the intervention (Ashenfelter, 1978).[17] To avoid drawing an overly optimistic

[17] Indeed, our data suggest that although only 17% of individuals hired by social enterprises worked in the week before employment began, 29% worked in the previous month, and 61% worked in the previous year. The trend in

conclusion about the impact of the social enterprise experience, we compare changes in the employment and economic self-sufficiency of the treatment and comparison groups in our case study for the year after they entered the organization's labor pool.

The strength of this analysis lies in the comparability of the treatment and comparison group members, which we further reinforce using propensity-score techniques (Dehejia and Wahba, 2002). Using the full sample, we estimate a probit model:

$$(2)\ p_i = \Pr\left(Hired_i \middle| \widetilde{Y_{i0}}, X_{i0}^p\right) = \Phi(\alpha + \lambda\widetilde{Y_{i0}} + \gamma X_{i0}^p)$$

where $\tilde{Y}_{i0}$ is the vector of outcome variables measured at labor pool entry *(t = 0)* and X_{i0}^p is a vector of demographic characteristics and employment barriers measured at *t = 0,* selected to maximize overlap between individuals in the treatment and comparison groups and including several measures of past employment.[18] $Hired_i$ is a binary variable indicating if an individual was hired by the case study enterprise, and Φ is the standard normal cumulative density function. This propensity score regression for the full sample broadly demonstrates that individuals in the treatment group were less capable than those in the comparison group (Appendix A, Table A.1). Individuals with higher educational attainment and more positive attitudes toward work were significantly more likely to be in the comparison group, although more recently employed individuals were more likely to be in the treatment group.

We use the results of Equation (2) in two ways. First, we use the estimated propensity score to trim the samples of individuals in the treatment and comparison groups who are least comparable (Crump et al., 2006) by omitting individuals with a propensity score above 0.90 or below 0.10 (Appendix A, Figure A.1 presents the distribution). The resulting trimmed sample contains 59 treatment group and 32 control group members. Second, we use the propensity score to weight our data, making the treatment and comparison groups more similar. In particular, we weight each observation by $w_i = v_i/p_i$, where v_i is a weight correcting for sample selection and p_i is the propensity score. Analysis presented in Appendix A, Table A.2 suggests that the trimmed samples exhibit balance between the treatment and comparison groups: all differences between the treatment and comparison groups in the trimmed sample are insignificant and fall below the commonly cited cutoff of 0.25 standard deviations (Imbens and Wooldridge, 2009; What Works Clearinghouse, 2014). The propensity-score weighted results are similar to those that use the trimmed data and weights that correct only for sample selection.

To further control for differences between the treatment and comparison groups, we use OLS and the trimmed and propensity-score weighted full sample to estimate:

$$(3)\ Y_{i1} = \alpha + \beta_c\ Hired_i\ + \eta Y_{i0}\ + \mu X_{i0}' + \varepsilon_i$$

where Y_{it} is the outcome of interest at labor pool entry *(t = 0)* or one year later *(t = 1)*; *Hired* indicates treatment status; and *X'* includes controls for demographic characteristics, employment

employment rates suggests the recent decline in economic conditions might reverse in the absence of the social enterprise experience.

[18] *X* includes controls for these variables both directly and for any missing values of these variables being imputed. Missing data were imputed for control variables only, using the mean value by treatment status.

history, and calendar quarter the worker entered social enterprise employment. As in the pre-post analysis, the outcomes of interest are employment and economic self-sufficiency.[19] We estimate Equation (3) in four stages, gradually adding controls *(X')* to balance the robustness of results with the need for parsimony given the limited sample size. More specifically, we want to examine whether any remaining differences between the treatment and comparison groups in measures of *X* can explain observed effects. Our first estimation includes only the indicator variable of whether the individual worked in the social enterprise *(Hired)*, the second stage adds the lagged dependent variable (Y_{i0}), the third stage adds demographic variables, and the fourth stage adds several measures of employment history.

We expect the impacts estimated in this analysis to be smaller than those of the pre-post analysis for several reasons. First, the stronger analytic approach might produce less biased estimates of the impacts of the social enterprise experience. When we estimated Equation (1) for the comparison group, we found non-trivial pre-post changes in outcomes, even in the absence of the social enterprise experience, suggesting bias in the pre-post analysis (see Appendix A, Table A.3). Alternatively, individuals in both the treatment and comparison groups received many of the same supportive services at the case study enterprise (that is, the only difference in service eligibility between the groups was the transitional employment itself). This could explain the positive changes for the comparison group and might lead us to understate the impact of a full social enterprise experience in the case study.[20] Additionally, the case study enterprise might produce smaller improvements in outcomes than the average social enterprise in the pre-post analysis. When we estimated the relationship between employment and various outcomes using the pre-post analytic approach (Equation [1]) for the case study enterprise, changes in employment and economic self-sufficiency tended to be slightly smaller than for all social enterprises (Appendix A, Table A.3). Altogether, this suggests that the case study results might be used as lower-bound estimates of the benefits from the social enterprise experience.

As expected, results from this design are not as positive as for the pre-post analysis. For employment, across all model specifications, the social enterprise experience is associated with a 16 to 21 percentage point increase in the probability of being employed one year after entering the labor pool (Table 5). The difference increases as demographic and employment history controls are added and becomes marginally significant ($p \approx 0.06$), consistent with the evidence that members of the treatment group faced greater employment barriers than members of the comparison group. However, the increases in employment might be driven by continued employment at the social enterprise: when we define employment as having a job outside the social enterprise (column 5), the relationship between employment and prior social enterprise employment becomes negative and statistically insignificant.

[19] As in the pre-post analysis, we also used measures of employment barriers as outcomes in parallel analyses, to enable us to compute changes for the CBA. Because some outcomes are not available in the full sample, we estimated Equation (2) for the noninstitutional sample of workers and followed a parallel process for trimming and weighting the data. Rotz et al. (2014) provide details of all analyses.

[20] For example, 96% of the treatment and 94% of the comparison group reported receiving skills training; 91% of the treatment and 63% of the comparison group reported receiving work supports (for example, work clothing or transportation assistance); 83% of the treatment and 39% of the comparison group reported receiving life-stability supports (for example, substance abuse counseling or access to a food pantry).

Table 5. Impact on Employment One Year After Entering the Labor Pool

	(1)	(2)	(3)	(4)	(5)
Outcome (past week)	Employed	Employed	Employed	Employed	Employed outside social enterprise
Hired by the social enterprise	0.157 (0.115)	0.156 (0.115)	0.213* (0.112)	0.214* (0.111)	-0.072 (0.120)
Dependent variable at entry to labor pool	--	0.406*** (0.081)	0.332** (0.150)	0.496* (0.285)	0.637** (0.263)
Constant	0.584*** (0.149)	0.571*** (0.151)	0.515 (0.310)	0.134 (0.460)	0.153 (0.432)
Additional controls					
Demographic variables included?	No	No	Yes	Yes	Yes
Employment history variables included?	No	No	No	Yes	Yes
Observations	91	91	91	91	91

Notes: Propensity-score weighted analysis. Numbers show estimated coefficients with robust standard errors in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. All stages of the estimations with *employed outside the social enterprise* as the dependent variable show hired by the social enterprise as being insignificant.

Our results also do not enable us to reject the null hypothesis of no relationship existing between social enterprise employment and economic self-sufficiency. Point estimates imply that social enterprise employment was associated with increases in monthly wage and salary income of $57 to $101 but none of the estimates is statistically significant (Table 6).[21] The size of the standard errors does not allow us to rule out rather large impacts of the social enterprise experience on economic self-sufficiency but we also cannot rule out null effects. We simply do not have enough precision in our small case study sample. Results for other measures of economic self-sufficiency exhibit similar patterns.[22]

Table 6. Impact on Wage and Salary Income

	(1)	(2)	(3)	(4)
Outcome (past month)	Wage and salary income	Wage and salary income	Wage and salary income	Wage and salary income
Hired by social enterprise	62.04 (190.8)	57.41 (193.3)	101.0 (194.1)	88.29 (194.5)
Dependent variable at labor pool entry		0.181 (0.368)	0.261 (0.449)	-0.117 (0.642)
Constant	726.9*** (200.1)	679.4*** (252.6)	106.8 (600.1)	1,221 (1,411)
Additional controls				
Demographic variables included?	No	No	Yes	Yes
Employment history variables included?	No	No	No	Yes
Observations	85	85	85	85

Notes: Propensity-score weighted analysis. Numbers show estimated coefficients with robust standard errors in parentheses. All regressions control for time entered labor pool and indicators for item-specific nonresponse. Sample size differs from Table 5 with nonresponse to questions on income. ***$p < 0.01$.

[21] These estimates are based on regressions using income in levels as the outcome of interest. We also experimented with using log(income), log(income+1), and similar transforms of income. Estimates remained imprecisely estimated and statistically insignificant under all functional forms.

[22] Estimates of the relationship between the social enterprise experience and housing, health, and criminal activity are also insignificant with one exception: physical health of social enterprise employees is better one year after entering the labor pool, controlling for initial measures of health (Rotz et al., 2014).

D. The cost-benefit analysis

1. Methods to estimate and compare the costs and benefits

Our CBA establishes the relative efficiency of social enterprises by comparing the benefits estimated in the previous sections to costs. We developed several cost-benefit measures. All measures are captured as costs or benefits per job, defined as employment of average duration for one individual. First, we estimated the net present value of the social enterprises to society as a whole, social enterprise workers, the social enterprise as a business, and taxpayers—defined as those not directly involved with the social enterprise.[23] These measures enable us to assess who gains from the social enterprise experience and by how much. Second, we estimate the benefit per dollar spent, which enables us to examine the value of each dollar spent on the social enterprise experience to each party. These per-dollar benefits are calculated by dividing the total benefit of the social enterprise experience to a specific party by the cost per employee (spent by the social enterprise). Finally, we calculate two estimates of the return on investment (ROI) in social enterprises. These measures enable us to understand the financial ROI in social enterprises and indicate whether these organizations produce desirable returns from the perspective of a social planner. The overall ROI is defined as the net present value of the enterprise divided by the costs of running it (over the study period), which include costs associated with both the social enterprises' business and social missions. Because policymakers might care less about the business aspect of the social enterprise, preferring to focus on the costs of assisting populations with employment barriers and the benefits that accrue to them and other taxpayers, we compute a social ROI, which is defined as the net present of the social side of the enterprise (that is, excluding business revenues) divided by the costs associated with the social mission. This measure enables us to capture the ROI to society of transforming a profit-driven business into a mission-driven social enterprise.

We used results of the fixed-effects regression (Equation [1]) from our pre-post analysis to estimate an upper bound on the benefits of the social enterprise experience and the lagged-dependent variable regression (Equation [3]) from our case study to estimate a lower bound on benefits.[24] Our estimates of benefits include changes in income, housing, criminal activity, health, and social enterprise revenues to capture changes in circumstances across a variety of domains.[25] We convert all estimated benefits to dollar values per job created and discount amounts to account for time preference (Rotz et al., 2014 provides details). We assume that the

[23] We do not explicitly discuss in the text the benefits of the social enterprise to the friends and relatives of workers, but we do account for these changes when calculating the total benefit of the social enterprise to society.

[24] The pre-post and propensity-score analyses provide complementary evidence on the efficiency of the social enterprise. The CBA point estimates based on pre-post analysis draw data from a larger number of social enterprises to provide estimates of benefits per dollar spent relevant in a larger group of social enterprises, whereas those based on the propensity-score analysis of the case study enterprise provide stronger causal evidence of the benefits per dollar spent. The regression specifications used in the case study control for education, sex, race, marital status, having dependents, work experience in the year and month before entering the labor pool, and life stability (health status, substance abuse, having ever been arrested, having been arrested 10 or more times, and being in stable housing in the year before entering the pool).

[25] We exclude from this analysis any benefits of the social enterprise experience that we cannot convert into monetary quantities. For example, we do not include potential benefits related to the increases in employment, such as being happier (or less happy), which would lead us to underestimate (or overestimate) benefits.

only benefits enjoyed by the social enterprise itself are revenues and that social benefits accrue only to workers, taxpayers, and society as a whole. Appendix B discusses the key assumptions underlying the CBA and the robustness of our results to these assumptions.

We captured two types of revenue to the social enterprise: money from selling goods and services in the market (business revenue) and money received from the government and other entities to support the social enterprises (social-mission revenue). Business revenues represent the value of the goods and services produced by the social enterprise and accrue to the social enterprise and society, but not to workers or taxpayers. Social-mission revenues are a transfer to the social enterprise from organizations classified in our CBA as taxpayers and are added to our measure of benefits to the social enterprise, subtracted from our measure of benefits to taxpayers, and do not affect the benefits of social enterprise jobs to society. We assume workers do not directly benefit from either type of revenue.

We analyzed three measures of income: wage and salary income (which accounts for employment), government transfers, and transfers from others. Increased wage and salary income is considered a benefit to social enterprise workers. Decreases in government transfers (transfers from others) are a negative benefit to workers and an offsetting positive benefit to taxpayers (those providing the transfer) of equal magnitude, leading to no impact on benefits to society.

The value of housing is captured along two dimensions: cost of housing and increased life satisfaction from more stable housing. We estimated changes in housing costs using the costs to taxpayers and to the individual of each housing option (for example, emergency shelters, transitional housing, or rented apartments), as noted in Spellman et al. (2010), and the changes in housing as computed in the pre-post analysis or case study. These changes typically produced positive benefits to taxpayers (who pay less to house social enterprise workers in public housing), negative benefits to workers (who pay more for stable housing), and an unknown benefit to society as a whole (depending on whether positive or negative benefits are greater). We quantify quality of life related to housing by creating an index of life satisfaction linked to housing stability and mapping this into changes in housing to dollar-denominated benefits enjoyed by workers with improved housing, following Cutler and Richardson (1997, 1998).[26]

We capture the benefits of reduced criminal activity as the benefits from arrests averted, which we compute by applying the costs of imprisonment to reductions in arrest rates as estimated in the pre-post analysis and case study. The average arrest is associated with 15.7 months sentenced to jail or prison for social enterprise workers (Maxwell et al., 2013), inmates generally serve half of their sentenced time (California Penal Code 2933), and the average person-year of criminal detainment in California costs taxpayers approximately $30,000.[27] This

[26] For example, the quality of life index is 0.81 for individuals living with a relative and 1.00 for individuals living in an owned or rented home. Someone who was staying with a relative and then moved into his or her own home produced a value of $19,000 per year (or $1,000 per percentage-point improvement in the index).

[27] We estimated the person-year costs of detainment using the costs of prison (Legislative Analyst's Office, n.d.), relative costs of jail (Urban Strategies Council, 2007), and numbers of California inmates housed in prisons and jails (California Department of Corrections and Rehabilitation, 2013).

implies that each averted arrest saves taxpayers $19,566. Because we assume no benefits from reduced criminal activity to the workers, benefits to society are the same as those to the taxpayer.

We estimate the quality of life benefits associated with improved health and decreased substance abuse by translating the self-reported health measure (excellent, very good, good, fair, or poor) into a quality of life index (ranging from 0.941 to 0.498) based on work by Nyman et al. (2007) and monetizing changes in this index following Cutler and Richardson (1997, 1998). Groot (2000) further estimated that substance abuse is associated with decreases in quality of life worth $18,000 per person annually. Thus, we estimate an $18,000 benefit for every individual who stopped requiring counseling for substance abuse after entering the social enterprise. We assume these benefits accrue to the worker alone and, as a result, benefits to society in this domain equal those accruing to the worker.

2. Estimated Costs and Benefits of Social Enterprise Employment

Together, benefit estimates suggest that social enterprise jobs produce losses for workers but positive benefits for taxpayers and society as a whole (Table 7). The enterprises themselves approximately break even. Using the pre-post analysis, each social enterprise worker faced losses valued at $165, on average, despite our assumption that workers bear no indirect costs of participation (for example, foregone wages). Although individuals gained in terms of employment and economic self-sufficiency, the losses associated with decreased government transfers and increased outlays on housing (the costs of improved self-sufficiency) are not fully offset by increases in wage and salary income and other benefits. Losses for workers were larger in the case study enterprise, with each individual hired by this organization losing benefits worth $443.

Table 7. Monetary Costs and Benefits of Social Enterprise Employment

Variable	CBA for using pre-post analysis to estimate benefits					CBA using propensity score to estimate benefits				
	Society	Social enterprise worker	Social enterprise as a business	Taxpayers	Friends and relatives of workers	Society	Social enterprise worker	Social enterprise as a business	Taxpayers	Friends and relatives of workers
Total benefits	**22,632**	**-165**	**9,822**	**13,250**	**274**	**8,745**	**-443**	**6,593**	**2,751**	**-156**
Income	6,254	3,773	0	1,816	274	1,257	-235	0	1,647	0
Work	6,254	6,254	0	0	0	1,257	1,257	0	0	0
Taxes and government transfers	0	-1,816	0	1,816	0	0	-1,647	0	1,647	0
Other income	0	-274	0	0	274	0	156	0	0	-156
Housing	612	-3,070	0	3,682	0	75	-1,332	0	1,407	0
Amount paid for housing	274	-3,408	0	3,682	0	73	-1,330	0	1,407	0
Quality of life	338	338	0	0	0	-2	-2	0	0	0
Criminal activity	10,126	0	0	10,126	0	503	0	0	503	0
Health	-868	-868	0	0	0	1,124	1,124	0	0	0
Overall health	-36	-36	0	0	0	50	50	0	0	0
Substance abuse	-832	-832	0	0	0	1,075	1,075	0	0	0
Social enterprise revenues	6,509	0	9,822	0	0	5,786	0	6,593	0	0
Business revenues	6,509	0	6,509	0	0	5,786	0	5,786	0	0
Grant money	0	0	3,313	-3,313	0	0	0	807	-807	0
Total costs	**10,136**	**0**	**10,136**	**0**	**0**	**6,506**	**0**	**6,506**	**0**	**0**
Costs with business mission	7,738	0	7,738	0	0	5,246	0	5,246	0	0
Costs with social mission	2,398	0	2,398	0	0	1,080	0	1,080	0	0
Net present value	**12,496**	**-165**	**-314**	**13,250**	**274**	**2,239**	**-443**	**87**	**2,751**	**-156**
Benefits per total dollar spent	2.23	-0.02	0.97	1.31	**0.03**	1.34	-0.07	1.01	0.42	**-0.02**

The other entities examined tend to enjoy positive benefits from social enterprise jobs. Taxpayers gain $13,250 from each social enterprise job created. The vast majority of these gains come from reductions in criminal activity ($10,126), although reductions in housing expenses also play a role ($3,682), as do increases in tax payments and decreases in monetary transfers ($1,816). Taxpayers funding the case study organization have fewer gains ($2,751), primarily because criminal activity did not decline greatly with social enterprise work in that enterprise. Social enterprises, as businesses, generated $9,822 ($6,593 in the case study enterprise) per job, with about two-thirds of this revenue generated by the business (88% for the case study enterprise) and the remainder coming from grants and subsidies. Altogether, society gained $22,632 from each social enterprise job ($8,745 for the case study enterprise).

Balance-sheet data suggest it takes approximately $10,136 to fund a social enterprise job (Table 7), with the cost of running the case study enterprise somewhat lower ($6,506).[28] These costs were primarily directed toward business activities, with $7,738 per job funding business expenses ($5,246 for the case study enterprise), such as capital and materials. Social enterprises spent an additional $2,398 per job ($1,080 for the case study enterprise) on costs they would not bear if they did not employ individuals with employment barriers.[29] When we combine costs and benefits, each social enterprise job was associated with a net benefit to society of $2,239 to $12,496, based on the upper (pre-post analysis) and lower (case study) bounds for benefits.

Finally, we show the value of social enterprise investments to each party. Each dollar spent by the social enterprise is associated with a loss to workers of $0.02 ($0.07 in the case study enterprise) and revenues of $0.97 ($1.01 for the case study enterprise), implying a profit margin of -3% to 1% for the social enterprise. Taxpayers gain $1.31 for every dollar spent by the social enterprise ($0.42 in the case study enterprise), suggesting that every dollar spent by the social enterprise eases taxpayer burden by $1.31. Taken together, each dollar spent by the social enterprises produces benefits worth $2.23 to society ($1.34 in the case study enterprise).

The measures of ROI suggest large overall and social returns from both establishing social enterprises and converting existing businesses into social enterprises. The ROI of the social enterprise as a whole is 123% across all organizations and 34% for the case study enterprise, suggesting every dollar invested in these ventures produces between $0.34 and $1.23 of value over the initial investment. ROIs for adding a social mission to a preexisting business are even higher: 572% from our analysis across all organizations and 174% for the case study enterprise.

E. Discussion and conclusion

People who are homeless, have criminal convictions, or have mental health disabilities are likely to experience unemployment rates three to five times higher than those of the general population. For example, unemployment for parolees has been estimated at more than 50% (California Office of the Legislative Analyst, 2008), and unemployment among people with mental illness can be up to 80% (Stuart, 2006). Homelessness and unemployment often go hand-

[28] The case study enterprise did not bear start-up costs, provided fewer workers services and supports (Maxwell et al., 2013), operated business lines with lower operating expenses, and had fixed costs distributed over a larger number of jobs than other enterprises.

[29] Although some social enterprises stated that they paid their workers more than what they would have been paid by other firms, we categorized their wages as expenses associated with their business mission, rather than their social mission, unless their income statement specifically imputed the extra cost paid to workers.

in-hand; Zuvekas and Hill (2000) estimated that only 14% of homeless individuals in Alameda County, California, were stably employed.

Existing public programs have had limited success in improving the labor market outcomes of individuals with severe employment barriers. Evaluations of publicly funded workforce development programs have often shown either no or modest positive impacts (Barnow and Smith, 2008). Some programs oriented toward individuals with substantial barriers to employment find that their benefits do not outweigh their costs (Cave et al. 1993; Schochet et al., 2008), whereas others show returns smaller than or equivalent to the estimates in this study (Bell and Orr, 1994; Redcross et al., 2012; Sirios and Western, 2010).

Social enterprises have emerged as an alternative workforce development model, designed to help individuals with severe barriers while also building financially viable businesses. But their potential has not been rigorously assessed. This study examined the potential of these organizations using data from workers in and balance sheets of seven social enterprises. Results suggest that social enterprises have the potential to create value, in particular for taxpayers. For every dollar spent on a social enterprise job, taxpayers gain between $0.42 and $1.31, and the ROI in social enterprises for society as a whole is between 34% and 123% (net of transfers to the organizations). Should a program be developed to add a social mission to an existing business, transforming it into a social enterprise, society could earn returns in excess of 100%.

Despite the incentives for taxpayers to fund social enterprises, results of the study suggest that businesses might not have the incentives to develop into a social enterprise and individuals might not have the incentives to work in them. Social enterprises as businesses roughly break even, earning profits of between -3% and 1%, which provides little incentive for a business to adopt a social mission. Furthermore, individuals with employment barriers might face disincentives to work in a social enterprise: our study showed negative net benefits in workers' first year after starting the social enterprise job.

Still, high rates of returns to taxpayers suggest that they might receive a positive return on their investment in social enterprises, even if public subsidies to social enterprise or their workers were increased. For example (ignoring general equilibrium effects), providing social enterprises with an additional $500 subsidy per individual employed might incentivize them to increase the size of their transitional employment programs while retaining many of the benefits of the social enterprise experience to taxpayers. Offering social enterprise employees a $500 bonus at the time they finished the employment program would make the workers' net benefits of the social enterprise experience positive and still maintain a positive net benefit to taxpayers.

Growth in the number of social enterprises might also produce a laboratory in which to study their potential. Given the difficulties publicly funded workforce development programs face and the success of private-sector training programs, the results of this study suggest that the public-private approach taken by social enterprises merits further investigation.

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Appendix A: Supporting tables and figure

Table A.1. Propensity score regression: in treatment group

	Full sample
Sample size	191
Economic sufficiency before starting social enterprise job	
Monthly income/100	0.008* [0.004]
Participation in social assistance programs	0.055 [0.091]
Share of income from government transfers	0.083 [0.071]
Share of income from family or friends	-0.090 [0.138]
Employment before starting social enterprise job	
Employed in week before intake	0.068 [0.054]
Employed in month before intake	0.126*** [0.043]
Employed in year before intake	-0.033 [0.026]
Employment barriers before starting social enterprise job	
Stable housing during year before baseline	0.015 [0.032]
Arrested 1-9 times at baseline	0.040 [0.031]
Arrested >9 times at baseline	0.100** [0.044]
Excellent self-reported physical health at baseline	0.036 [0.022]
Depression index	-0.010 [0.013]
Substance abuse counseling in past year	-0.060 [0.052]
Health insurance	-0.024 [0.030]
p-value of joint test of all barriers	0.001

Table A.1 *(continued)*

	Full sample
Demographic characteristics before starting social enterprise job	
Male	0.042 [0.043]
Age	0.000 [0.001]
Hispanic	-0.048 [0.036]
Black (white is reference)	0.004 [0.037]
Other race (white is reference)	-0.032 [0.053]
Married or in a domestic partnership	0.008 [0.034]
No dependents	0.046* [0.025]
Native English speaker	0.050 [0.115]
Facilitating factors before starting social enterprise job	
High school diploma/graduate/GED	-0.094** [0.037]
Some college or more education	-0.087** [0.036]
Believe a job is just a way of earning money	0.065*** [0.023]
Would like a job even if did not need money	-0.039*** [0.017]

Notes: GED = general educational development test. Weighted analysis. Numbers show the predicted change in probability associated with a characteristic when all other variables (marginal effects) are at their mean values with robust standard errors reported in brackets. Regressions also include indicators for item-specific nonresponse. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Table A.2. Balance in the Impact Study

	Panel A			Panel B			Panel C		
	Treatment	Comparison	Normalized difference (g-value)	Treatment	Comparison	Normalized difference (g-value)	Treatment	Comparison	Normalized difference (g-value)
Sample size	154	37	191	59	32	91	59	32	91
Sample	Noninstitutional			Propensity-score noninstitutional			Propensity-score noninstitutional sample, weighted by propensity score		
Outcome variables before entering labor pool									
Employed in week before intake	20.1	2.3	0.46***	3.1	2.6	0.02	2.4	1.3	0.07
Monthly income	549	466	0.15	470	448	0.04	4,356	395	0.06
Monthly wage and salary income	167	99	0.19	98	75	0.06	91	58	0.11
Share of income from work	17.0	15.2	0.06	11.7	10.5	0.03	14.58	8.85	0.12
Share of income from government	79.9	76.1	0.11	83.6	85.6	-0.03	81.42	86.90	-0.10
Employment barrier variables before entering labor pool									
Stable housing during past year	17.8	14.8	0.08	16.7	17.2	0.00	16.9	21.2	-0.05
Arrested 1-9 times at baseline	55.3	59.7	0.05	57.3	62.1	-0.07	59.6	55.1	0.05
Arrested >9 times at baseline	28.2	14.7	0.30*	22.8	10.8	0.22	20.9	6.4	0.30**
Excellent self-reported physical health	34.1	22.6	0.24	19.5	26.2	-0.10	20.2	20.5	0.00
Depression index (standard deviations)	-0.06	0.13	-0.20	-0.01	0.06	-0.05	0.02	0.08	-0.03
Substance abuse counseling in past year	23.8	25.4	-0.02	30.1	26.6	0.05	25.9	22.3	0.06
Demographics before entering labor pool									
Male	78.5	74.1	0.10	80.0	70.0	0.16	75.8	67.2	0.11
Average age	43.3	43.3	0.00	42.6	43.0	-0.02	43.8	43.7	0.01
Hispanic (of any race)	16.6	29.6	-0.33	27.2	31.6	-0.07	30.8	35.7	-0.05
Black	69.6	53.7	0.32*	48.9	52.4	-0.05	49.9	49.3	0.01
White	18.7	24.4	-0.12	27.5	25.0	0.03	26.3	28.3	-0.01
Married or domestic partnership	10.6	17.3	-0.21	11.3	16.2	-0.10	15.3	15.4	0.00
No dependents	65.0	61.9	0.06	66.5	55.8	0.15	61.3	57.7	0.04
Native English speaker	97.7	97.8	0.00	98.7	97.4	0.08	98.6	98.0	0.03

Table A.2 ***(continued)***

	Panel A			Panel B			Panel C		
	Treatment	Comparison	Normalized difference (g-value)	Treatment	Comparison	Normalized difference (g-value)	Treatment	Comparison	Normalized difference (g-value)
Facilitating factors before entering labor pool									
Education and training									
High school diploma/graduate/GED	45.5	52.7	-0.14	51.0	47.7	0.11	51.3	54.3	-0.03
Some college or more education	26.7	34.2	-0.15	27.3	37.1	0.04	28.1	36.8	-0.10
Training completed	53.0	60.5	-0.14	56.5	59.0	-0.02	57.0	57.8	0.00
Attitudes									
Believe a job is just a way of earning money	21.6	9.9	0.28*	8.0	7.5	0.01	6.0	5.2	0.03
Would like a job even if did not need money	80.6	86.8	-0.15	83.8	84.6	-0.01	85.3	89.6	-0.09

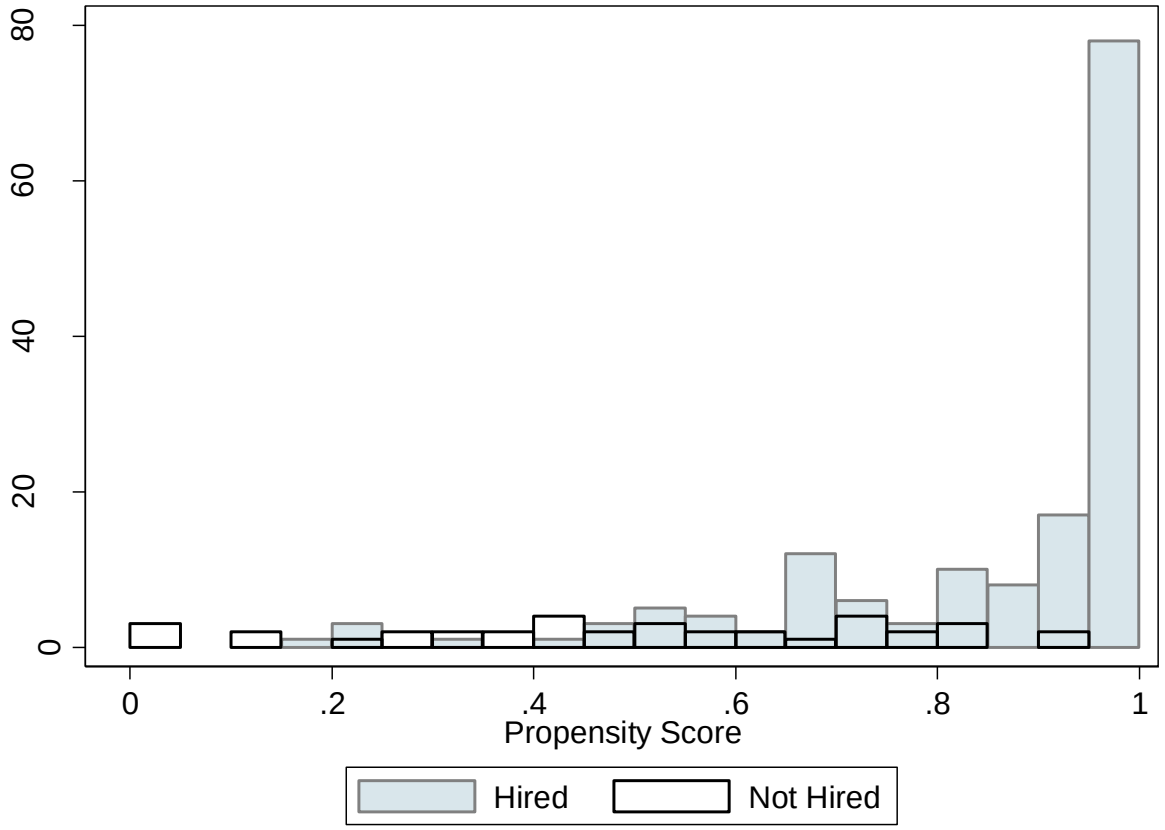
Notes: GED = general educational development test. All values are percentages except where noted. Weighted analysis. Item-specific nonresponse reduced the number of individuals in some cells. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Table A.3. Changes in employment over time: Fixed effects regressions, case study organization

Outcome	Employed	Employed	Employed outside social enterprise	Wage and salary income	Wage and salary income	Total income	Share of income from work	Share of income from government
In case study enterprise labor pool, treatment group								
Sample	Full	Non institutionalized	Full	Full	Non institutionalized	Non institutionalized	Non institutionalized	Non institutionalized
One year after entering labor pool	0.398***	0.457***	0.331***	615.3***	758.2***	668.4***	41.2***	-32.0***
	(0.084)	(0.096)	(0.083)	(126.1)	(143.9)	(187.6)	(11.0)	(11.07)
Constant	0.0109	0.0207	0.014	88.1	102.9	470.9***	19.4***	71.4***
	(0.045)	(0.049)	(0.044)	(63.9)	(68.8)	(78.0)	(5.412)	(5.413)
Observations	73	63	73	71	61	54	47	47
Individuals	37	32	37	37	32	32	29	29
In case study enterprise labor pool, comparison group								
Sample	Full	Non institutionalized	Full	Full	Non institutionalized	Non institutionalized	Non institutionalized	Non institutionalized
One year after entering labor pool	0.313***	0.373***	0.080*	547.8***	645.5***	592.7***	51.13***	-51.05***
	(0.049)	(0.053)	(0.041)	(78.9)	(80.5)	(85.8)	(6.359)	(6.374)
Constant	0.101	0.131	0.208	227.3	362.4*	930.8***	24.57	66.03***
	(0.146)	(0.165)	(0.126)	(201.8)	(218.8)	(242.5)	(19.43)	(19.76)
Observations	308	276	308	293	261	244	224	224
Individuals	154	138	154	154	138	138	135	135

Notes: Weighted analysis. Numbers show estimated coefficients with robust standard errors. Regressions control for local unemployment rate. Employment values are measured in the past week and income values are measured in the past month. The observations row lists the number of individual-time pairs, whereas the number of individuals is the number of unique workers included in the analysis. Due to item-specific nonresponse, some individuals might not contribute two data points to the analysis.*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Figure A.1. Probability of Chrysalis Employment, Given Characteristics



Notes: Propensity score predicted using the results of Table A.1 in Appendix A.

Appendix B: Cost-benefit analysis (CBA) robustness checks and study limitations

To explore how sensitive our CBA estimates are to assumptions made in our return on investment (ROI) analysis, we performed the following sensitivity analyses:

1. **Discount rates.** Our analysis assumed a discount rate of 8% per year and we assessed alternate ROIs assuming rates of 4% and 12%.
2. **Housing quality of life regression specification.** Our analysis of quality of life associated with housing used an ordinal probit regression and did not include controls for other **determinants** of happiness. We assessed alternate ROIs associated with two changes to this specification: (1) using an ordinal logit regression instead of the ordinal probit and (2) including controls for employment status and health at baseline.
3. **Persistence of gains.** We truncated the estimated benefits of social enterprise employment one year after social employment started and implicitly assumed that all benefits ended **after** the follow-up year, which is very conservative. We estimated an alternate ROI under the assumption that benefits persisted though shrunk by 10% each year after our last contact with the individual. For example, if monthly income increased by $600, we assumed that social enterprise workers had monthly income that was $540 higher the following year, $486 higher in the year after that, and so on.
4. **Path of earnings growth.** We assumed all estimated changes in earnings occurred immediately after an **individual** began social enterprise employment. We calculated an alternate ROI assuming that earnings grew linearly over time between the beginning of social enterprise employment and one year later.
5. **Accounting for substance abuse.** We were concerned about double-counting quality of life increases **because** our analysis considers both overall health and changes in substance abuse as benefits (Groot, 2000). If an individual ceases drug use and reports better health, accounting for both changes might overestimate the benefits of social enterprise employment. We therefore assessed the ROI excluding reduced substance abuse as a benefit.
6. **Alternative measure of housing costs.** In light of the availability of public and subsidized housing, we were concerned that assuming that all individuals in stable housing paid fair market rents would lead to an overestimation of housing outlays. We therefore alternatively assessed the ROI generated by assuming individuals are not asked to pay more than 30% of their income for housing (as suggested by U.S. Department of Housing and Urban Development policies). Schwartz and Wilson (2008) provide details on this standard.

Table B.1 shows the results of these analyses. Overall, it appears that our CBA is relatively robust to most of the assumptions assessed. Changing the discount rate did little to impact our qualitative results. Different specifications of the regression relating housing to quality of life yielded no discernible differences in benefits per dollar spent. Omitting benefits related to reduced substance abuse changed the benefits per dollar spent slightly but did not impact our qualitative conclusions. Some changes occurred in the ROI when we assumed gradual changes in income over time (the ROI shrinks to 95% in the outcomes study CBA and 18% in the impact study CBA), but our main conclusions still remain intact. Capping the costs that individuals pay for housing to 30% of their income does not impact the overall ROI; however, it makes the benefits of social enterprise employment per dollar spent positive for social enterprise workers in

both the impact and outcomes study CBAs and reduces benefits per dollar spent accruing to taxpayers.

Table B.1. Benefits per Dollar Spent Sensitivity Analyses

	Benefits per dollar spent			
	Society	Worker	Social enterprise	Taxpayers
Pre-post analysis				
Original analysis	2.23	-0.02	0.97	1.31
Discount rates (originally 8 percent)				
4 percent	2.30	-0.02	0.97	1.38
12 percent	2.17	-0.02	0.97	1.24
Housing quality of life specification				
Ordinal logit regression	2.23	-0.02	0.97	1.31
Additional controls for life stability	2.23	-0.02	0.97	1.31
Persistence of gains	10.19	-0.10	0.97	9.48
Path of earnings growth	1.95	-0.19	0.97	1.18
Exclude the benefit of reduced substance abuse (instead of combination)	2.31	0.07	0.97	1.31
Assume housing payments do not exceed 30 percent of income	2.23	0.21	0.97	1.08
Case study analysis				
Original analysis	1.34	-0.07	1.01	0.42
Discount rates (originally 8 percent)				
4 percent	1.36	-0.07	1.01	0.44
12 percent	1.33	-0.07	1.01	0.40
Housing quality of life specification				
Ordinal logit regression	1.34	-0.07	1.01	0.42
Additional controls for life stability	1.34	-0.07	1.01	0.42
Persistence of gains after one year	3.62	-0.41	1.01	3.16
Path of earnings growth	1.25	-0.05	1.01	0.31
Exclude the benefit of reduced substance abuse (instead of combination)	1.18	-0.23	1.01	0.42
Assume housing payments do not exceed 30 percent of income	1.34	0.07	1.01	0.28

Notes. Benefits of social enterprise employment to the friends and relatives of social enterprise workers are excluded from this table, but are included in benefits to society as a whole.

Our results might be sensitive to our assumption that benefits stop accruing one year after social enterprise employment begins. Assuming that benefits persist but shrink at a rate of 10% per year leads to highly inflated estimates of benefits per dollar spent. The overall ROI increases more than four-fold in the outcomes study CBA and more than doubles in the impact study CBA. Thus, it appears that our estimates of the ROI in social enterprise employment would be higher if benefits persist for more than one year after individuals began a social enterprise job.

Despite the robustness checks and rigor of our CBA, our design and small sample size limit our analysis in at least seven ways:

1. Our CBA captures benefits in only five domains. If social enterprise employment produced positive changes in outcomes outside these areas, the study will underestimate its benefits. For example, we do not capture benefits gained from social enterprise employment associated with increased confidence, interpersonal skills, or engagement with families or communities (Maxwell et al., 2013).

2. Within each of the five domains, benefits might not be fully captured, which would lead us to understate the benefits of the social enterprise experience. For example, we capture the monetary benefit of an averted arrest as a reduction in the costs of incarceration but do not capture the benefits victims enjoy from not being victimized or those participants enjoy from not being arrested and imprisoned.
3. Because costs include only those incurred by social enterprises between April 2012 and September 2013, they likely omit important fixed costs of employment in some enterprises, including the time staff spend launching and developing the social enterprise before the business began (for example, to recruit and hire workers or book revenue).
4. Cost data were retrieved from organizations and might be subject to reporting errors, misclassification, or other accounting issues. Maxwell et al. (2013) suggested that not all organizations use the most meticulous accounting practices, which implies our financial data might be imprecise.
5. Our CBA estimates are necessarily based on many assumptions and it is impossible to explore all potential combinations of assertions. It is therefore possible that some alternative combination of choices would lead to different results and conclusions.
6. Findings are based only on a small set of social enterprises, all purposively selected by a single venture philanthropic organization. About half of the social enterprise employees worked for the case study enterprise and other social enterprises would have different funding structures, locations, and resources. As a result, the findings of our study might not be representative of other social enterprises.
7. Study results are based only on individuals whom we could locate and who chose to participate in our follow-up surveying. Although our use of nonresponse weights mitigates this concern, it might not completely resolve it.

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