The Benefits and Costs of the Section 8 Housing Subsidy Program: A Framework and First-Year Estimates

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The U. S. federal Section 8 housing voucher program serves nearly 2 million low-income families in the United States. The purpose of the voucher program is to enable low-income families to improve the quality of their housing and to move to better neighborhoods. Voucher recipients seek housing in the private rental market, with the actual amount of the subsidy (the share of the rental charge covered by the voucher) dependent upon the family’s income. In this paper, we provide estimates of the social benefits and costs of the Section 8 housing subsidy program. Our estimates are shown on a per recipient annual basis, and primarily reflect changes that are observed in the initial year of voucher receipt.

Research on the social costs and benefits of the Section 8 voucher program goes back to the early 1980s, when Weinberg (1982) described the benefits and costs of the program and presented preliminary estimates of some of them. About two decades later, Johnson et al. (2002) provided an outline of a benefit cost analysis of housing mobility programs that allow low-income families living in public housing to move to higher income neighborhoods.  

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1The “Section 8” designation refers to the program’s statutory authorization under Section 8 of the United States Housing Act of 1937, as amended by the Housing and Community Development Act of 1974. Although the official title of Section 8 tenant-based assistance is now the Housing Choice Voucher Program, most researchers and administrators still refer to it as the “Section 8 voucher” program. We use the “Section 8” designation in this paper.

2 Johnson et al (2002) discuss a full set of possible effects of the program and conclude that only a short-run partial benefit cost analysis of housing mobility programs is currently possible.
To our knowledge, there are no quantitative estimates of the social gains and losses associated with the Section 8 program beyond these. Our benefit and cost estimates rest on a series of studies in which we estimate the effects of voucher receipt on a variety of recipient living unit behaviors, including movement to new neighborhoods, employment, earnings, and the receipt of a variety of public benefits: child care subsidies, medical care assistance (Medicaid and the state Children’s Health Insurance program), and welfare (TANF) assistance.\(^3\)

In our analysis, we rely on the basic principles of welfare economic theory, and adopt a comprehensive accounting framework that distinguishes impacts on voucher recipients, other citizens, and society as a whole. We attempt to provide monetary estimates of benefits and costs, but in several cases we are only able to describe the effect.

I. THE SECTION 8 VOUCHER PROGRAM

The U.S. government currently provides housing assistance to low-income renters through three primary programs: Section 8 tenant-based subsidies (since 1999 officially known as the Housing Choice Voucher Program); Section 8 unit-based assistance, under which building owners receive government subsidies to reduce rents; and publicly owned housing units. All three forms of assistance are administered by over 3,000 local public

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\(^3\) See Carlson et al. (2009), which summarizes our estimates of the effects of voucher receipt on a variety of outcomes. In these studies, we use detailed information available in administrative records from the State of Wisconsin, and supplement this information with data from the U.S. Census Bureau. Our sample begins with all cases that applied for or received welfare-type transfers between 2001 and 2003, yielding three separate calendar year cohorts. Within each cohort, we form two unique groups, one composed of cases that first received a public rental subsidy in that year, and the other made up of cases that did not. We then pool these three calendar year cohorts to create our final estimation sample. To obtain a balanced comparison group that allows for valid inference regarding the effect of voucher receipt on the outcomes of interest, we employ a propensity score matching procedure. Then, using this balanced sample, we isolate the effect of voucher receipt on the neighborhood quality and household composition outcomes using a difference-in-differences regression adjustment. All of these studies are available from the authors, on request.
housing authorities (PHAs). Each of these programs represents an important policy lever, but this analysis focuses on the social costs and benefits of the Section 8 tenant-based subsidy program.

Section 8 tenant-based vouchers currently serve about 1.9 million families nationally, including more than 850,000 families with minor children (U.S. Department of Housing and Urban Development 2007). The primary objective of the program is to enable “very low-income families to choose and lease or purchase safe, decent, and affordable privately owned rental housing.” Voucher recipients, whose income must be below 50 percent of the median income of the county or metropolitan area in which they live, choose rental housing available in the private market and contribute 30 percent of their incomes toward rent. The Section 8 program then pays the difference between the tenant contribution and actual rent, up to a locally defined “fair market rent” payment standard. A main motivation undergirding the Section 8 program is to “deconcentrate” the poor by making it possible for voucher recipients to leave public housing projects and move to better neighborhoods near better jobs (U.S. Department of Housing and Urban Development 2000).

II. BENEFITS AND COSTS OF PUBLIC HOUSING SUBSIDIES

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5 A PHA must provide 75 percent of its vouchers to applicants whose incomes do not exceed 30 percent of the area median income.

6 This standard is set by the Department of Housing and Urban Development (HUD) at the 40th percentile of the local rental market, as calculated by the monetary value of leases commenced in the previous year. The payment standard is typically between 90 percent and 110 percent of area “fair market rent.”

7 As the program has expanded over time, a number of constraints have partially interfered with the goal of geographic mobility for recipients of tenant-based assistance. One constraint has been the limited geographic span of many local PHAs that serve only parts of metropolitan areas, reducing the possibility for recipients to move to neighborhoods with a smaller concentration of poor families. While some PHAs allow recipients to find housing in other jurisdictions, administrative burdens and the need to transfer supporting funds constrains this practice.
Table 1 presents an accounting overview of the components of annual social benefits and costs that are potentially attributable to public provision of Section 8 housing subsidies to low-income families. The categories identified are designed to be comprehensive, although there may be other effects that are neglected. In the table, we distinguish benefits and costs accruing to program participants, nonparticipants (including taxpayers), and society as a whole. The following sections discuss each of these benefit and cost categories.

[Insert table 1 here]

**A. Recipient Value of Section 8 Vouchers (Items 1. and 2. in Table 1)**

The annual value of the Section 8 rental subsidy to recipient families consists of two components. First, there is the monetary value of the voucher, which corresponds to the reduction in the rental payment for the housing unit in which recipients use the voucher. The second is the increase in consumer surplus on the additional housing services obtained because of the voucher.

Conceptually, we calculate the first component as the market rental rate on the unit occupied minus the actual rental payment made by the household. This subsidy benefits participants, and because they are members of society, it is also a welfare gain to society as a whole.8

The consumer surplus component of program benefits reflects the value to recipients of the gains from the increase in housing services (housing and neighborhood quality) that they experience as a result of the subsidy.9 This is a welfare gain that is not

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8The costs of supporting the subsidy are indicated in the cost part of the table, as Item 5.
9Empirical research on the effects of low-income housing vouchers is extensive, and many studies show that Section 8 voucher recipients tend to move to better neighborhoods (Kling, Liebman, and Katz 2007; Mills et al. 2006); estimates from our studies confirm this.
recorded in markets, and can be assessed only through information regarding the willingness of recipients to pay for these housing service increases.10

B. Value to Recipients of Increased Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care Services (Item 3. in Table 1)

Because of the receipt of program benefits and the associated housing move, participants may experience an increase in the public benefits that they receive. Part of this gain may come from counseling associated with housing voucher receipt; administrators may direct voucher recipients toward other public program benefits for which they may be eligible. A second part may come from greater accessibility of program providers in the new location. For example, recipients of Section 8 vouchers may become better positioned to secure quality child care services, given the potential change in neighborhood and the distribution of child care centers.

These increased benefits and services increase the well-being of participants, and hence of society as a whole. For both participants and society, this gain can be conceived of as the market value of the additional services, plus the consumer surplus associated with this increased use, minus the dollar amount that is required to provide these benefits.11

C. Benefits of Increased Child Achievement and Years of Schooling (Item 4. in Table 1)

10 In our analysis, we do not include an estimate of the potential deadweight loss associated with the distortion of the level of housing consumption because of the in-kind nature of the program. This issue has been studied extensively, and most recent estimates indicate that any welfare loss attributable to this distortion is small. Currie and Gahvari (2008) review this literature, and (citing Slesnick, 1996) conclude that “the deadweight losses associated with in-kind transfers of food stamps and housing programs … are small.” Moreover, any such losses are likely to be offset by the consumption externality that sustains taxpayer support of these in-kind transfer programs.

11 The costs of providing these benefits that are not paid for by program participants are reflected in the cost section of the table, as Item 6.
The increase in public benefits, child care services, and children’s attendance at better schools (because of program-induced changes in residential location and neighborhood) may lead to increased child achievement and years of schooling. These, plus other beneficial effects of voucher receipt (perhaps associated increase in real income), may also result in a variety of other positive effects such as a reduction in drug use and illegal activities.

Information on these effects is difficult to attain, in part because data are not available (e.g., on the relationship between participation in the Section 8 program and children’s school achievement) and partially because years of children’s completed schooling is not observable until well after the receipt of the housing subsidy. Note that, while the gains in this category accrue to recipient families, there may be beneficial effects beyond these private gains that accrue to society as a whole. Hence, the value recorded for participants is likely to be less than the value indicated for society.12

D. Tax-related (Financial and Excess Burden) Costs of Voucher Provision (Item 5. in Table 1)

The full taxpayer and social cost of voucher provision includes two main components: 1.) the financial costs associated with the operation of the Section 8 program and 2.) the potential welfare loss associated with taxpayers’ efforts to avoid taxation that provides the revenue used to fund the provision of vouchers—the ‘excess welfare burden’ of taxation. Assuming that this excess burden is independent of the form of taxation used to support the Section 8 program, we rely on estimates in the literature for this value.

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12There is an extensive body of research suggesting that the nonmarketed private benefits and the public goods benefits of incremental schooling are very large. Wolfe and Haveman (2001) suggest that these benefits may be equal in magnitude to the earnings returns from additional schooling. Any additional costs for schooling for the children of program participants are recorded in the cost section of the table.
E. Tax-related Costs of Increased Voucher Recipient Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care (Item 6. in Table 1)

Similar to the increased taxpayer costs directly associated with the Section 8 program are taxpayer costs associated with any increase in the utilization of public benefits, including Food Stamps, TANF, child care services, and government provided health insurance programs such as Medicaid. This cost also includes the ‘excess welfare burden’ associated with the increased taxpayer costs.

F. Welfare Effects from Labor Market Responses of Voucher Recipients (Item 7. in Table 1)

Recipients of Section 8 vouchers face altered labor market incentives related to the income-conditioned nature of the benefit structure in the program, described above. These changed incentives are likely to affect choices on work time and earnings. To the extent that these choices are altered, there will be specific and measurable effects of the program operating through the labor market. These welfare effects accrue to participants and therefore to society.

III. ESTIMATES OF PROGRAM BENEFITS AND COSTS

In this section, we present our estimates of the values of the benefit and cost items identified in Table 1. These estimates are shown in Table 2. Except where noted, our estimates are based on estimates that we have presented in a series of papers of the effect of Section 8 voucher receipt on a wide range of social and labor market outcomes, including neighborhood quality, public program participation, household composition, and earnings and employment (See Carlson et al, 2009). These analyses use Wisconsin administrative data for years 2001-2006 and employ propensity score matching

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13 Estimates of the effect of Section 8 voucher receipt on social and labor market outcomes are available from the authors.
procedures coupled with difference-in-differences regression adjustment to identify the effects of Section 8 voucher receipt on the various outcomes.

A. Tax-related (Financial and Excess Burden) Costs of Voucher Provision (Item 5. in Table 2)

Based on data and calculations from the Center for Budget and Policy Priorities (CBPP), for Wisconsin we estimate the average taxpayer cost per authorized voucher in 2008 to be $4,738 (Center for Budget and Policy Priorities 2008). This number is a weighted average of the estimated cost per voucher calculated by CBPP for each housing authority in Wisconsin.\textsuperscript{14} CBPP estimated the 2008 cost per voucher for each housing authority by calculating the average cost per voucher in 2007 and then inflating that figure by the applicable 2008 HUD annual adjustment factor. CBPP used Voucher Management System (VMS) data to calculate the 2007 cost per voucher. The statewide estimate is obtained by weighting the estimated cost per voucher for each housing authority by that authority’s proportion of total vouchers in the state.

Parameter estimates of the marginal excess tax burden vary somewhat, but for the personal income tax they generally range from .10 to .35. Several studies present estimates that fall within this range.\textsuperscript{15} We use a parameter estimate of .2 (middle of this range) in this analysis. Hence, in Table 2, we report an estimate of $948 as the welfare cost associated with the increased taxation required to finance the Section 8 program. Adding this figure to the estimated average taxpayer cost per authorized voucher of $4,738 yields an estimate of $5,686 as the total tax-related cost of providing a Section 8 voucher. This total is assigned to both taxpayers and society.

\textsuperscript{14} Including the Wisconsin Housing and Economic Development Authority (WHEDA).
B. Value of Section 8 Voucher to Recipients (Items 1. and 2. in Table 1)

The recipient value of a housing voucher is the sum of the reduction in the rental payment for the housing unit to which they move after receipt of the voucher plus the increase in consumer surplus on the additional housing services obtained because of the voucher.

Consider first the reduction in the rental payment for voucher recipients (Item 1. in Table 2). If we assume that the administrative costs of the program are equal to 10 percent of the total costs of the program, our estimate of the taxpayer portion of the rent (and hence the reduction in rental payments to voucher recipients) is equal to $4,264 (= .9 * $4,738). The administrative cost of the program—$474—is a social cost of the program and is reflected in the difference between Item 5 and Item 1.16

Note that the total rent on the housing unit into which the recipient moves reflects both the quality (and size) of the unit itself, and the quality of the neighborhood environment in which the unit is located.

In addition to the value of the Section 8 voucher to recipients (the reduction in rental payments), there is a consumer surplus benefit experienced by voucher recipients.17

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16 Deng (2006) provides an alternative framework for estimating the benefits and costs of housing vouchers. (See also Deng, 2009.) He notes: “Earlier studies commonly used cost-benefit analysis. For each housing program, these studies compare the government’s cost with the estimated market rent for subsidized housing units ….” (page 473). In his paper, Deng calculates the subsidy value to Section 8 recipients using this approach; see page 487. This procedure is summarized in an appendix on page 506. Essentially, Deng subtracts the rent paid by the tenant from the fair market rent of the unit, to find the subsidy to the recipient. Our data does not contain an estimate of either the rent paid by the tenant or the fair market rent of the unit. Deng also states (page 492): “In addition to the voucher subsidy paid to individual families, the federal government pays local PHAs a monthly fee to administer the program. This fee, which is published annually by HUD for each PHA, is higher for the first 600 units and then falls for the remainder.” On page 507, he states: “The monthly administrative fee for the voucher program in Miami in 2000 was $61 per unit.” We assume that this fee is a part of the overall administrative costs of the program that we estimate.

17 In Carlson (2009) we provide evidence that Section 8 voucher recipients lived in neighborhoods with more desirable characteristics than did equivalent families who did not receive a voucher. In particular, we
Consistent with welfare economic theory, these improved neighborhood characteristics would provide recipients with well-being beyond that reflected in the value of the housing subsidy that they receive. This gain is attributable to the following logic: Assume that a recipient family was living in some housing unit prior to receiving the subsidy, and the recipient would have had a total willingness to pay for that unit. That willingness to pay would consist of the rent the person actually paid, plus the consumer surplus on that unit. Now, a voucher is received, and the recipient moves, presumably into a better unit in a superior neighborhood. There is a market rent for that unit, and that rent is shared in some proportion by the recipient and the government (the section 8 subsidy). Because the new unit is better than the old one, presumably the consumer surplus of the new unit would exceed that of the old unit. The change in consumer surplus is a gain to participants and a gain to society. In the absence of knowledge regarding the elasticity of demand of voucher recipients for improved housing and neighborhood quality—and hence their willingness to pay—we assume that the consumer surplus benefit ranges from .2 to .5 of the financial benefit. With this assumption, consumer surplus benefit ranges from $853 to $2132, and the total value of the voucher to recipients ranges from $5117 to $6396. In the absence of evidence of a notable market failure, we assume that there is no gain or loss to citizens who were not Section 8 voucher recipients.18

C. Value to Recipients of Increased Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care Services (Item 3. in Table 2)

1. Benefits from Increased Receipt of Welfare Benefits

found that voucher recipients in the first year after receipt were living in neighborhoods with lower unemployment rates.

18 See, however, Susin (2005).
In the year of first receiving a housing voucher, those who received the subsidy were 3 percent more likely to receive benefits from Wisconsin’s welfare plan (Wisconsin Works, or W-2) than matched comparisons who did not receive a housing subsidy. In calendar year 2004, about 27,000 housing vouchers were in use in Wisconsin. If 3 percent more of these housing voucher participants participated in W-2 than would have done so if they did not have a housing voucher, there would be 810 more W-2 participants than would have been the case without the housing subsidy program.

Our analysis of Wisconsin administrative data finds that the average W-2 funds spent monthly on W-2 recipients who were receiving a housing subsidy is $424. The annual additional W-2 cost attributable to housing subsidies is thus about $4.1 million (810 more participants x $424 in monthly costs x 12 months = $4,121,280). If administrative costs account for 10 percent of total costs, then the total monetary value of W-2 benefits is about $3,709,152, and the annual value of W-2 benefits per voucher recipient is about $132 ($3,709,152/27,000).

In addition to this value of W-2 benefits per voucher recipient, there is the consumer surplus generated for W-2 beneficiaries, to the extent that these benefits are received ‘in-kind’ (e.g., job training services, counseling services). Following the earlier convention of assigning a rough value of consumer surplus benefits equal to .2 to .5 of the financial value of the services received, and assuming that one-half of the W-2 services are in-kind, we add a value of from $13 to $33 to the financial value of $132, for a total value of from $145 to $165.19

2. **Benefits from Increased Food Stamp Use.**

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19 It could be argued that, in addition to the benefits themselves, the work experience that is required by the program, the complementary job training efforts and the counseling are likely to lead to higher future productivity and earnings.
Because our analytic sample is derived from cases that applied for or received Food Stamps, we cannot use Wisconsin administrative data to estimate the effect of housing subsidy receipt on Food Stamp receipt. Housing authority staff are likely to have more incentive to encourage voucher recipients to apply for W-2 than Food Stamps, since W-2 benefits increase the countable income of housing assistance recipients, thereby reducing the value of their housing assistance and allowing the housing authority to serve more people. Based on the likelihood that housing authority staff have little incentive to encourage continuous enrollment or reenrollment in Food Stamps, we arbitrarily assume a very small 2 percent increase in the likelihood of receiving Food Stamps, being careful to use a smaller percentage increase than that for W-2 even though all of those on housing vouchers are eligible for Food Stamps while only a subset are eligible for W-2.20

The 2 percent increase in likelihood suggests that 540 more cases would receive Food Stamp benefits. The average annual benefit level in 2004 for Food Stamp recipient assistance groups in Wisconsin was $2,100,21 which suggests increased annual benefits of $1,134,000 (540 x $2,100). Ignoring marginal administrative costs yields an annual average per case benefit of $44. Again, assigning a rough value of consumer surplus benefits equal to .2 to .5 of the financial value of the services received, we calculate the total annual per case benefits of the increased Food Stamps to be from $53 to $66.

3. Benefits from Increased Use of Health Care Assistance.

Our estimates of the impacts of Section 8 voucher receipt (Carlson et al. 2009) finds that housing assistance recipients with a minor child in the house are about 1

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20 This increase is consistent with Harkness and Newman (2003), who find that housing assistance in private rental housing increases the likelihood of Food Stamp receipt nationally.
21 Average monthly Food Stamp benefits in Wisconsin in 2004 equaled $23,549,668; the average monthly number of assistance groups was 134,616. $23,549,668/134,616 X 12 = $2,100. The data are at http://dhs.wisconsin.gov/em/rsdata/index.htm.
percentage point more likely to participate in Medicaid and BadgerCare (the Wisconsin Children’s Health Insurance Program) than their matched comparisons who did not receive housing assistance. Housing assistance recipients without a minor child are about 7 percentage points more likely to participate in Medicaid than their matched comparisons. Some 36 percent of our sample receiving rent subsidies had no minor children, and 64 percent had children. Assuming that these percentages apply to the overall population of cases receiving a rental subsidy in Wisconsin in 2004 results in an estimate of 9,720 rent subsidy cases with no minor child (27,000 X .36) and 17,280 with minor children.

Because enrollment in the Wisconsin Medicaid/BadgerCare program is by individual, not by case, it is necessary to estimate the number of people likely to be receiving Medicaid in these cases. Relying on case composition patterns, we conclude that there are 10,109 people (9,720 X 1.04) in the cases without children and 47,693 people (17,280 X 2.76) in the cases with children. Of the 10,109 estimated adults with no child, a 7 percent increased likelihood of participating in Medicaid implies an increased Medicaid enrollment of 708 individuals (10,109 X .07). Of the estimated 47,693 people in cases with a child, a 1 percent increase in the likelihood of participating in Medicaid/BadgerCare implies increased enrollment in the program of 477 people (47,693 X .01).

We estimate the benefits of Medicaid/BadgerCare coverage to be equal to the state costs of providing these benefits; we use actual annual costs from 2004. In that year, annual Medicaid expenditures for noninstituionalized elderly and disabled people was

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22 We multiply the number of cases times the average number of people in Medicaid cases (2.76 for cases with children and 1.04 for cases without children).
$8,592 (Wisconsin Legislative Fiscal Bureau 2005b). For families with children, the mean annual cost per recipient was $1,989 (Wisconsin Legislative Fiscal Bureau 2005a, Table 32). Assuming that all the individuals without children were elderly/disabled (a very plausible assumption because that is the only reason they would qualify for Medicaid), the 708 additional participants implies an annual benefit of $6,083,100 ($8,592 X 708 people).\(^{23}\) If we assume the cases with children contained no disabled individuals (not as likely, which makes this a lower-bound estimate of costs) we estimate the annual, total benefit value for the additional 477 people with children to be $948,800 ($1,989 X 477). Across all 27,000 Section 8 voucher recipients, then, the annual, per case benefit value is $260 ($7.031 million/27,000). Assuming administrative costs of 10 percent yields an annual per case benefit of $234. Adding in the consumer surplus associated with these gains, and again using a ratio of from .2 to .5 of the financial value of the services received, we calculate the annual per case benefits of the additional medical care benefits to be from $281 to $351.

4. Benefits from the Earned Income Tax Credit (EITC)

In the first year after receiving a housing subsidy, we estimate a decline in annual earnings of the casehead of about $600. The effect of such an earnings decline on EITC benefits would depend on the casehead’s level of earnings before the housing subsidy began. Because of the way the EITC is structured, those with the lowest earnings would receive a lower EITC benefit if their earnings declined, those with the highest earnings

\(^{23}\) This estimate may be somewhat upward biased as the weighted average Medicaid costs for the elderly and disabled includes people in nursing homes. An alternative would be to use the average costs for people in Milwaukee and Dane County programs who get SSI (both elderly and disabled) and are served by care management organizations (largely long-term and acute care HMOs for the elderly and disabled); the annual cost for this population is $8,592 annually, compared to the annual cost of $11,590. The lower cost figure reflects a 5-6 percent discount that the state attempts to generate, and hence may be too low.
(but still eligible for an EITC benefit) would realize a higher EITC benefit if their earnings declined, and those in the middle of that range would experience no change in EITC benefits if their earnings dropped. If we assume that housing subsidy recipients were positioned evenly across that continuum before they received a subsidy, then their net change in EITC benefits would be approximately zero.

5. *Benefits from Increased Child Care Services*

Our empirical analyses indicate that Section 8 voucher receipt leads to increased benefits from child care services in two distinct ways. First, Section 8 voucher receipt induces some households that previously did not participate in the public child care program to apply for and receive state-subsidized child care. Second, Section 8 voucher receipt results in greater subsidy amounts for households already participating in the state-subsidized child care program. In both of these scenarios, a primary benefit is the financial value of the improved child care services. A lower bound to this value is the total financial value of the improved services minus the amount the families actually pay for these services (the co-payment) and the costs of administering the program. In addition, any comprehensive accounting of benefits must include the consumer surplus that families experience because of the new or improved child care services.

For the estimated 1,242 cases that received child care benefits because of their participation in the Section 8 voucher program, we calculate a total benefit receipt of about $8.3 million.\(^{24}\) Dividing this number by the 27,000 voucher recipients in Wisconsin

\(^{24}\)We estimate (Carlson et al, 2009) that, in the year of first receiving a housing subsidy, those who received a Section 8 voucher were about 4.6 percentage points more likely to receive state-subsidized child care benefits, a program referred to as Wisconsin Shares, than matched comparisons who did not receive a housing subsidy. In calendar year 2004, about 27,000 housing vouchers were in use in Wisconsin.
yields a per case value of about $309. For the estimated 13,500 Section 8 voucher recipients that already received child care benefits, we calculate that their participation in the Section 8 program increased the value of benefits received by about $2.8 million. Dividing this number by the 27,000 voucher recipients in Wisconsin yields a per case value of about $103. Hence, we estimate the total value of the per voucher recipient annual child services to be $412 (= $309 + $103).

In addition to this value of child care benefits per voucher recipient, there is the consumer surplus generated for Wisconsin Shares beneficiaries. Following the earlier convention of assigning a rough value of consumer surplus benefits equal to from .2 to .5 of the financial value of the services received, and assuming that none of the Wisconsin Shares services are in-kind, we add a value of from $82 to $206 to the financial value of $412, for a total value of $494 to $618 per case.

Extensive research on the benefits and costs of early child care interventions suggests that the total present value of the benefits of these programs is 3-4 times the cost. In addition to the value of the direct child care services to parents, these benefit

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25 The increase in the annual subsidy value is estimated to be $229 in the year of receipt. In our sample, 50 percent of voucher recipients participated in the program. As a result, the annual additional value of subsidies received from the Wisconsin Shares program is about $3.1 million (13,500 recipients x $229 in increased annual subsidies). If administrative costs account for 10 percent of total costs, then the total monetary value of the increased Wisconsin Shares subsidy is $2.782 million. Dividing this value by the total number of voucher recipients indicates that the value of the increased child care subsidy attributable to the Section 8 program is about $103 ($2.782 million/27,000).

26 This consumer surplus gain reflects the parental wellbeing gained by knowing that their child is being cared for in a safe and possibly educational environment where they have the opportunity to learn from and socialize with other children. It also reflects the parental well-being gain from the added continuity of care from having a child in organized child care.
estimates include the parents’ and societies assessment of the value of increased child achievement and years of schooling (or the reduced costs of remedial schooling), parents’ and society’s assessment of the decreased probability of children’s engaging in drug use and illegal activities as they mature, increased parental productivity due to the reduction in child care needs, and parental avoidance of the stigma of children’s needs for special education or grade repetition. In our analysis, the parental productivity effect is included elsewhere. Hence, we include an arbitrary annual per recipient value of $200, about one-third of the voucher recipients private benefits, in Table 2. Other aspects of parental gains are included in items 4. and 7., discussed below.27

D. Benefits of Increased Child Achievement and Years of Schooling (Item 4. in Table 2)

If receipt of a Section 8 housing voucher leads to attendance at better quality schools and improved behavioral and school performance of the children of recipient families (either directly or because of the improved child care experience), these children are likely to ultimately complete more years of schooling, and these gains are attributable to the program.28

27 A rough calculation assumes that, excluding the increased parental work and productivity, the benefit-cost ratios of 3-4 noted above would decrease to 2. We calculate that the annual per voucher recipient value of these additional values (for children’s future attainments and reduced illegal activity) is, therefore, approximately equal to the direct annual per voucher recipient benefits of $412. This value is a component of our overall estimate of the benefits in item 4., discussed below. A roughly equivalent annual per recipient value is a component of our overall estimate of the benefits in item 7., discussed below. Lynn Karoly in her work reports that, the returns to society for each dollar invested (in early childhood programs) extend from $1.80 to $17.07.

28 To some extent, this benefit may be reflected in Items 1. and 2. It is possible that the value families place on the improved neighborhood into which they move reflects the belief that the schools in the neighborhood are superior, and that this will result in better school performance and an increase in the number of completed years of schooling. However, if (as seems likely) parents fail to recognize this long-term effect of voucher receipt, then a separate value for this outcome must be reflected in the analysis. If the quality of the neighborhood school is reflected in market rental rates, the value of the schools would be attributed to both the childless Section 8 recipients and those recipients with children. However, the 'school quality effect' reflected in the higher neighborhood rents reflects the tastes of both residents with and
Johnson et al (2002) discuss this effect, and present results from the Gautreaux and MtO experiments that relate to it. They conclude that one of the effects of voucher receipt is an increase in achievement scores of recipient’s children. For example, the Baltimore MtO site indicates an increase in the achievement score of young children of 0.25 of a standard deviation (Ludwig et al, 2001a). Using results from Krueger (1999), they suggest that a test score improvement of this magnitude implies an increase in the present value of these children’s lifetime earnings of about $8500. Johnson et al indicate that if an increase of this magnitude is assumed to hold as well for teenagers, then (given the age distribution of the average MtO family), the present value of the lifetime gain to families with children is $15,300.29 This is equivalent to an annual, per case value of $624 for cases with children.30 In Wisconsin, 17,280 Section 8 cases were families with children (64 percent of the 27,000 Section 8 cases), implying an annual, per case benefit of $399. We use $400 as the annual parental benefit from improved children’s educational attainments.

In addition to these private dollar-valued benefits from improved school achievement there are a variety of nonmonetary private and public benefits of increased schooling (Haveman and Wolfe 1984; Wolfe and Haveman 2001). These have been documented and studied, and a reasonable estimate is that the nonmonetary private and 

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29 In a paper by Ludwig (in Weimer volume), it is emphasized that MtO found positive effects on young children, but “teens appear to be both harmed and helped by moving to low poverty neighborhoods” and “teens … [actually fare] worse in school…” (page 8). He also cites Newman and Harkness (2002) who indicate that a year in a public housing residence increases the probability of a youth working at age 25-27 by 7 percentage points and raises annual earnings by $1,860.

30 This estimate assumes that the children will experience a constant annual increment to earnings for 45 working years, beginning in the year of the present value estimate; a discount rate of 3 percent is used. This value is probably upward biased, as the youths will not begin working and earning until some years after the date of the present value estimate.
public benefits are at least equal to the private monetary benefits in the form of income gains. Assuming that the benefits beyond the private monetary benefits are equally divided between the nonmonetary private and public benefits, we add $200 to the annual recipient benefit estimate of $400 (above) for a total annual recipient benefit of $600, and assign $200 as annual nonrecipient benefits.

Another potential benefit from housing voucher receipt is the changed behavior of children living in recipient families, in particular, a reduction in drug use and illegal activities. A substantial literature has studied the effects of housing support on youth problem behavior and crime-related activities. Much of this literature relies on MtO evidence from Katz et al. (2001) and Leventhal and Brooks-Gunn (2000). Katz et al conclude that Section 8 groups in MtO-Boston have values on a criminal offense index that are about one-third smaller than the control group. Leventhal and Brooks-Gunn show no effect in MtO-New York on overall delinquency. They cite Ludwig et al (2001b), who conclude that MtO-Baltimore youths in the Section 8 group have a number of violent arrests that is from one-fourth to one-half smaller than youths in the control group; however, the number of property arrest crimes for Section 8 youths is about double that of the control group.

Johnson et al (2002) draw on MtO-Baltimore data (from Ludwig et al. 2001b) and costs per crime estimates (from Cohen 1998) to suggest that the present value of the benefit from reduced violent criminal offending and problem behavior (comparing experimental to control families) ranges from about $5300 to $7600 per family.
(depending on the experimental group).\textsuperscript{31} Using the lower of these two estimates, we calculate that the annual value of this societal benefit is \$621 per recipient family with children. When averaged over all Section 8 families in Wisconsin, the value is \$397. We assume that this benefit is equally divided between voucher recipients and other citizens.

\textbf{E. Tax-related Costs of Increased Voucher Recipient Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care (Item 6. in Table 2)}

As we describe in section C. (above) the annual total taxpayer funds required to pay for benefits from these programs that are attributable to these programs is \$897 per case.\textsuperscript{32} Using the .2 parameter estimate described above (see Section III. A.), we estimate the welfare cost of financing the other benefit programs related to the receipt of a housing subsidy to be \$197, yielding a total per-case tax-related cost of these expenditures of \$1,076.

\textbf{F. Welfare Effects from Labor Market Responses of Voucher Recipients (Item 7. in Table 2)}

In our analysis of the impacts of the Section 8 program (see Carlson et al, 2009), we have estimated the labor market response in the form of employment and earnings changes that result from voucher receipt. At least in the year after voucher receipt, voucher receipt results in a decrease in both employment and earnings. The estimated decrease in earnings reflects the sum of the \textit{income effect} (as the 'income' of recipients rises due to the value of the voucher, more leisure time may be chosen) and the

\textsuperscript{31}Johnson et al (2002) also discuss changes in parenting behavior attributable to housing subsidies, drawing on Leventhal and Brooks-Gunn’s (2000) paper. They tentatively note that section 8 parents are more involved in school-related events than are the control group parents.

\textsuperscript{32}This includes the costs of W-2 ($147), Food Stamps ($44), Medicaid/BadgerCare ($294), and child care ($412).
substitution effect (as the price of leisure falls because of the benefit reduction rate implicit in the structure of the program, recipients choose more of it).

The income effect of voucher receipt entails no change in social welfare for either voucher recipients or other citizens; hence, there is no aggregate effect on social welfare. The substitution effect does reflect a distortion-induced change in labor supply; this program-induced distortion carries with it a 'deadweight', or social welfare, loss. In Appendix I of the paper, we present the theoretical underpinnings for our estimate of the welfare effects associated with this substitution effect. Here we summarize the empirical estimates shown in the Appendix.

As Appendix I describes, we conclude that the social loss varies between $50 per case per year and $290 per case per year, depending on the elasticity of demand that we assume. This loss ranges from about 0.7 to 4.0 percent of total earnings, or from about 5 to 30 percent of the change in earnings attributable to the program.

IV. OTHER POTENTIAL WELFARE EFFECTS OF THE SECTION 8 PROGRAM

While Tables 1 and 2 incorporate the most obvious and direct effects of the Section 8 program, other potential impacts also exist. Here we list some of these, without suggesting either a quantitative effect or a monetized welfare value.

A. Health Effects

33 Consider, first, recipients of the voucher. From a voucher recipient's point of view, the total increase in leisure (nonwork) time attributable to the income effect is worth at least as much as the loss of earnings; the recipient voluntarily chooses the increase in leisure (reflected in decreased earnings). So, for that part of the change in earnings attributable to the income effect, the value of the leisure time is at least as great as the loss of earnings. For citizens who do not receive a voucher, there is also no welfare change due to the reduction in labor supply (earnings) of program participants due to the income effect. At the margin, nonrecipients lose the value of the lost output attributable to reduced recipient work effort (reflected in decreased recipient earnings). However, this loss is compensated by the increased value of the other items in the consumption bundle to which the income not spent on these forgone goods and services is allocated.
Many social interventions are credited with improving the health status of benefit recipients; the Section 8 program is no exception. Johnson et al (2002) mentions the possible effects of the program on ‘health outcomes’, citing Leventhal and Brooks-Gunn (2002) and Katz et al. (2001), who find improved health outcomes for experimental group members of the MtO New York and Boston sites relative to those in the control group, using widely used assessments of physical and mental health.

B. Community Effects

A number of scholars, including Johnson et al (2002) and Susin (2002, 2005), note possible ‘externalities’ in the form community effects from the Section 8 program, distinguishing destination from origin communities.34 The view is that the departure of Section 8 families may well leave the origin communities worse off (assuming that the departing families have better behavioral characteristics than average) and the destination communities worse off (for similar reasons). While Johnson et al cite a number of studies, especially Galster et al (1999), which rely on property value changes associated with proximity to units rented by MtO participants, these studies indicate no negative effect for white affluent areas, but a negative effect for ‘vulnerable’ neighborhoods, both

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34 On these external effects of housing subsidy programs, Deng (2005, page 475) notes: “Government housing subsidy programs, whether supply or demand based, are by their very nature interventions in the private housing market. Thus the market responses to these interventions can generate some second-round costs or benefits. Apgar (1990), for example, argues that depending on households’ consumption decisions and developers’ production decisions, demand-side subsidy programs may push up market rent and hurt unassisted low-income households.” … “The magnitude of these demand effects has been examined in EHAP studies, which conclude that a demand-based housing allowance program generates only a small increase in demand and thus a limited increase in prices. Nevertheless, some scholars argue that EHAP’s limited duration may have understated consumers’ responsiveness to a permanent program (Bradbury and Downs 1981). In comparing data from the Freestanding Voucher Demonstration Program in 1986 with data from the EHAP, Apgar (1990) finds that the 1986 program achieved a higher participation rate and induced a greater increase in housing expenditures.” On page 276, Deng (2005) states: “With an inelastic supply of low-income housing, the price effects triggered by the voucher program would not be negligible.”
in terms of property values and attitudes. They fail to reach any confident estimate of these potential social costs.\textsuperscript{35}

V. CONCLUSION

In this study, we have estimated the social benefits and costs associated with the Section 8 housing voucher program, distinguishing effects accruing to two stakeholder groups—voucher recipients and other citizens. We have relied on estimates of the impacts of voucher recipients on a large number of outcomes, including recipient earnings, social benefit receipt, and recipient children’s attainments. Many of these impact estimates are from our own study of recipients of Section 8 vouchers in Wisconsin, compared to a propensity score established comparison group (Carlson et al, 2009). Others are based on more indirect evidence taken from other studies.

We have developed monetary measures of these effects, relying on the efficiency standard of welfare economics involving willingness to pay and opportunity cost concepts. This efficiency standard requires that the welfare impacts of an intervention that are not directly measured by market values also be accounted for. Hence, the reliance on the ‘economic surplus’ concept in our estimates. While our estimates are the

\textsuperscript{35}Susin (2002) concludes that the introduction of the voucher program has increased rents for low-income households in the 90 largest metropolitan areas by an average of 16 per cent. Considered as a transfer program, the result implies that voucher have caused low-income families to pay $8.2 billion more in rents while providing a subsidy of $5.6 billion. For the purpose of our benefit-cost analysis, we treat these increased rental costs as fully offset by the increased rents received by property owners. Hence, we do not include them in Table 2. Susin reaches his conclusion through a multi-step process. He first used individual-level data from the American Housing Survey to estimate the price of low-, middle-, and high-income housing in each of the 90 largest metropolitan areas. He does this by specifying a model that regressed (log) rent on a vector of dwelling characteristics and a set of dummy variables for each metropolitan area. The coefficients of the dummy variables gave him the price of low-income housing in each metropolitan area. He then took those prices and regressed them on population, population growth, median income, and the number of vouchers per household in poverty. All estimations were done using first-differences. Aside from Susin’s study, there is little evidence on effects in origin communities. In a contrary perspective, Ludwig notes that Freeman and Botein (2002) find that subsidized housing improves surrounding property values.
most comprehensive welfare impacts available, there are impacts that we have not taken into account, as we have noted.

Our estimates indicate that the Section 8 program meets the efficiency standard of positive net benefits. For society as a whole, total benefits (measured in annual, per recipient case units) range from about $7500 to $9,400, while total costs are about $7,000; net benefits range from about $500 to $2,500 per recipient case per year. The social benefit cost ratio ranges from 1.06 to 1.37. The bulk of the benefits are experienced by voucher recipients, while other members of society bear the bulk of the costs. We conclude that the program meets the efficiency standard of welfare economics.

And, although we do not measure it, given the characteristics of the recipients of vouchers, the program also has pro-poor distributional effects.

Of necessity this analysis has used a variety of sources for our estimates and it is possible that our estimates double count certain benefits and underestimate others. Clearly we have also left out other benefits and costs such as those to the immediate community to which voucher recipients move and from the community they left. These may include changes in the demand for housing and hence changes in rental prices, changes in the psychological well-being of existing residents if they believe the socio-economic composition of their community is declining, some decrease in availability of certain services such as medical care and childcare due to the increase in demand for these services from voucher recipients. Alternatively we may have also omitted the benefit of the prevention of a decline to the value of housing as demand is reinforced though the voucher program, the attraction of childcare providers to the community with effective demand for services as well as other services.
Finally, we note again that this is a benefit cost analysis for an annual period. The earnings are based on the first year of receipt while the additional benefits are annual values but calculated over a longer period.
Appendix I

Welfare Effects Due to Substitution Effect on Labor Supply

To understand this welfare impact, consider a market demand curve for units of labor of the sort supplied by a Section 8 recipient. Given the (income compensated) supply curve of labor, an equilibrium wage rate is observed. Because of the incentives in the program, the recipient faces a lower effective wage rate than the market wage rate; the value of the voucher is reduced as work and earnings increase, and this reduced voucher value is equivalent to a reduction in the market wage rate. Because of the perceived lower wage rate, voucher recipients will supply fewer units of work.

The area under the supply curve from the without-program level of work hours to the with-program level equals the gain in leisure from the decrease in work. It is equal to the change in work time times the wage rates at which leisure is valued. The area under the demand curve, however, reflects the change in the value of the output that would have been produced. It is equal to the change in work hours times the marginal output from the work change valued at the prices at which that output is valued. The relevant area under the demand curve exceeds that below the supply curve. This area is known as the deadweight loss triangle. It is this deadweight loss, then, that equals the social loss attributable to the program-induced distortion.

The value of this loss clearly depends on the elasticity of demand, the elasticity of compensated supply, and on the resulting change in the effective wage rate because of the program.

In the following analysis, we present estimates of the value of this loss making use of elasticity estimates that bound the reasonable range of values in the literature. Our
loss estimates are for the initial year after receipt of the voucher. A more complete analysis would take account of earnings effects that extend beyond the first year after the receipt of a benefit. In presenting these estimates, we make the following assumptions:

1.) Wage rate in the year prior to receipt $Y(p)$ is the same as the wage rate in the year of receipt $Y(r)$.

2.) Estimates are only for the difference between year prior to receipt and year of receipt.

3.) There is an equilibrium when the case works 1035 hours per year at a wage rate of $7/hr. (The $7/hr. estimate is assumed; we derived the number of hours from the average earnings of control group case in year of receipt.)

Estimates from Empirical Findings on Earnings Effects

Figure 1 illustrates the measure of the labor market related welfare losses attributable to the Section 8 program, when we rely on our estimate of earnings changes attributable to the program.

**Deadweight Loss Estimates Based on Empirical Findings for Earnings (14.2% decline in earnings- calculated as “treatment effect” divided by mean earnings of control group cases in year of receipt)**

![Diagram of wage rate and hours worked](image-url)
The following matrix provides estimates of the social welfare loss when the supply and demand curves are assumed to have elasticities of 0.5, 1, and 3. The change in price (noted by the question marks in the graph above) was determined by solving the following equation:

\[(\text{Change in quantity}/\text{change in price}) \times (\text{price}/\text{quantity}) = E\]

In the above equation, the change in quantity is 146, the change in price is unknown, and the original price and quantity supplied are 7 and 1035, respectively. The elasticity (E) is either 0.5, 1, or 3. Solving the equation provides us with the change in price, which can then be used to estimate the social welfare loss. For reference, the change in price for each elasticity is as follows:

- When E=0.5, the change in price is 1.975
- When E=1, the change in price is 0.987
- When E=3, the change in price is 0.329

These figures were used to calculate the social welfare loss estimates from the area of the DWL triangle; they are presented in the matrix below.

**Estimated dollar value of social welfare loss**

<table>
<thead>
<tr>
<th></th>
<th>Elasticity of Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Elasticity of Supply</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

36 This range of values was obtained from Gruber and Saez (2002).
Estimated social welfare loss as a percent of mean control group case head earnings (top number in each cell) and as a percentage of the treatment effect in the year of receipt (bottom number in each cell)

<table>
<thead>
<tr>
<th>Elasticity of Supply</th>
<th>Elasticity of Demand</th>
<th>0.5</th>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>3.98%</td>
<td>2.98%</td>
<td>2.32%</td>
<td>28.13%</td>
</tr>
<tr>
<td>1</td>
<td>2.98%</td>
<td>1.99%</td>
<td>1.33%</td>
<td>21.10%</td>
</tr>
<tr>
<td>3</td>
<td>2.32%</td>
<td>1.33%</td>
<td>0.66%</td>
<td>16.41%</td>
</tr>
</tbody>
</table>

Using this basis for estimating the labor market related welfare effects of benefit receipt, we conclude that the social loss varies between $50 per case per year and $290 per case per year, depending on the assumed elasticity of demand. This loss is about 0.7 – 4.0 percent of total earnings or from about 5 – 30 percent of the change in earnings attributable to the program.

If the elasticities of supply and demand are both equal to unity, this loss is shared equally by the worker (voucher recipient) and by the rest of society. We reflect this assumption in the entries in Figure 2.
References


Table 1: ANNUAL PER CASE BENEFITS AND COSTS OF THE SECTION 8 VOUCHER PROGRAM

<table>
<thead>
<tr>
<th>PROGRAM BENEFITS</th>
<th>Participants</th>
<th>Non-Participants (incl. Gov’t)</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Value of Section 8 Voucher to Recipients</td>
<td>✓</td>
<td>0</td>
<td>✓</td>
</tr>
<tr>
<td>2. Recipient Consumer Surplus from Improved Housing Quality and Neighborhood Environment</td>
<td>✓</td>
<td>0</td>
<td>✓</td>
</tr>
<tr>
<td>3. Value to Recipients of Increased Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care Services</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4. Benefits of Increased Child Achievement and Years of Schooling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TOTAL BENEFITS OF THE PROGRAM</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROGRAM COSTS</th>
<th>Participants</th>
<th>Non-Participants (incl. Gov’t)</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Tax-related (Financial and Excess Burden) Costs of Voucher Provision</td>
<td>0</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6. Tax-related Costs of Increased Voucher Recipient Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care</td>
<td>0</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7. Welfare Effects from Labor Market Responses of Voucher Recipients</td>
<td>✓</td>
<td>0</td>
<td>✓</td>
</tr>
<tr>
<td>TOTAL COSTS OF THE PROGRAM</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NET GAINS FROM THE PROGRAM (BENEFITS MINUS COSTS)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Note: ✓ indicates the presence of effects (not necessarily positive values); 0 indicates no effect.*
Table 2: FIRST YEAR PER CASE BENEFITS AND COSTS OF THE SECTION 8 VOUCHER PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Participants</th>
<th>Non-Participants (incl. Gov’t)</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROGRAM BENEFITS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Value of Section 8 Voucher to Recipients</td>
<td>$4,264</td>
<td>0</td>
<td>$4,264</td>
</tr>
<tr>
<td>2. Recipient Consumer Surplus from Improved Housing Quality and Neighborhood Environment</td>
<td>$853-$2132</td>
<td>0</td>
<td>$853-$2132</td>
</tr>
<tr>
<td>3. Value to Recipients of Increased Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care Services</td>
<td>$973-$1566*</td>
<td>$200</td>
<td>$1173-$1766**</td>
</tr>
<tr>
<td>4. Benefits of Increased Child Achievement (Years of Schooling and Reduced Criminal Behavior)</td>
<td>$600 + $199 = $799</td>
<td>$200 + $199 = $399</td>
<td>$800 + $398 = $1198</td>
</tr>
<tr>
<td><strong>TOTAL BENEFITS OF THE PROGRAM</strong></td>
<td>$6889-$8761</td>
<td>$599</td>
<td>$7488-$9360</td>
</tr>
</tbody>
</table>

| **PROGRAM COSTS** |              |                                |               |
| 5. Tax-related (Financial and Excess Burden) Costs of Voucher Provision | 0          | $5686 (= $4,738 + $948)        | $5686 (= $4,738 + $948) |
| 6. Tax-related Costs of Increased Voucher Recipient Public Program Benefits (welfare, EITC, food stamps, public health care) and Child Care Services | 0          | $1076 (= $897 + $179)          | $1076 (= $897 + $179) |
| 7. Welfare Effects from Labor Market Responses of Voucher Recipients | $50-$290   |                                | $50-$290      |
| **TOTAL COSTS OF THE PROGRAM**          | $50-$290    | $6762                          | $6812-$7052   |

<table>
<thead>
<tr>
<th><strong>NET GAINS FROM THE PROGRAM (BENEFITS MINUS COSTS)</strong></th>
<th>Participants</th>
<th>Non-Participants (incl. Gov’t)</th>
<th>Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6599-$8711</td>
<td>-$6163</td>
<td></td>
<td>$436-$2548</td>
</tr>
</tbody>
</table>

Note: 0 indicates no effect.

*This is the sum of W-2, Food Stamps, Medicaid/BadgerCare, and Child Care benefits.

**This is the sum of W-2, Food Stamps, Medicaid/BadgerCare, and Child Care benefits, plus $200 of assigned public goods benefits.