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Effective Tax Rates and the Living Wage

by Aaron S. Yelowitz, University of Kentucky and National Bureau of Economic Research
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Executive Summary

Over the past decade, more than 110 ordinances have been passed mandating "living wages" for employees in businesses contracting with a locality and/or receiving financial assistance through tax breaks or economic development grants. The wage rates set by these ordinances often exceed the federal minimum wage by 150–200 percent. These original laws—which applied to very few businesses—had a limited effect on the overall economy of a city. Over the past year, however, these initial ordinances have been used as the basis for expanded citywide living wage ordinances.

The first of these expanded city wide living wage ordinances to pass was in Santa Fe, New Mexico, where an $8.50 minimum wage went into effect (after a court challenge) in June 2004. This initial level will increase to $10.50 an hour by 2008 and will thereafter be indexed to inflation. In November 2003, voters in San Francisco passed an $8.50 minimum wage for city businesses, and the Madison, Wisconsin, city council passed a $7.75 minimum wage in that city soon after. While the "success" of living wage ordinances is often cited in support of citywide wage floors, there have been few rigorous studies analyzing the effect of these living wages on either the total income or living standards of low-income families.

In this study, Dr. Aaron Yelowitz of the University of Kentucky and Dr. Richard Toikka of the Lewin Group utilized Survey of Income and Program Participation (SIPP) data to analyze the effect of living wage ordinances on earnings, income, and government assistance. In order to more fully analyze changes in the standard of living for low-income families, this study examines total income and not simply earnings. If living wage ordinances were to increase earnings but do so only at the expense of other forms of income, the policy would only change the composition of income and not increase the quality of life for low-income families—the stated purpose of these ordinances. Quantifying the ordinances' benefits is critical because increasing the wage floor leads to disemployment as businesses either decrease their labor force, shift to more efficient employees, or leave the jurisdiction entirely. It would take a significant benefit to justify this cost.

Previous work on this topic (Toikka, Yelowitz, and Neveu, 2003) found that low-income families face exceptionally high marginal tax rates and—as a result—living wage ordinances appeared to be badly targeted and ineffective at raising comprehensive disposable income. This study extends that earlier work by estimating the actual responses of households to living wage mandates by utilizing the 1996 SIPP data set.[1]

As mentioned above, previous work analyzing the effectiveness of living wage ordinances examined only *cash* income. For example, Neumark and Adams (2002) found a modest decrease in poverty rates utilizing data from the Current Population Survey Annual Demographic Files measure of cash income, which excludes in-kind benefits such as food stamps and subsidies such as Earned Income Tax Credit (EITC) payments. Failing to account for these income sources can dramatically distort the effect of a policy on the actual standard of living for a family. For example, a family with two children can qualify for more than $4,000 in tax-free cash assistance as a result of the EITC (and earn even more in states with supplemental state-run EITC programs). A benefit of this size would clearly affect the quality of life of low-income families.

As earnings increase, recipients can see the benefits from these programs decrease dramati-

cally. For example, the marginal tax rate in the "phase-out range" for the EITC can reach as high as 21.06 percent and the tax rates for food stamps are generally 30 percent. Failing to include the loss of these benefits when evaluating the benefit of living wage ordinances can dramatically inflate the perceived effectiveness.

Examining the effect of living wage ordinances, the authors found that the ordinances decreased cash transfer assistance. Specifically, the authors found that the enactment of a living wage ordinance decreased assistance by $34 per month. In addition, the authors found that the increase in earnings resulting from the ordinance was only $16 per month. This means that for every dollar in increased earnings from a living wage ordinance, families can expect to lose up to $2.12 in cash assistance—greatly limiting the ability of the policy to help low-income families. Controlling for factors such as the business cycle, state minimum wage levels, and welfare reform, the authors found that the enactment of a living wage increased total family income by only $55 per month. Due to lost benefits, 38 percent of this increase in income is crowded out. If the effect of important programs like food stamps is factored in, this tax rate would likely be higher.

Overall, the authors have found that living wage ordinances do little to actually increase the standard of living for low-income families. The $55-a-month increase in total family earnings represents a less than 2 percent increase for the average family. In terms of an increase in earnings, the $16-per-month increase represents an increase of approximately one-half of one percent. The authors state, "a reasonable reading of our results is that the living wage has a limited capability in improving the economic status of the poor." This limited capability is important because decades of studies clearly show that mandated wage floors create disemployment effects—particularly for the low-skilled employees these laws are intended to help. Pushing the intended beneficiaries out of a job while providing minimal benefits to remaining employees makes living wage ordinances an ineffective anti-poverty policy.

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1. The 1996 SIPP tracks approximately 40,000 households from 1995–2000.

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Introduction

Over the past decade, more than 110 "living wage" laws have been passed by various localities, laws that often raise the wage rate 150–200 percent above the federal minimum wage for some portion of the population.[1] The extent to which these laws improve the well-being of the affected households depends critically on a number of factors, which are difficult to fully assess. It is generally acknowledged, even by advocates of living wage laws, that workers may be displaced either through employers leaving the jurisdiction or hiring less-expensive labor. It has also been well documented that low-income families intended as the beneficiaries of living wage laws face high effective marginal tax rates because of a combination of payroll taxes and reductions in public subsidies or cash or in-kind government assistance. These high tax and benefit reduction rates may steal away a significant part of the increased earnings resulting from living wage laws.

Although the theoretical effects of the laws are reasonably well understood, research on the empirical magnitude of the expected effects has been slow in coming for several reasons. First, living wage laws have been in effect only since about 1996 and most were not enacted until after that date. Second, experimental and quasi-experimental evaluation designs have been difficult to execute because of a lack of relevant data. Surveys have not been conducted of the impacted workers and similarly situated unaffected workers in comparison groups and administrative records to perform such comparisons do not exist. Local governments lack the resources to invest in such evaluations, and the federal government and private foundations have not taken up the research challenge. Lacking the data to evaluate the impacts of particular living wage laws, the research has tended to concentrate on inferring what effects are likely based on prior empirical research on related policies. An example is the use of estimated labor-demand relationships from minimum wage studies to infer what employment displacements might occur with the higher wage mandates of living wage laws. Another example is analysis of the tax rates facing potentially eligible workers to infer how much of the living wage's effects might be drained away in taxes and lost benefits.[2] See, for example., Toikka, Yelowitz, and Neveu, 2003 (hereinafter TYN, 2003). Other researchers have attempted to estimate the effects of living wage laws on employment and earnings by using national data for communities with and without living wage laws. See, for example., Neumark, 2002 and Adams and Neumark, 2003.

In earlier work (TYN, 2003), we estimated how high marginal tax rates affect the ability of living wage laws to increase the disposable income of low-income families. TYN looked at tax and benefit programs in seven cities (Baltimore, Boston, Chicago, Detroit, Los Angeles, New York, and San Francisco) for several "representative families," estimated the program participation patterns among low-wage workers in those cities, and linked the programs to estimated marginal tax rates over the relevant wage ranges. Based on those calculations, we found that the living wage appeared to be badly targeted and ineffective at raising comprehensive disposable income.

This study extends the work of TYN (2003) by estimating the actual responses of households to living wage mandates. It uses the 1996 Survey of Income and Program Participation (SIPP), which tracks approximately 40,000 households nationally from 1995–2000, to assess the actual effectiveness of the living wage on household well-being. Because the SIPP is a panel data set, we are able to control for fixed, unobserved heterogeneity across people (such as skill or motivation) that may confound the effect of the living wage. Although the statutory tax rates are certainly high, the "effective" tax rates may be lower for two main reasons. First, many households fail to take up benefits for which they are eligible, perhaps because of "welfare stigma" or time limits. Second, welfare eligibility, benefits, and taxes are usually determined monthly, while federal and state income taxes (or subsidies) are determined annually. If households bunch their work into several months of the year, and bunch their welfare participation into other parts of the year, the effective tax rates are potentially much smaller than the statutory tax rates.

This study examines the patterns of total family income, earnings, and cash transfers for more than 1,700 households who are most likely to benefit from the increased wages. It compares "at-risk" families in 12 metropolitan areas that implemented living wage laws prior to 1999 with "at-risk" families in 80 other metropolitan areas. The "difference-in-differences" estimator suggests that after controlling for other confounding factors, the living wage laws did not significantly increase family earnings or total income. The living wage laws were associated with a significant decrease in cash transfers for the families, and this result appears to be robust across a variety of specifications. The coefficient estimates suggest that for every $1.00 of increased earnings induced by the living wage laws, cash transfers fell by between $0.48 and $2.12.

The remainder of the paper is arranged into four sections. Section II compares our methodology with that of other studies, notably Neumark and Adams (2000) and Adams and Neumark (2003). Section III discusses living wage mandates and their interaction with the tax-and-transfer system. Section IV describes the SIPP data. Section V presents the identification strategy and the panel data estimates of the living wage effect. Section VI concludes with additional directions for research.

II. Methodological Considerations

The first researcher to explore the use of a national survey to investigate the empirical consequences of local living wage laws was David Neumark. In a series of working papers and monographs, he and his collaborator, Scott Adams, specified and implemented a regression-based strategy to estimate the impact of living wage laws on a series of indicators, including wages, income, employment, and poverty. The data used in these analyses were drawn from the outgoing rotation groups from the monthly Current Population Survey (CPS) (for employment and wages) and the CPS Annual Demographic Files (ADF) (for income and poverty). The approach is creative and avoids the problem presented by the lack of specific community-based data on covered individuals and comparison group individuals. Its principal weakness is that the CPS does not measure whether an individual or household is covered by a living wage law. In the absence of a specific measurement, the authors use low-wage status and city of residence to proxy for coverage and non-coverage. In other words, low-wage individuals residing in communities with living wage ordinances are compared with individuals residing in communities that do not have such ordinances. Because the living wage usually covers only a small fraction of low-wage workers, the authors expected it would be difficult, based on their methodology, to estimate statistically significant results. However, they and

others in the research community were rather stunned to find results that were not only statistically significant but were much larger than expected. For example, Neumark (2002) reported that "a 50 percent increase in the living wage (above the minimum wage) would, over the course of a year, raise average wages for workers in the bottom tenth of the wage distribution by 3.5 percent, and reduce their employment rate by 7 percent or 2.8 percentage points." This is larger than expected because the living wage coverage rate among workers in the bottom tenth of the wage distribution is thought to be low—in the 2.5 percent range.[3] One explanation Neumark suggests is that the coverage rates for certain types of living wage laws that apply to businesses receiving financial assistance from local governments may be much higher than previously thought. If these estimates are to be believed, the implied wage elasticity of demand for low-wage labor would be close to 2.0, a much higher estimate than the 0.5 economists generally have found.[4]

Neumark (2002) also reported that a 50 percent increase in the living wage would reduce measured poverty (cash income basis) by 1.8 percentage points. This result is based on household income data from the ADF that includes earnings as well as cash assistance from government programs, but not in-kind transfers such as food stamps, or subsidies such as the Earned Cincome Tax Credit (EITC).[5] Neumark's analysis compares the likelihood that a family's income is above the official poverty line in living wage jurisdictions with the same likelihood in non–living wage jurisdictions. His research indirectly takes account of a number of living wage effects on the poverty rate, including positive and negative effects on earnings (i.e., a higher wage but possibly less employment and fewer hours) and receipt of government cash transfers. However, it does not estimate displacement effects or the effect of living wage laws on family incomes generally or on the receipt of particular forms of government assistance.

Neumark's 2002 analysis raised a number of questions regarding whether his reported living wage effects on wages and employment were reasonable, whether the implied labor demand elasticity made sense, and whether the large reported employment losses were consistent with his reported moderate poverty reductions. In responding to these questions, Adams and Neumark (2003) update Neumark's analysis. For the precise analysis reported in Neumark (2002), the updated results are qualitatively similar but imply slightly more moderate estimates of the effects on wages, employment, and poverty.[6] They also find stronger evidence that the living wage effects are concentrated in those jurisdictions that have adopted laws with broader coverage (e.g., businesses receiving government financial assistance). In addition, Adams and Neumark report new analysis of the effects of living wages on incomes below and above the poverty line. Their conclusions from the broader poverty analysis are that living wages do not affect the depth of poverty among families that remain poor and do not affect the likelihood of families being below one-quarter or one-half of the poverty line. They also report positive effects of living wage laws in moving families above three-quarters and one and one-half of the poverty line.

One possibility that the authors do not expressly analyze is that the lack of positive effects for those below one-half of the poverty threshold is such that families are likely to be receiving cash public assistance. The consequent loss of such assistance accompanying higher earnings could largely blunt any increase in family income. In the following sec-

tions, we report our analysis of how much is lost in cash governmental transfers as a result of living wage laws.

III. Living Wage Mandates and the Tax-and-Transfer System

Although the living wage should increase wage rates at the bottom of the income distribution, this may not necessarily translate into an increased standard of living for families. First, the living wage could cause unemployment, which lowers living standards. For example, Neumark and Adams (2000) find weak negative effects on hours of work, but strong negative employment effects. Whether the negative employment effects have a larger impact on average living standards than higher wages for those who remained employed is an empirical question. Moreover, employment losses may be disproportionately concentrated in groups such as teenagers rather than in adults. If this is true, then the negative effects on living standards for families are mitigated. On the other hand, if the opposite is true, then the negative effects would be exacerbated.

Second, the tax rates facing single-parent families at the bottom of the income distribution are especially punitive. Single-parent families (predominantly female-headed households) have the potential to collect income through the Earned Income Tax Credit (EITC), from cash welfare through Aid to Families with Dependent Children/Temporary Assistance to Needy Families, health insurance through Medicaid, housing assistance through public housing projects or Section 8 vouchers, and food assistance through food stamps. The cumulative tax rates in these programs are around 100 percent for much of the relevant income distribution for families affected by living wages. Appendix Table 2, taken from Yelowitz (2001), shows the incentives for a mother with two children in Philadelphia, Pennsylvania, in 1996.[7]

At zero earnings, a family collects more than $7,700 from cash welfare and food stamps, approximately $3,300 in Medicaid benefits, and another $8,000 from housing assistance, for a total of more than $19,000. As earnings increase, total income rises very slowly—at earnings of $10,000 (approximately the annual earnings for a full-time / full-year worker making minimum wage), total income is actually lower than at zero earnings. If a "living wage" of $11 per hour were enacted, this family's earnings would be around $22,000 per year, but total income would still be lower than at zero earnings, and only slightly higher than at earnings of $10,000.

Appendix Table 2 shows that over much of the income distribution between earnings of $0 and $30,000, both marginal and average tax rates are extremely high for female heads of household. With full program participation, the *average* tax rate for female heads of households is 98 percent, and the marginal rate at times exceeds 100 percent. Although the tax rates for married couples are substantially lower (because they are generally ineligible for cash welfare), married couples do qualify for the EITC, food stamps, and Medicaid.[8]

Tax rates for the EITC in the "phase-out range" reach as high as 21.06 percent, and tax rates for food stamps are generally 30 percent after disregards.[9] These taxes, along with payroll deductions for Social Security and Medicare, suggest that the cumulative effects of the living wage for married couples may be smaller than for female heads of household, but could still be important. A single, childless individual would face much lower tax rates than either of these cases. A single individual would lose EITC eligibility very quickly, face more stringent requirements for the food stamp program, and likely be ineligible for Medicaid. Thus, the pertinent tax rates for such an individual would be the cumulative federal, state, and payroll tax rates. For childless individuals

who are affected by the living wage, the statutory marginal tax rate is likely in the range of 20 percent.

One final issue to note about Appendix Table 2 is that the tax and transfer system within the United States gives several benefits *in-kind*—namely food stamps, Medicaid, and housing assistance. Because these in-kind benefits are valuable, they should be included in a family's living standard.[10] The poverty rate in the United States is computed including only *cash* income. This is potentially problematic in assessing the impact of the living wage, since the main effect of moving from $0 to $10,000 to $22,000 is to change the *composition* of total income, rather than the *level* of total income. This suggests that "official" poverty rates may fall when a living wage is enacted, even if a family's standard of living has not improved. At $0 of earnings, about 26 percent of the family's total income is in the form of cash. At $10,000, about 54 percent is cash income. And at $22,000, about 83 percent is cash income. Because the poverty line in 1996 for a family of three was $12,600, then this family would be classified as living in poverty with either zero wages or the minimum wage, but would apparently move out of poverty with the living wage. Yet their total incomes are very similar at these different earnings points.[11]

IV. Data Description

The Survey of Income and Program Participation (SIPP) can shed light on living wage and marginal tax rate issues. The SIPP collects the source and amount of income, labor force information, program participation and eligibility data, and general demographic characteristics to measure the effectiveness of existing federal, state, and local programs. It samples the U.S. civilian noninstitutionalized population. SIPP content is built around a "core" of labor force, program participation, and income questions designed to measure the economic situation of persons in the United States. The 1996 panel consisted of more than 40,000 households who were interviewed 12 times between 1996 and 2000.

From the 1996 panel, all "person-months" were obtained from all 12 waves. We then applied a number of screens. Appendix Table 1 shows the successive deletions. First, person-months from years other than 1996 and 1999 were deleted. The 1996 data were used to form a baseline "at-risk" group based on wages and welfare participation in that year (described later), while the 1999 data were used to assess the impact of living wage ordinances that were passed before 1999. Second, we kept households that were in a uniquely identified Metropolitan Statistical Area (MSA) (and did not move out of that MSA at any point during the panel).[12] It is likely that screening of non-movers leads to a positively selected sample of more households who may have more earnings stability. If it were the case that households who were adversely affected by living wage ordinances moved to a different labor market outside the MSA, then our estimates of the (insignificant) earnings gains are likely to be overstated. Third, we kept households who had a head aged 15 to 64 (inclusive). Removing elderly household heads reduces the number of households in the sample by nearly one-half, to 9,693 households.[13] Fourth, we excluded households that were not observed in both 1996 and 1999, because our empirical methods rely on panel-data estimators. In addition, we excluded households with data inconsistencies for the head of household (e.g., gender, race/ethnicity, education, or disability changing over the four-year period).[14] Finally, when we screen for households that are most likely affected by such ordinances, our "at-risk" sample consists of 1,749 households.

V. Identification Strategy and Estimates

The Survey of Income and Program Participation (SIPP) data are used to create a

group that presumably should be "at-risk" of being affected by living wage ordinances. We define this group as having either observably low wage rates in 1996 or public assistance in 1996. To assign an hourly wage rate for the 1996 calendar year, we added up the number of hours the person usually worked each week (for a first and second job) and multiplied usual hours of work by the number of weeks worked at that job, to come up with a monthly measure of hours worked. We then added this up across all months in the 1996 calendar year. Similarly, we added up monthly earnings to get annual earnings, and then divided that total by annual hours to arrive at a wage rate. The average nominal hourly wage rate in 1996 (among workers) for household heads was $12.28, and was $11.31 for working spouses.

TYN, 2003 conduct their simulations with a living wage of $8.83 an hour in 1999—the median wage rate for localities that had a living wage ordinance in 1999. Deflating this to constant 1996 dollars gives an hourly wage rate of $8.32. A household is classified as "at-risk" if either the head or spouse had a wage rate under $8.32 per hour in 1996 (and had a positive wage rate).

In addition, it is likely that those who collect public assistance also would have sufficiently low wages to be affected by living wage ordinances. Thus, we also include households in this "at-risk" group if they participated in Aid to Families with Dependant Children (AFDC), food stamps, or public housing in 1996. Approximately 9 percent of households in the "at-risk" sample participated in AFDC, 20 percent participated in food stamps, and 10 percent received housing assistance.

Table 1 shows the MSAs identified in the SIPP that had implemented living wage laws prior to 1999. In general, these are very large metropolitan areas that tend to have high a cost of living. The ordinances that were passed during this period did not have broad coverage; rather they were usually limited to businesses that contracted with the city. Many of these localities passed more than one ordinance. All of these localities either passed a new living wage ordinance or updated the wage levels during the 1996–1998 period. Of the 21 ordinances passed in the 12 metropolitan areas, 7 were passed in 1996 (or before), 6 were passed in 1997, and 8 were passed in 1998.

The variation in living wage ordinances across space and over time leads to a standard "difference-in-differences" type of estimator: comparing the trends in earnings (or total income or transfers) for "at-risk" families in MSAs that passed a living wage ordinance with those that did not. That is, we define a dummy variable equal to 1 if a household lived in one

$$OUTCOME_{imt} = \alpha_i + \beta_1 X_{imt} + \beta_2 LW_m IMP_t + \beta_3 LW_m + \beta_4 IMP_t + \beta_5 POLICY_{mt} + u_{imt}$$

of these 12 MSAs and other for the year 1999 (after the ordinance had taken effect). We estimate the models using panel data methods and using models with both random effects and fixed effects. The empirical specification can be written as:

In the fixed-effects specification, $OUTCOME_{imt}$ is the outcome of interest (either monthly total family income, earnings, or transfers), α_i is a household fixed effect, X_{imt} are household time-varying characteristics (such as changes in family structure), LW_m is a dummy variable equal to one if the household lives in one of the 12 living wage MSAs in Table 1, IMP_t is a dummy variable equal to 1 for the 1999 calendar year, $POLICY_{mt}$ are other economic factors (such as the business cycle, minimum wage, or welfare reform) that vary across metro areas and over time, and u_{imt} is the error term.

In this case, the coefficient β_2 estimates the effect of the interaction between the living wage MSA and post-implementation, that is, the

causal effect of the living wage. The coefficient β_3 estimates fixed, time-invariant differences across MSAs that affect earnings. For example, many of the MSAs listed in Table 1 (Boston, Los Angeles, New York, San Francisco, and Washington D.C.) almost certainly have a higher cost of living than most other MSAs, and this may in turn lead to geographic variation in income and earnings. The coefficient β_4 estimates nationally-uniform, time-varying factors that affect income and earnings. For example, the national economy was growing rapidly between 1996 and 1999, and national welfare reform was implemented. These factors are likely to affect income and earnings, and do not represent a "true" effect of the living wage. Omitting these "main effects" could falsely attribute rising earnings to the living wage, when, in fact, the growing economy or welfare reform may really be responsible.

Table 2 shows summary statistics for the variables used in the analysis. We define the household head's characteristics based on the first interview. We include controls for the household head's age, family structure, gender, race, education, and disability status. We also define several variables that indicate an important transition for the household between 1996 and 1999. For example, if a household head got married (or divorced) between 1996 and 1999, we might expect large changes in earnings and income for reasons other than living wages or other legislative features. A number of descriptive statistics are noteworthy. First, there are some important differences in demographics across metro areas (observed by comparing the fourth and fifth columns). Household heads in living wage MSAs tend to be older, less educated, and more likely to be of Hispanic origin. Households in living wage MSAs also really more on public assistance—average monthly transfer income is 84 percent higher than for other MSAs. In addition, participation rates in AFDC, food stamps, and public housing are 4–5 percentage points higher. It also appears that the state-level welfare reform choices were substantially different across MSAs. For example, almost all living wage MSAs were located in states that had approved an AFDC waiver, whereas a somewhat smaller percentage of other MSAs were located in an AFDC waiver state (93 percent compared with 75 percent). Living wage MSAs also tended to be located in states with higher unemployment (0.32 percentage points higher) and nominally higher minimum wages (10 cents higher).

Second, there are some promising trends over time (observed by comparing the second and third columns). Across all metropolitan areas, there was substantial growth in total income and earnings, and a substantial decline in transfers. Total family income and earnings, in real terms, rose by 20 percent between 1996 and 1999 for this sample.[15] Well-being improved, as exhibited by the dramatic decline in those who were living in poverty (as well as those living in "near-poverty"—less than twice the federal poverty line). The fraction of households with incomes in excess of 200 percent of the poverty line rose from 55 percent to 64 percent. These time trends suggest that for this cohort, which was very disadvantaged in 1996, a great deal of economic progress was made during this period.

Table 3 summarizes the main findings from the empirical analysis, when we ignore various policies that vary across states, over time (the full results are in Appendix Table 3). Although we believe it is important to include such controls, this table presents some baseline estimates. The results are based on 39,006 monthly observations from 1,749 households. The first observation is that the results are extremely similar when one estimates the model using either a random-effects or fixed-effect specification. The coefficients that are presented in these tables represent the estimate of β_2. Focusing on the fixed-effects estimates in the

final two columns, the implementation of the living wage reduced transfer income by nearly $33 per month, and this result is statistically significant. At the same time, earnings rose by around $68 per month, though this result is not significant at conventional levels. Taken together, the decline in transfer income crowded 49 percent of the earnings gain (49% = $33/$68). In this specification (which excludes the state-level policies) it appears that total income does increase significantly, by nearly $105 per month. The reason that the increase in total income does not equal the net difference between the earnings gain and transfer loss is that other sources (such as the Earned Income Tax Credit, support from extended family members, and investment income) also affect total income.[16] The decline in transfer income crowds out 24 percent of total family income (24% = $33/$(33+105)).

Table 4 summarizes the living wage results for specifications that include state-level policy variables. As in Table 3, the results on cash transfers suggest a significant decline once the ordinance is implemented. The fixed-effects estimate is slightly larger than before, a $34 decline per month. The key changes in the analysis are for family earnings and family total income. Once controls for the business cycle, state minimum wage, and welfare reform are included, them increase is only $16 per month, and nowhere close to being statistically significant. Thus, the inclusion of these policy variables reduces the "living wage" effect by about 75 percent from the estimates in Table 3. With small and imprecise estimates on earnings, the crowd-out number balloons up to 212 percent ($34/$16). As important, the increase in family total income falls by nearly 50 percent, to $55 per month. The crowd-out is also substantially larger than in Table 3, at 38 percent. It is likely that the effective tax rate is higher than 38 percent, however, because a number of important programs, such as food stamps, are not included in total income.

Another way of interpreting these results is by comparing the living wage-induced change to the baseline amounts of earnings, total income, and transfers. Table 2 shows that for the sample as a whole, total family income averaged around $3,420 per month. The insignificant $55 change (per month) represents less than a 2 percent increase. For earnings, the results are even less impressive—the $16 monthly increase represents about a .5 change.

The full results from these specifications are shown in Appendix Table 4. In both the fixed-effects and random-effects specifications, it is quite clear that much of the change in earnings and income that was apparent over time is simply a national trend. The time dummy, representing the year 1999, shows large and significant effects on both earnings and income, results that are roughly on an order of magnitude more important than the living wage. In the random-effects specification, all of the fixed household-head covariates affect earnings as expected. Earnings increase with age, but at a decreasing rate. Being male, white, married with kids, college educated, or non disabled increases family earnings. As one would expect, the variables that measure transitions from one family structure to another tend to have large effects on family earnings.[17] Several of the state-level variables are also of interest. The state minimum wage has a negative and significant effect on earnings, suggesting that these state policies cause unemployment; it has no significant effect on total income, however. A higher unemployment rate, unsurprisingly, leads to lower earnings and total income. The welfare reform variables are largely insignificant individually, with the exception of disregard policy and work requirements.

Conclusions and Future Directions

In this study, we examine the actual implementation of living wage mandates for "at-risk" families. We find insignificant effects on total income and earnings, but a significant decrease

in transfer income. These results are robust to the inclusion of a variety of other policy variables that control for the business cycle, welfare reform, and statewide minimum wage laws. Although the magnitude of the crowd-out results varies across specification, a reasonable reading of our results is that the living wage has limited capability to improve the economic status of the poor, defined in this study as those who had observably low wage rates or public assistance in 1996.

Even with the high marginal tax rates and crowd-out found in this study (and the inability to increase family income or earnings), proponents of living wage laws would argue that such ordinances have other benefits. For example, they argue that having a higher-paying job leads to improvements in workers' self-esteem, and even productivity. Thus, even holding the level of income constant, the composition of income may affect household well-being. This argument has two critical flaws, however. First, such psychological benefits would seem to be a kind of psychic illusion, with the worker being blind to the regulatory manipulation of market wages. Second, and perhaps more important from the social planner's viewpoint, changing the composition of income may affect all members of the household, including children. Recent research in both developed and developing countries shows that the individual in the household who controls income makes a difference when it comes to resource allocation. In one of the more compelling studies, Lundberg, Pollak, and Wales (1997) found that a policy change in the United Kingdom that transferred a substantial child allowance to wives in the late 1970s led to a shift toward greater expenditures on women's clothing and children's clothing relative to men's clothing. Thus, they reject a "unitary" model of household utility maximization and income pooling. In the living wage context, the ordinances crowd out cash transfers (which "belong" to the family) for higher earnings (which "belong" to the wage earner). The results from the United Kingdom suggest that similar results would lower well-being for non working adults and children, and increase well-being for the worker.

In the future, we hope to provide an updated analysis that accounts for more recent and binding living wage ordinances, using the 2001 Survey of Income and Program Participation (SIPP) data. In addition, we will also explore the effects of living wage ordinances on in-kind income (although some care needs to be taken in defining the value of in-kind benefits). Data sets like the SIPP often identify food stamps, Women, Infants, and Children Program (WIC) benefits, school lunches, housing assistance, energy assistance, and Medicaid. Some of these benefits (such as food stamps) may be considered as fungible as cash, while others (such as Medicaid) are surely valued at less than their cash value. The key difficulty is that the tax treatment of each of these benefits varies widely, and the unit that receives assistance is sometimes the family (e.g., food stamps, housing assistance, energy assistance) and sometimes the individual (e.g., Medicaid). Because in-kind benefits are a relatively large part of the welfare package, the effective tax rates and crowd-out presented in the current study are almost certainly understated.

References

Adams, Scott and David Neumark, "Living Wage Effects: New and Improved Evidence," NBER Working Paper 9702, May 2003.

Crouse, Gil, "State Implementation of Major Changes to Welfare Policies, 1992–1998," Accessed on 12/27/2004 from http://aspe.hhs.gov/search/hsp/Waiver_Policies99/policy_CEA.htm, published in 1999.

Lundberg, Shelly J., Robert A. Pollak, and Terence J. Wales, "Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit," *Journal of Human Resources*, Summer 1997, 32(3): 463–480.

Neumark, David, *How Living Wage Laws Affect Low-Wage Workers and Low-Income Families*, San Francisco: Public Policy Institute of California, 2002.

Neumark, David and Scott Adams, "Do Living Wage Ordinances Reduce Urban Poverty?" NBER Working Paper 7606, March 2000.

Toikka, Richard, Aaron Yelowitz, and Andre Neveu, "The 'Poverty Trap' and Living Wage Laws," Mimeo, University of Kentucky, November 2002, revised August 2003.

Yelowitz, Aaron, "The Medicaid Notch, Labor Supply, and Welfare Participation: Evidence from Eligibility Expansions," *The Quarterly Journal of Economics*, November 1995, 110(4): 909–939.

Yelowitz, Aaron, "Evaluating the Effects of Medicaid on Welfare and Work: Evidence from the Past Decade," Mimeo, Employment Policies Institute, December 2000.

Yelowitz, Aaron, "Public Housing and Labor Supply," Mimeo, University of Kentucky, November 2001.

Table 1	Variation in Living Wage Laws Used in This Study (through 1998)	
CMSA 7	Boston-Worcester-Lawrence, MA-NH	1. Boston, MA, June 1, 1997, Wage of up to $10.25 per hour, applicable to city contractors
CMSA 14	Chicago-Gary-Kenosha, IL-IN	1. Chicago, IL, July 1, 1998, Wage of up to $9.05 per hour, applicable to city contractors 2. Cook County, IL, September 1, 1998, Wage of up to $7.60 per hour, applicable to county contractors 3. Gary, IN, January 1, 1991, Prevailing wage, applicable to businesses receiving aid
CMSA 35	Detroit-Ann Arbor-Flint, MI	1. Detroit, MI, November 3, 1998, Wage of up to $11.03 per hour, applicable to city contractors and businesses receiving aid
CMSA 49	Los Angeles-Riverside-Orange County, CA	1. Los Angeles, CA, March 1, 1997, Wage of up to $8.97 per hour, applicable to city contractors and businesses receiving federal and state aid 2. Pasadena, CA, September 1998, Wage of up to $8.50 per hour, applicable to city contractors 3. West Hollywood, CA, October 1, 1997, Wage of up to $8.50 per hour, applicable to city contractors
CMSA 63	Milwaukee-Racine, WI	1. Milwaukee City, WI, November 1, 1995, Wage of up to $6.80 per hour, applicable to city contractors 2. Milwaukee County, WI, May 1, 1997, Wage of up to $6.25 per hour, applicable to city contractors 3. Milwaukee School District, January 1, 1996, Wage of up to $7.70 per hour, applicable to school board contractors and employees
CMSA 70	New York City, New Jersey, Long Island, NY	1. New York City, September 1996, Prevailing wage
CMSA 84	San Francisco-Oakland-San Jose, CA	1. Oakland, CA, April 1, 1998, Wage of up to $10.50 per hour, applicable to city contractors, businesses receiving aid, non profits, and municipal lease-holders 2. San Jose, CA, November 1, 1998, Wage of up to $11.35 per hour, applicable to city contractors and businesses receiving aid 3. Santa Clara, CA, September 1, 1995, Wage of up to $10 per hour, applicable to businesses receiving aid
CMSA 97	Washington-Baltimore, DC-MD	1. Baltimore, MD, December 1, 1994, Wage of up to $8.20 per hour, applicable to city contractors
PMSA 2120	Des Moines, IA	1. Des Moines, IA, January 1, 1988, Wage of up to $7 per hour, applicable to city-funded projects
PMSA 5120	Minneapolis-St. Paul, MN	1. Minneapolis, MN, March 7, 1997, Wage of up to $8.83 per hour, applicable to businesses receiving aid 2. St. Paul, MN, January 1, 1997, Wage of up to $9.92 per hour, applicable to businesses receiving aid
PMSA 6640	Raleigh-Durham-Chapel Hill, NC	1. Durham, NC, January 1, 1998, Wage of up to $8.45 per hour, applicable to city contractors and municipal employees
PMSA 7240	San Antonio, TX	1. San Antonio, TX, July 1, 1998, Wage of up to $10.13 per hour, applicable to businesses receiving aid

Notes: Sources for living wage / prevailing wage data are Employment Policies Institute (http://www.epionline.org/lw_proposal_map.cfm) and ACORN Living Wage Resource Center (http://livingwagecampaign.org/shortwins.php).

Table 2 Summary Statistics

Living wage MSA dummy	0.28	0.28	0.28	0	1
1999 dummy	0.5	0	1	0.5	0.5
Household head's characteristics in 1996					
Household head's age	39.97	39.97	39.97	39.43	41.39
Married with kids	0.44	0.44	0.44	0.43	0.46
Single with kids	0.19	0.19	0.19	0.19	0.18
Male	0.53	0.53	0.53	0.54	0.51
White	0.74	0.74	0.74	0.75	0.73
Hispanic	0.16	0.16	0.16	0.12	0.25
High school dropout	0.21	0.21	0.21	0.19	0.24
High school graduate	0.31	0.31	0.31	0.33	0.27
Disabled	0.10	0.10	0.10	0.09	0.11
Characteristics in 1999 relative to 1996					
Transition to marriage	0.05	0.05	0.05	0.06	0.03
Transition to single	0.04	0.04	0.04	0.04	0.02
Transition to children	0.07	0.07	0.07	0.07	0.07
Transition to no children	0.03	0.03	0.03	0.03	0.01
Other household characteristics (dollar amounts in constant December 1999 dollars)					
Total family income	$3,420	$3,106	$3,734	$3,391	$3,496
Total family earnings	$3,022	$2,740	$3,303	$3,021	$3,023
Total family cash transfer income	$70	$84	$56	$57	$105
Annual AFDC participation	0.09	0.12	0.06	0.08	0.13
Annual food stamp participation	0.20	0.25	0.15	0.19	0.23
Annual public housing participation	0.10	0.10	0.10	0.09	0.13
Poor	0.18	0.20	0.16	0.17	0.21
Near-poor	0.22	0.25	0.20	0.22	0.23
Non-poor	0.60	0.55	0.64	0.61	0.56
State-level characteristics					
Time limits approved	0.33	0.31	0.35	0.40	0.16
Work exemptions approved	0.50	0.47	0.53	0.46	0.60
Job sanctions approved	0.55	0.53	0.57	0.53	0.60
Disregards approved	0.46	0.45	0.47	0.32	0.81
Family caps approved	0.49	0.42	0.55	0.41	0.67
Work requirements approved	0.26	0.25	0.26	0.15	0.55
AFDC waiver approved	0.80	0.76	0.83	0.75	0.93
TANF approved	0.59	0.16	1.00	0.59	0.59
State minimum wage (nominal)	4.85	4.43	5.25	4.82	4.92
Unemployment rate (seas. adjusted)	4.77	5.37	4.21	4.69	5.01
Sample	Full Sample	1996 Year	1999 Year	Not Living Wage MSA	Living Wage MSA
Sample size (household-years)	3,498	1,749	1,749	2,532	966

Notes: Households are drawn from the years 1996 and 1999 of the 1996 SIPP panel. In contrast to the empirical specifications in subsequent tables , which use monthly observations, one annual household observation is taken from the 1996 and 1999 calendar years. Income in this table is measured at a monthly level, averaged over the entire year, and expressed in constant 1999 dollars. State-level variables use monthly observations, not annual observations.

Table 3	Summary of "Difference-in-Differences" Estimates of Living Wage Ordinances

Ignore state-level variables				
	Effect of living wage ordinance	Crowd-out percentage	Effect of living wage ordinance	Crowd-out percentage
Transfers	--$32.92* ($2.92)	---	-$32.97* ($2.92)	---
Earnings	$68.07 ($48.83)	48%	$67.72 ($48.86)	49%
Total Income	$104.41 ($49.20)	24%	$104.61 ($49.22)	24%
Includes controls for:				
Welfare Reform	No		No	
Business Cycle	No		No	
Minimum Wage	No		No	
Household Fixed Effects	No		Yes	

All income amounts are measured monthly and expressed in constant December 1999 dollars. Standard errors are in parentheses. Asterisk indicates coefficient estimate is statistically significant. Each specification includes 39,006 monthly observations of 1,749 households, drawn from the years 1996 and 1999 of the 1996 SIPP panel. The specifications above also include controls for household head's age (and its square), family structure, gender, race, ethnicity, education, and disability status. The specifications also include controls for family-structure transitions.

Table 4 Summary of "Difference-in-Differences" Estimates of Living Wage Ordinances

Include controls for state-level variables				
	Effect of living wage ordinance	Crowd-out percentage	Effect of living wage ordinance	Crowd-out percentage
Transfers	--$32.44* ($3.08)	---	--$34.25* ($3.11)	---
Earnings	$20.56 ($51.33)	157%	$16.12 ($52.03)	212%
Total Income	$58.55 ($51.73)	36%	$55.31 ($52.43)	38%
Includes controls for:				
Welfare Reform	Yes		Yes	
Business Cycle	Yes		Yes	
Minimum Wage	Yes		Yes	
Household Fixed Effects	No		Yes	

All income amounts are measured monthly and expressed in constant December 1999 dollars. Standard errors are in parentheses. Asterisk indicates coefficient estimate is statistically significant. Each specification includes 39,006 monthly observations on 1,749 households, drawn from the years 1996 and 1999 of the 1996 SIPP panel. The specifications above also include controls for household head's age (and its square), family structure, gender, race, ethnicity, education, and disability status. The specifications also include controls for family structure transitions. Data on state-level welfare reform policies were drawn from Crouse (1999, http://aspe.hhs.gov/search/hsp/Waiver_Policies99/policy_CEA.htm). Information on state-level business cycle obtained from Bureau of Labor Statistics (http://www.bls.gov/data/home.htm). State-level minimum wage information compiled from *Monthly Labor Review Online* (http://www.bls.gov/opub/mlr/archive.htm).

Table A1 Sample Selection Criteria

	Households	Persons	Person-Months
1. Initial sample size in 1996 SIPP panel (all 12 waves)	44,047	116,004	3,897,232
2. Calendar year is 1996 or 1999	42,501	111,358	1,894,475
3. In one uniquely identified CMSA/PMSA for all observations	18,238	48,429	798,827
4. Head of household is aged 15 to 64 in first month of SIPP panel	9,693	29,439	499,344
5. Person is either head of household or spouse	9,693	15,048	269,254
6. Person is head of household	9,693	9,693	171,352
7. Person is observed in both 1996 and 1999	6,355	6,355	141,622
8. No inconsistencies in household head's gender, race, ethnicity, education, or disability status	4,967	4,967	111,263
9. "At risk" sample	1,749	1,749	
10. Observations from 1996 and 1999 only	1,749	1,749	39,006

Table A2	Earnings and Benefits After Four Months on the Job for a Mother with Two Children with Day Care Expenses, 1996—Philadelphia, Pennsylvania.

Earnings	EITC	AFDC	Food Stamps	Medicaid $3307	Eligible for Public Housing	Housing Subsidy, Two Bedrooms	Social Security Tax	Federal Income Tax	State Income Tax	Work Expenses	Total Income
$0	$0	$5,052	$2,722	Yes	Yes	$8,136	($0)	($0)	($0)	($0)	$19,217
$2,000	$800	$4,892	$2,410	Yes	Yes	$7,936	($153)	($0)	($0)	($600)	$20,592
$4,000	$1,600	$3,292	$2,530	Yes	Yes	$7,464	($306)	($0)	($0)	($1,200)	$20,687
$5,000	$2,000	$2,492	$2,590	Yes	Yes	$7,224	($383)	($0)	($0)	($1,500)	$20,730
$6,000	$2,400	$1,692	$2,650	Yes	Yes	$6,984	($459)	($0)	($0)	($1,800)	$20,774
$7,000	$2,800	$892	$2,710	Yes	Yes	$6,744	($536)	($0)	($0)	($2,100)	$20,817
$8,000	$3,200	$0	$2,798	Yes	Yes	$6,484	($612)	($0)	($0)	($2,400)	$20,776
$9,000	$3,556	$0	$2,618	Yes	Yes	$6,264	($689)	($0)	($0)	($2,700)	$21,356
$10,000	$3,556	$0	$2,438	No	Yes	$6,024	($765)	($0)	($0)	($3,000)	$18,253
$15,000	$2,842	$0	$1,538	No	Yes	$4,824	($1,148)	($0)	($420)	($4,200)	$18,436
$20,000	$1,789	$0	$0	No	Yes	$3,624	($1,530)	($0)	($560)	($5,200)	$18,123
$22,000	$1,368	$0	$0	No	Yes	$3,084	($1,683)	($260)	($616)	($5,400)	$18,493
$23,000	$1,157	$0	$0	No	No	$0	($1,760)	($452)	($644)	($5,400)	$15,901
$25,000	$736	$0	$0	No	No	$0	($1,913)	($794)	($700)	($5,400)	$16,929
$30,000	$0	$0	$0	No	No	$0	($2,295)	($1,628)	($840)	($5,400)	$19,837
$50,000	$0	$0	$0	No	No	$0	($3,825)	($5,187)	($1,400)	($5,400)	$34,188

Notes: In adding the numbers across each row to get total income, negative values are in parentheses. See the next page for the assumptions used in this table. Source: Author's Calculations

Notes for Appendix Table 2

1. Sources: U.S. House of Representatives, 1996 (http://aspe.os.dhhs.gov/96gb/08tanf.txt), HUD Fair Market Rent and Income Eligibility data 1996 (http://www.huduser.org/data/asthse/fmrdata/hud96pa.txt), and Pennsylvania Income Tax Form PA-40, 1996 (http://www.revenue.state.pa.us/forms/pit/1996/index.htm)

2. The annual income eligibility limit (very low limit) in Philadelphia was $22,200, and the annual fair market rent was $10,176 for a three-bedroom apartment and $8,136 for a two-bedroom apartment. The actual rent paid by the public housing recipient is the max{0.3*adjusted income, 0.1*gross income, welfare shelter deduction}. Adjusted income includes deductions of $480 per child per year and child care costs. This table assumes the family receives a two-bedroom apartment.

3. Medicaid is valued at its annual average expenditure in Pennsylvania for an AFDC family with one adult and two children: $919 per child, and $1,469 per adult. The total is therefore $3,307 for this family.

4. AFDC benefits assume these deductions: $1,440 annual ($120 monthly) standard allowance, which would drop to $1,080 annually ($90 monthly) after one year on the job and child care costs equal to 20 percent of earnings, up to a maximum of $4,200 per year ($350 per month) for two children. The EITC, food stamps, Medicaid, public housing, and taxes are not counted in the AFDC calculation. Because of these deductions, AFDC benefits fall by 8 percent for the first $2,000 of earnings, and by 80 percent thereafter. The statutory tax rate is 100 percent.

5. The food stamp program assumes these deductions: 20 percent of earnings, $1,608 annually ($134 monthly) standard deduction, and child care costs equal to 20 percent of wages, up to a maximum of $3,840 per year ($320 per month) for two children. The maximum food stamp payment for a family with zero income is $3,756 per year ($313 per month). Both earnings and AFDC are counted in the food stamp calculation. The statutory tax rate is 30 percent.

6. Federal and state taxes assume head of household tax rates in effect for 1996. The dependent care tax credit reduces tax liability at earnings of $13,550 and above. Exemptions were $2,550 per person in 1996, the standard deduction was $5,900, the 15 percent bracket ended at $32,150 of taxable income, and the 28 percent bracket ended at $83,050 of taxable income. Eligible employmen-related expenses are limited to $4,800 if there are two or more qualifying dependents. The 30 percent dependent care credit rate is reduced, but not below 20 percent, by 1 percentage point for each $2,000 (or fraction thereof) of adjusted gross income above $10,000. The marginal tax rate in Pennsylvania was 2.8 percent.

7. Work expenses are assumed to equal 10 percent of earnings up to a maximum of $1,200 annually, plus child care costs equal to 20 percent of earnings up to a maximum of $4,200 annually for two children, for earnings of $21,000 and above.

8. The family would qualify for Medicaid at $8,000 of earnings because the mother, by law, would be deemed still an AFDC recipient, even though no AFDC would be paid; her calculated benefit would be below the minimum amount ($10 monthly) payable.

9. The family would qualify for Medicaid for 12 months after leaving AFDC with $9,000 in earnings under the 1988 Family Support Act. The state must offer Medicaid to all children up to age six whose family income is not above 133 percent of the federal poverty guideline (ceiling of $17,290 for a family of three in 1996) and to children older than age six born after September 30, 1983 (up to age 10 years and 4 months in January 1996), whose family income is below the poverty guideline ($12,600 for a family of three).

10. None of the value of public or subsidized housing is counted as income of an AFDO applicant or recipient in Pennsylvania (Urban Institute).

11. The credit rate for the EITC was 40 percent for families with two or more children up to $8,890, and the phase-out rate was 21.06 percent for earnings between $11,610 and $28,495.

12. Social Security payroll tax is assumed to be shared equally between the worker and the employer.

Table A3 Full Results of Table 3

	Random-effects estimates			Fixed-effects estimates		
	Transfers	Earnings	Total Income	Transfers	Earnings	Total Income
Living wage "at risk"	-32.92	68.08	104.41	-32.97	67.72	104.61
	(2.92)	(48.84)	(49.20)	(2.92)	(48.89)	(49.22)
Living wage MSA dummy	56.40	82.92	134.49	---	---	---
	(9.53)	(121.36)	(124.59)	---	---	---
1999 dummy	-15.34	568.49	629.36	-15.19	567.71	628.81
	(1.53)	(25.57)	(25.76)	(1.53)	(25.58)	(25.77)
Household head's characteristics in 1996						
Household head's age	-3.90	211.56	142.36	---	---	---
	(2.61)	(33.00)	(33.91)	---	---	---
Age^2	4.38	-223.78	-113.78	---	---	---
	(3.15)	(39.71)	(40.79)	---	---	---
Married with kids	29.20	1388.02	1413.96	---	---	---
	(10.83)	(136.75)	(140.49)	---	---	---
Single with kids	86.90	-440.73	-318.50	---	---	---
	(14.00)	(176.72)	(181.55)	---	---	---
Male	-25.06	456.39	488.70	---	---	---
	(9.36)	(118.23)	(121.46)	---	---	---
White	-60.62	474.69	526.92	---	---	---
	(10.17)	(128.41)	(131.92)	---	---	---
Hispanic	26.51	-1,207.54	-1,264.80	---	---	---
	(12.68)	(160.13)	(164.51)	---	---	---
High school dropout	46.22	-1,092.91	-1,242.80	---	---	---
	(12.08)	(152.51)	(156.68)	---	---	---
High school graduate	15.59	-858.09	-921.56	---	---	---
	(9.56)	(120.64)	(123.94)	---	---	---
Disabled	220.27	-2,265.70	-1,864.14	---	---	---
	(14.80)	(186.90)	(192.01)	---	---	---
Characteristics in 1999 relative to 1996						
Transition to marriage	7.20	134.43	62.28	---	---	---
	(19.55)	(246.85)	(253.60)	---	---	---
Transition to single	31.10	-648.42	-462.40	---	---	---
	(22.75)	(287.18)	(295.04)	---	---	---
Transition to children	40.75	866.07	836.78	---	---	---
	(17.86)	(225.49)	(231.66)	---	---	---
Transition to no children	-14.719	-301.85	-479.54	---	---	---
	(25.96)	(327.68)	(336.65)	---	---	---
Constant term	134.17	-2,097.94	-942.85	82.36	2,785.18	3,153.79
	(52.01)	(656.76)	(674.71)	(0.93)	(15.54)	(15.65)

All income amounts are measured monthly and expressed in constant December 1999 dollars. Standard errors are in parentheses. Each specification includes 39,006 monthly observations of 1,749 households, drawn from the years 1996 and 1999 of the 1996 SIPP panel.

Table A4	Full Results of Table 4					
	Random-effects estimates			Fixed-effects estimates		
	Transfers	Earnings	Total Income	Transfers	Earnings	Total Income
Living wage "At risk"	-32.44	20.56	58.55	-34.25	16.12	55.31
	(3.08)	(51.33)	(51.73)	(3.11)	(52.03)	(52.43)
Living wage MSA dummy	42.14	239.82	246.49	---	---	---
	(10.60)	(138.20)	(141.73)	---	---	---
1999 dummy	-8.75	436.57	509.4	-11.13	412.25	483.93
	(3.70)	(61.25)	(61.77)	(3.79)	(63.44)	(63.93)
Household head's characteristics in 1996						
Household head's age	-4.3	218.34	148.1	---	---	---
	(2.59)	(32.99)	(33.89)	---	---	---
Age^2	4.96	-232.63	-121.22	---	---	---
	(3.12)	(39.69)	(40.77)	---	---	---
Married with kids	31.02	1365.29	1392.2	---	---	---
	(10.74)	(136.63)	(140.36)	---	---	---
Single with kids	88.23	-471.53	-347.49	---	---	---
	(13.87)	(176.45)	(181.27)	---	---	---
Male	-26.24	465.91	496.26	---	---	---
	(9.28)	(118.02)	(121.24)	---	---	---
White	-61.63	480.72	531.03	---	---	---
	(10.08)	(128.33)	(131.83)	---	---	---
Hispanic	20.89	-1,073.41	-1,150.42	---	---	---
	(12.70)	(162.05)	(166.44)	---	---	---
High school dropout	45.14	-1,068.83	-1,222.19	---	---	---
	(11.98)	(152.44)	(156.60)	---	---	---
High school. graduate	17.47	-875.72	-936.53	---	---	---
	(9.47)	(120.46)	(123.75)	---	---	---
Disabled	220.04	-2,262.64	-1,858.62	---	---	---
	(14.69)	(186.94)	(192.04)	---	---	---

Table A4	Full Results of Table 4 (continued)					
	Random-effects estimates			Fixed-effects estimates		
	Transfers	Earnings	Total Income	Transfers	Earnings	Total Income
Characteristics in 1999 relative to 1996						
Time limits approved	-12.14	-112.88	-118.61	-52.62	-458.92	-486.22
	(9.19)	(126.47)	(129.26)	(19.28)	(322.51)	(325.00)
Work exemptions approved	-5.56	-286.6	-341.86	17.34	123.71	40.08
	(8.34)	(119.45)	(121.81)	(12.51)	(209.20)	(210.81)
Job sanctions approved	-7.79	137.27	157.88	50.1	427.05	467.06
	(10.31)	(144.82)	(147.81)	(19.38)	(324.17)	(326.67)
Disregards approved	-7.4	195.77	203.02	-17.03	491.55	471.4
	(7.59)	(111.23)	(113.23)	(10.90)	(182.35)	(183.75)
Family caps approved	-3.82	-3.53	-1.73	-6.14	-30.57	-42.47
	(4.16)	(66.11)	(66.89)	(4.56)	(76.23)	(76.82)
Work requirements approved	40.61	-559.85	-471.56	30.05	-1589.55	-1373.37
	(8.68)	(124.39)	(126.84)	(12.99)	(217.23)	(218.90)
AFDC waiver approved	15.81	190.56	209.89	-8.37	-276.69	-212.26
	(8.45)	(126.56)	(128.58)	(11.85)	(198.10)	(199.63)
TANF approved	3.12	43.44	20.29	4.3	79.73	54.48
	(3.01)	(50.14)	(50.53)	(3.02)	(50.55)	(50.94)
State minimum wage (nominal)	-12.08	-69.98	-36.59	-16.18	-113.97	-73.73
	(3.91)	(64.42)	(64.99)	(4.04)	(67.58)	(68.10)
Unemployment rate (seas. adjusted)	-0.7	-145.52	-128.45	-5.62	-183.94	-164.66
	(2.31)	(36.80)	(37.23)	(2.53)	(42.33)	(42.65)
Constant term	195.03	-1,184.97	-256.45	174.01	4,529.15	4,556.51
	(55.97)	(745.21)	(762.70)	(24.95)	(417.24)	(420.46)

All income amounts are measured monthly and expressed in constant December 1999 dollars. Standard errors in parentheses. Asterisk indicates coefficient estimate is statistically significant. Each specification includes 39,006 monthly observations of 1,749 households, drawn from the years 1996 and 1999 of the 1996 SIPP panel. The specifications above also include controls for household head's age (and its square), family structure, gender, race, ethnicity, education, and disability status. The specifications also include controls for family-structure transitions. Data on state-level welfare reform policies were drawn from Crouse (1999, http://aspe.hhs.gov/search/hsp/Waiver_Policies99/policy_CEA.htm). Information on state-level business cycle obtained from Bureau of Labor Statistics (http://www.bls.gov/data/home.htm). State-level minimum wage information compiled from *Monthly Labor Review Online* http://www.bls.gov/opub/mlr/archive.htm).

Selected Publications

The Economic Impact of Proposition 72 on California Employers, by Dr. Aaron Yelowitz, University of Kentucky, September 2004.

The Effects of the Proposed California Minimum Wage Increase, by Dr. David Macpherson - Florida State University, Craig Garthwaite, Employment Policies Institute, August 2004.

Minimum Wages and Job Search: What Do Employment Effects Really Measure, by Dr. Peter Arcidiacono, Duke University, Dr. Thomas Ahn, Duke University, August 2004.

Why Raising the Minimum Wage is a Poor Way to Help the Working Poor, by Dr. Richard Burkhauser, Cornell University, Dr. Joseph Sabia, Cornell University, July 2004.

Wage Growth Among Minimum Wage Workers, by Dr. William E. Even, Miami University of Ohio, and David A. Macpherson, Florida State University, June 2004.

Helping Working-Poor Families: Advantages of Wage-Based Tax Credits Over the EITC and Minimum Wages, by Dr. Thomas MaCurdy, Stanford University, and Dr. Frank McIntyre, Brigham Young University, April 2004.

The Cost of California's Health Insurance Act of 2003, by Dr. Aaron Yelowitz, University of Kentucky, October 2003.

Welfare Reform and Its Effects on the Dynamics of Welfare Receipt, Employment, and Earnings, by Dr. Peter Mueser and Dr. Kenneth R. Troske, University of Missouri, September 2003.

The Effects of the Proposed Santa Fe Minimum Wage Increase, by Dr. David A. Macpherson, Florida State University, February 2003.

The Economic and Distributional Consequences of the Santa Monica Minimum Wage Ordinance, by Richard H. Sander, University of California at Los Angeles; E. Douglass Williams, University of the South; and Joseph Doherty, Empirical Research Group at University of California Los Angeles, October 2002.

The Economic Well-Being of Low-Income Working Families, by John P. Formby and Hoseong Kim, University of Alabama, and Dr. John A. Bishop, East Carolina University, March 2002.

The Long-Term Effects of Youth Unemployment, by Thomas A. Mroz, University of North Carolina at Chapel Hill, and Timothy H. Savage, Welch Consulting Economists, October 2001.

The Effect of Minimum Wages on the Labor Force Participation Rates of Teenagers, by Walter J. Wessels, North Carolina State University, June 2001.

Winners and Losers of Federal and State Minimum Wages, by Thomas MaCurdy and Frank McIntyre, Stanford University, June 2001.

Does the Minimum Wage Reduce Poverty? by Richard K. Vedder and Lowell E. Gallaway, Ohio University, June 2001.

Evaluating the Effects of Medicaid on Welfare and Work: Evidence from the Past Decade, by Aaron S. Yelowitz, University of California at Los Angeles, December 2000.

Higher Minimum Wages Harm Minority and Inner-City Teens, by Mark Turner and Berna Demiralp, Johns Hopkins University, September 2000.

Rising Above the Minimum Wage, by William Even, Miami University of Ohio, and David Macpherson, Florida State University, January 2000.

Effective Marginal Tax Rates on Low-Income Households, by Daniel N. Shaviro, New York University School of Law, February 1999.

Targeted Jobs Tax Credits and Labor Market Experience, by Frederick J. Tannery, University of Pittsburgh, June 1998.

Work Ethic and Family Background, by Casey B. Mulligan, University of Chicago, May 1997.

From Welfare to Work: The Transition of an Illiterate Population, by Employment Policies Institute, February 1997.

Who Are the "Low-Wage" Workers? by Derek Neal, University of Chicago, July 1996.

Jobs Taken by Mothers Moving from Welfare to Work: And the Effects of Minimum Wages on This Transition, by Peter D. Brandon, Institute for Research on Poverty, University of Wisconsin–Madison, February 1995.

Minimum Wage Laws and the Distribution of Employment, by Kevin Lang, Boston University, January 1995.

Mandates On Employment: A History of Added Burdens on the Unskilled, by Simon Rottenberg, University of Massachusetts-Amherst, August 1994.

Labor Demand Elasticities & Clinton Health Care Reform, by Julia Lane, The American University, July 1994.

Effects of the Employer Mandate in the Clinton Health Care Plan, by June O'Neill, City University of New York, Dave O'Neill, City University of New York, March 1994.

The Impact of a Health Insurance Mandate on Labor Costs and Employment: Empirical Evidence, by June O'Neill, City University of New York, Dave O'Neill, City University of New York, September 1993.

Mandated Health Insurance, The Low Wage Employee, and the Distribution of Income, by Dwight R. Lee, University of Georgia, and Ronald S. Warren, University of Georgia, January 1993.

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