AN ECONOMIC ANALYSIS OF THE NASHVILLE LIVING WAGE PROPOSALS

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SUMMARY OF MAIN FINDINGS

Two basic proposals are being considered:

- Living wage with narrow coverage: A $10.80 living wage standard with health benefits for general government workers only.
- Living wage with broad coverage: A $10.80 living wage standard with health benefits for all metropolitan government workers.

Proposal with narrow coverage, general government workers only

COSTS OF $10.80 LIVING WAGE WITH HEALTH BENEFITS PROPOSAL

- Total costs to Nashville-Davidson County metropolitan government would range between 0.2 and 0.4 percent of $1.57 billion budget for FY 2009.
- Costs to government could be covered through:
  - Increased revenues from economic growth
    - Between FY 2007 and FY 2008 — before recession — government revenues rose by nearly $60 million.
    - Under growth scenario, most extensive measure paid for in full through 10 percent of revenue *increase* only.
  - Modest tax increases
    - Raise $1.55 million through each of four taxes: property, sales, hotel occupancy, and new entertainment tax.
    - Average tax increases include $5/year in property tax for average homeowner, $63/year in property tax for average business owner, and 40 cents/night for Nashville hotel room, 18 cents per person for tourists to raise $1.55 million from each tax.

BENEFITS OF $10.80 LIVING WAGE WITH HEALTH BENEFITS PROPOSAL

- Benefits for workers:
  - Approximately 1,585 workers will receive wage increases from two sources:
    - Mandated increases—raising workers up to $10.80 plus benefits
    - "Ripple effects"—raising workers beyond $10.80, and extending health benefits beyond those required. These are non-mandated raises voluntarily provided to maintain the same wage hierarchy prior to passage of living wage law.
  - Average mandated wage increases for 944 workers range between $0.51/hour for full-time general government workers to $2.40 for seasonal/temporary workers.
  - Total wage increases would amount to between $2.9 million and $6.2 million per year, depending on whether coverage is for full-time workers only, inclusive of part-time workers, or inclusive of seasonal/temporary workers as well.
- Benefits for government:
  - Some low-wage workers and their families will receive reduced state and federal subsidies. Overall we estimate a potential savings of $750,000 for state and federal governments.

Alternative proposal with broad coverage, all metropolitan government workers

COSTS OF ALTERNATIVE PROPOSAL

- Total cost increase is $48 million.
- Costs covered through revenue increases tied to economic growth (after recession) and revenues from small tax increases in property, sales, hotel occupancy, and new entertainment tax.

BENEFITS OF ALTERNATIVE PROPOSAL

- Recipients of wage increases or health benefits rises to about 6,500 workers.
- Retail stores in the state's low-income neighborhoods will experience a small increase in sales, in the range of 0.5 percent, reflecting the increased disposable income of workers and their families living in these neighborhoods.
- Overall we estimate a potential government savings of $3 million for state and federal governments.

Impact on living standards for low-wage workers and families

- Average family income for low-wage metropolitan government workers is $49,314.
- Among families of covered workers, 10 percent live in severe poverty, 25 percent in poverty, and 48 percent below basic needs threshold.
- For representative low-income household receiving living wage increase, total family income rises between 7 and 9 percent.
- Living wage increases alone will not lift most families out of poverty or above basic budget line.
- But likely to produce significant improvements in living standard:
  - Taking vacations
  - Assisting family financially
  - Saving for house down payment
  - Help buy a car
  - Reduce work hours

Effect of automatic cost-of-living adjustments

- Linking future increases in the living wage to inflation – i.e. providing an automatic cost-of-living adjustment – will have no impact on our analysis of the effect of the measure.
- Without an automatic cost-of-living adjustment, all of the costs and benefits that we identify would diminish with time.

1. OVERVIEW

In this report we consider the economic impact of two basic living wage proposals for Nashville-Davidson County. The two proposals differ by the degree of coverage for Nashville-Davidson County metropolitan government workers.

The Nashville living wage standard we consider is $10.80 with health insurance benefits. This living wage rate is based on the calculations by two researchers at Vanderbilt University, Melissa Snarr and Diane Faires and presented in their paper, "Nashville Living Wage Estimate." To arrive at this wage rate, they first determined what level of earnings a family in Nashville-Davidson County would need in order to meet only their basic needs. These basic needs include housing, transportation, child care, food, other necessities (such as clothing, diapers, non-prescription medication, personal hygiene items, etc.) and taxes. This budget does not include any savings or money for "extras" such as entertainment or restaurant meals.

Snarr and Faires determined that a family of four with two working adults, one preschool-aged child, and one school-aged child receiving health insurance from Metro Nashville government would require annual earnings of $45,088. This level of earnings would cover the costs of their basic needs. Assuming both adults in this family work full-time and year-round, these workers would need to earn about $10.80 per hour. The Snarr/Faires calculations build from the methodologies developed by both Wider Opportunities for Women and the Economic Policy Institute (EPI). EPI has calculated similar basic budget lines for Nashville and other communities throughout the country.

We assess the impact of this living wage standard for two different levels of coverage of Nashville-Davidson County metropolitan government employees. The proposal with the narrower coverage requirement would apply the living wage standard to a subset of Nashville-Davidson County metropolitan government workers referred to as Metro general government workers. These general government workers comprise roughly half of all metropolitan government workers, or approximately 10,420 of 21,292.[1]

Specifically, the general government workers include employees working in 55 different departments in the Nashville-Davidson County metropolitan government. The ten departments with the largest numbers of general government workers include, starting with the largest, the Police Department, the Fire Department, the Sheriff, Water Services, Metro General Hospital, the Parks Department, Bordeaux Long Term Care, the Health Department, the Public Works Department, the Public Library, and the Metro Action Commission. These ten departments represent more than 70 percent of all general government workers.[2]

In considering this general government workers only proposal, we break out the overall costs to show the specific effects associated with first covering only full-time regular general government workers (i.e., not seasonal or temporary workers). We then add a second group: part-time regular general government workers. We finally add the remaining workers which include seasonal and temporary general government workers. We exclude in all cases elected officials, who are not the intended beneficiaries of these living wage proposals, and workers who are paid on a piece-rate or per diem basis (e.g., an election poll worker who gets paid for each day s/he works).[3]

The broader coverage requirement would extend a living wage standard to all metropolitan govern-

1 Data on general government workers come from Nashville-Davidson County metropolitan government payroll data. We estimate the total number of metropolitan government workers from data from the U.S. Census Bureau. See the Technical Appendix for details.

2 We provide the full list of fifty-five departments in the Technical Appendix.

3 Full-time regular general government workers make up the vast majority of all general government workers, or about 84 percent. Part-time regular workers make up about 6 percent of all general government workers and temporary/seasonal worker make up the nine percent. The workers we exclude from our calculations–elected officials who are not the intended beneficiaries of these proposals and workers who are paid on a piece-rate or per diem basis—make up the remaining one percent of all general government workers.

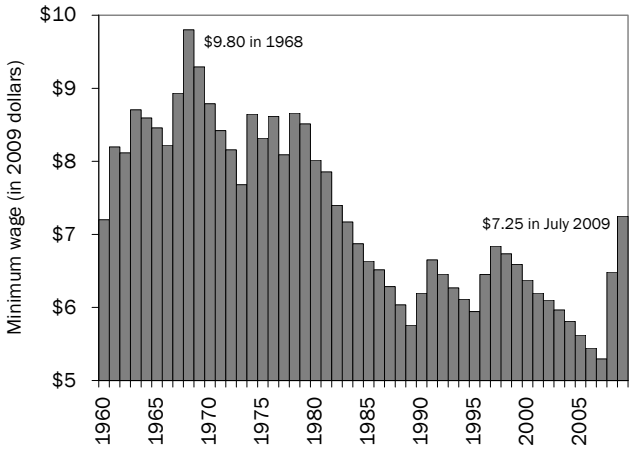
ment workers. The metropolitan government workers who would gain coverage include those working for the Board of Education, the Airport Authority, Nashville Electric Service, Register of Deeds, Metro Transit Authority (except for their director who falls under the category of general government workers), and Metro Davidson Housing Authority. Employees of the metropolitan Nashville public schools, who work for the Board of Education, comprise the largest group of metropolitan government workers that are not included among the general government workers.[4]

4 The departments that do not include general government workers were identified by a staff person in the Human Resources Department of the Nashville-Davidson County metropolitan government. We approximate the number of employees from the Board of Education to be more than 7,900 based on the 2008 Comprehensive Annual Financial Report produced by the Finance Department of the Nashville-Davidson County metropolitan government.

II. BACKGROUND ON U.S. LIVING WAGE LAWS

The primary force motivating these laws over the past decade has been the precipitous decline in the real value of the federal minimum wage over the past generation. We can see this clearly in Figure 1. As the figure shows, in 2009 dollars, the federal minimum wage reached its peak in 1968, at $9.80 (adjusting for inflation using the Consumer Price Index CPI-U). The federal minimum wage—which is the minimum wage that applies today throughout Tennessee—is currently $7.25. Thus, in real, inflation-adjusted dollars, the federal minimum wage has fallen by about one-quarter between 1968 and the present. By contrast, average productivity per worker in the U.S. more than doubled between 1968 and 2009. This means that if the real value of the national minimum wage had risen exactly in step with the average rate of productivity growth—and no more than that—the minimum wage as of 2009 would be more than $19.60.

FIGURE 1: REAL VALUE OF UNITED STATES MINIMUM WAGE, 1960-2009 (IN CONSTANT 2009 DOLLARS)



Source: Bureau of Labor Statistics, U.S. Department of Labor

The collapse since 1968 in the real value of the minimum wage has had severe consequences for the lowest-paid workers in the United States. This is because the minimum wage plays a crucial role in setting wages for low-wage workers. These workers generally have little bargaining power when they seek employment or try to obtain a raise once they have a job. To a significant extent, low-wage workers rely on increases in the mandated minimum wage simply to obtain cost-of-living adjustments in their hourly pay rates.

The effects on living standards of a declining minimum wage become evident by considering the income that a minimum wage worker would bring home relative to some basic poverty thresholds for the United States. For example, someone who works full-time for 52 weeks at the current $7.25 federal minimum would earn $15,080 over a year. This figure is 13 percent below the 2008 federal poverty threshold (the latest figure available) for a family of three (2 adults, 1 child) of $17,330. By contrast, someone in the same situation in 1968 – working full-time at the federal minimum – would still have been earning a low income, but at least it would have been 19 percent above the official poverty line.

Families experience real hardship when the working members of the family are employed at jobs paying a wage close to the $7.25 minimum wage. For example, a recent study by the Economic Policy Institute in Washington, DC found that nearly 30 percent of families with incomes at twice the poverty line or lower faced hardships such as missing meals, being evicted from their housing, having their utilities disconnected, doubling up on housing, or not having access to needed medical care. Such problems spread throughout the broader community.[5] Working people earning poverty wages obviously have less money to spend. It therefore becomes difficult for businesses in the communities serving them to prosper.

The collapse in the purchasing power of the federal minimum wage has inspired a living wage movement that started in Baltimore in 1999. These campaigns, like the current one in Nashville, advocate for raising minimum wage standards up to levels that can support a decent standard of living for working people and their families. Since 1999, more than 140 living wage ordinances of various types have come into law.

5 See Boushey et al. (2001).

III. THE COSTS OF PROPOSAL 1:

A living wage rate of $10.80 plus health insurance benefits with narrow coverage for general government workers

In this section, we focus our analysis on the proposal that applies the $10.80 and health insurance standard (which we term $10.80/health) to the relatively narrow group of about 10,400 general government workers. As we noted earlier, we break this group of workers down further into three distinct sub-groups of workers—beginning with full-time regular employees only, then adding part-time regular employees, and finally adding the remaining group of temporary and seasonal workers. We take up the living wage standard with broader coverage in Section IV.

A. Mandated cost increases

Table 1 presents evidence on the number of workers we estimate would be covered by the $10.80/health living wage proposal for general government workers based on the economic situation in Nashville-Davidson County in 2008.[6] This includes workers earning between the $6.55 federal minimum that was in effect in 2008 and the proposed minimum of $10.80. Workers earning below the federal minimum wage rate of $6.55 include only those workers who are not paid on an hourly basis. We assume these general government employees would not be covered by the Nashville living wage measure.

Full-Time Regular General Government Employees. We start in the first column of Table 1 with full-time regular general government workers. According to our estimates, 200 full-time regular metropolitan general government workers would require a raise to meet the $10.80 living wage standard. From the data we have obtained, we are able to estimate that the average work week for these employees is 40 hours. For the full year, their total number of hours employed comes to 2,089.[7]

TABLE 1. MANDATED INCREASES FROM $10.80/HEALTH LIVING WAGE PROPOSAL FOR METROPOLITAN GENERAL GOVERNMENT WORKERS

	(1) Full-time general government workers	*(2) Part-time general government workers*	*(3) Seasonal & temporary general government workers*
1) Number of workers	200	325	419
2) Average weekly hours	40.2	16.8	9.2
3) Average weeks worked*	52	52	52
4) Average annual hours	2,089	873	480
5) Average wage	$10.29	$9.68	$8.40
6) Average raise	$0.51	$1.12	$2.40
7) Average yearly wage increase	$1,065	$978	$1,152
8) Total wage increase	$214,696	$317,772	$482,688
Health insurance benefits			
9) Number of workers without healthcare insurance from employer	0	270 (82.8%)	417 (99.5%)
10) Cost of health insurance to employer per hour	$3.30	$3.30	$3.30
11) Cost of health insurance to employer per worker	-	$2,881	$1,584
12) Cost increase to employer due to health care benefits	-	$775,250	$660,378
13) Total cost increase due to wage raises and new health insurance benefits	$214,696	$1.1 million	$1.1 million

*Source: Nashville metropolitan general government employee payroll data, 2008. See technical appendix for details. *We assume a 52-week work schedule in order to estimate the weekly hours.*

6 All of our calculations are based on metropolitan government payroll data as of June 2008, originally obtained from the Human Resources department, provided to us by Middle Tennessee Jobs with Justice.

7 The metropolitan payroll data does not directly provide the number of hours that these workers worked. However, we can estimate their hours by combining two pieces information that the payroll data do provide: these workers' annual salary and hourly wage rate. By dividing these workers' annual salary by their hourly pay rate, we estimate the average weekly hours (assuming a 52-week schedule) and average annual hours for these workers. The average work week is, as we would expect, 40 hours, and the total average hours worked per year is 2,089.

The next set of figures shows data on wages for these workers. We estimate that the average worker who earns between $6.55 and $10.80 now earns $10.29. Thus, to bring the average worker up to the $10.80 living wage, he or she would receive a raise of 51 cents per hour. If we assume that these workers maintain exactly the same number of hours after this new living wage standard is implemented—i.e. the same average work year of 2,089 total hours—then the average worker would receive a raise of $1,065 (i.e., 2,089 hours times 51 cents per hour). From these figures, we are then able to estimate that the total mandated wage increase for the 200 full-time regular general government workers is about $215,000.

In the next set of rows (rows 9-12), we consider the costs of providing the health insurance benefits that would be newly acquired with the implementation of the $10.80 living wage proposal. In row 9, we present the number of workers among the 200 full-time regular metropolitan general government workers who would receive mandated raises from the $10.80 living wage proposal and who do not presently receive health insurance benefits. It turns out that all of these workers already receive health insurance benefits so none would require new health insurance benefits due to this proposal. As a result, we estimate that there would be no additional costs for this group of workers due to the health insurance benefit requirement.

Part-Time Regular General Government Employees. In the second column, we present the same set of estimates and calculations for part-time regular general government employees. Among these workers, we estimate that 325 part-time regular general government employees would require raises to meet the new $10.80 living wage standard. These workers log less than half the annual hours of full-time regular employees, working on average about 17 hours weekly for a total of 873 hours per year.

These part-time workers presently earn lower average wages than their full-time counterparts—61 cents per hour less at $9.68 per hour. As a result, these workers require a higher average raise of $1.12 to reach the new standard rate of $10.80. If we assume as before that these workers maintain exactly the same number of hours after this new living wage standard is implemented then the average part-time regular worker would receive a raise of $978 (i.e. 873 hours times $1.12 per hour). From these figures, we are then able to estimate that the total mandated wage increase for the 325 part-time regular general government workers is about $318,000.

The vast majority of part-time workers do not have health insurance benefits from the metropolitan government; fully 270 of the 325 workers (i.e. 83 percent) are not presently receiving health-care coverage. In rows 9-12, we add up the costs of providing 270 part-time regular workers, or 83 percent of 325 workers, with health insurance benefits. We estimate that the cost to the metropolitan government to provide health insurance benefits equals roughly $3.30 each hour an employee works.[8]

If we again assume that these workers maintain the same number of hours after the new living wage standard is implemented, then 270 part-time regular workers would cost the metropolitan government, on average, an additional $2,881 in health insurance benefits (i.e. 873 hours times $3.30 per hour). From these figures, we estimate that the total cost of providing health insurance benefits to part-time workers who had previously not received such benefits is about $775,000. Note that this amount is more than double the cost of the mandated wage increases, or $318,000, for this group of workers. In other words, the additional health insurance benefits make up more than two-thirds of the $1.1 million total cost increase due to the wage raises and new health insurance benefits required by the $10.80 living wage plus health benefits standard.

8 Our estimate of the health insurance costs for the metropolitan government for these workers is based on data from the Bureau of Labor Statistics' Employer Costs for Employee Compensation national database. According to their latest estimates—the last two quarters of 2008, or July to December—the cost to local and state governments of providing health insurance benefits to workers in service occupations was $3.40 per hour of employment. We adjust this estimate downward slightly to $3.30, about 3 percent lower, to reflect that state and local governments in East South Central states such as Tennessee tend to have lower insurance premium costs compared to the national average (Crimmel and Sommers, 2008).

Temporary and Seasonal General Government Employees. In the third column of Table 1, we present the same set of estimates and calculations for temporary and seasonal general government employees. Among these workers, we estimate that 419 temporary and seasonal general government employees would require raises to meet the new $10.80 living wage standard. These workers work only 480 hours annually, which would imply a nine-hour work week, on average, if these workers were employed all 52 weeks of the year. Given the short-term nature of these positions, however, it is more likely the case that these workers work for part of the year at a higher average number of hours per week.

These temporary and seasonal workers presently earn lower average wages than both part-time and full-time workers, averaging $8.40 per hour. As a result, these workers require the highest average raise of $2.40 to reach the living wage standard of $10.80. Assuming as before that these workers maintain exactly the same number of hours after this new living wage standard is implemented then the average part-time regular worker would receive a raise of $1,152 (equal to $2.40 per hour times 480 hours). From these figures, we are then able to estimate that the total mandated wage increase for the 419 temporary and seasonal general government workers is about $483,000.

Nearly all temporary and seasonal workers—417 of the total of 419 who are paid below the $10.80 minimum do not have health insurance benefits from the metropolitan government. In rows 9-12, we add up the costs of providing these 417 workers with health insurance benefits.

If we again assume that these workers maintain the number of hours after the new living wage standard is implemented then 417 temporary and seasonal workers would cost the metropolitan government, on average, an additional $1,584 in health insurance benefits or 480 hours times $3.30 per hour. From these figures, we estimate that the total cost of providing health insurance benefits to temporary and seasonal workers who had previously not received such benefits is about $660,000.

As with the part-time workers, the average wage raises represents a smaller portion of the $1.1 million overall cost increase. For these workers, the additional health insurance benefits makes up about 60 percent of the $1.1 million total cost increase due to the wage raises and new health insurance benefits required by the $10.80 living wage plus health benefits standard.

B. Non-mandated cost increases: ripple effects

"Ripple effects" refer to the non-mandated increases in wages and benefits above a newly established minimum that employers provide to some of their workers after a minimum wage or living wage increase is enacted. Employers provide these non-mandated raises to maintain some semblance of the wage hierarchy that prevailed prior to implementation of a new mandated minimum or living wage.

For example, if a worker is earning $10.81 per hour, it is unlikely that this worker will not receive any raise at all after all the workers earning between $6.55 and $10.79 obtain their raises. For that matter, it is not reasonable to assume that a worker receiving, say $10.75 before the living wage law is implemented will be raised only to $10.80—a 0.5 percent wage increase—once the living wage law is in place. It is more reasonable to expect the $10.75 worker will receive a raise that is at least broadly in line with the majority of workers who are currently paid below the $10.80 minimum and receiving mandated raises. In other words, the $10.75 worker would more likely receive a raise somewhere between the average mandated raise among part-time workers (12 percent) and seasonal and temporary workers (29 percent).

Finally, if health care coverage is being extended to workers now receiving less than the $10.80 minimum wage, it is also reasonable to expect that this same benefit will extend to other workers currently without health care, even if they are now paid above $10.80 per hour.

Though all of these considerations regarding ripple effects are quite reasonable, and will likely be important in considering the overall impact of the living wage ordinance, it is also true that estimating ripple-effects is necessarily more speculative than estimates for mandated raises. This is for the reason that ripple-effect raises are non-mandated.

The $10.80 living wage proposal for Nashville-Davidson County metropolitan general government workers applies to about half of the entire metropolitan government workforce. Based on this provision, there are two broad categories of likely recipients of non-mandated ripple-effect wage increases:

- General government workers who, before the living wage proposal would be implemented, earn somewhere between the $6.55 federal minimum but less than the $10.80 living wage.
- General government workers who, before the living wage proposal would be implemented, earn more than the $10.80 living wage, but who nevertheless receive a raise when the new living wage rate is implemented.

The key issue in determining the size of the ripple effect is to evaluate how much of a change in wage equality is likely to occur after the lowest-paid workers receive their mandated raises. The term "wage compression" is often used to describe the condition of wages becoming more equal, either within a given company or more broadly, through the economy as a whole. Past research has found that the wage increases tend to diminish fairly rapidly at higher wage rates so that wages become more equal. Wage compression does indeed generally occur in the case of minimum wage hikes (Card and Krueger 1995; Dinardo, Fortin, and Lemieux 1996; Lee 2001; Pollin et al. 2008).

In the Appendix to this study, we work through the details of our approach to estimating the size of the ripple effects for the $10.80/health Nashville living wage proposal. In Table 2, we summarize our findings. Specifically, we see in Table 2 the total ripple-effects for wages and health benefits in terms of both the number of workers receiving ripple-effect raises and the total dollar amount of these non-mandated raises. As with the mandated cost increases, we look at each of three different subsets of general government workers: full-time regular employees (column 1), part-time regular employees (column 2), and temporary seasonal employees (column 3).

As Table 2 shows, we estimate that about 740 full-time general government workers will receive ripple-effect wage increases, and another three full-time workers will receive health-care coverage through the ripple effect. For the full-time workers, then, the full costs of the ripple effect will amount to about $2.5 million.[9] We estimate the total ripple-effect costs for part-time workers will amount to about $690,000, and for temporary and seasonal workers, slightly less than $250,000.

TABLE 2. TOTAL ESTIMATED RIPPLE-EFFECT RAISES FROM IMPLEMENTING A $10.80/HEALTH LIVING WAGE FOR METROPOLITAN GENERAL GOVERNMENT WORKERS

	(1) Full-time general government workers	*(2) Part-time general government workers*	*(3) Seasonal and temporary general government workers*
Costs due to ripple-effect wage increases			
Total number of workers receiving ripple-effect wage increases	739	381	364
Total ripple-effect wage increases	$2.5 million	$551,335	$166,439
Costs due to ripple-effect health care coverage			
Number of workers receiving health care coverage due to ripple effects	3	43	37
Average annual hours for workers receiving health care coverage due to ripple effects	2,074	988	664
Cost increase (at $3.30 per hour) to employers of health care coverage due to ripple effects	$20,533	$140,295	$81,074
Total cost increase due to wage increases and new health care coverage due to ripple effects	$2.5 million	$691,630	$247,513

Source: Nashville metropolitan general government employee payroll data, 2008. See technical appendix for details.

9 In the case of a living wage proposal that only covers full-time regular general government employees, we are likely overestimating the increased costs due to ripple-effects. This is because the mandated raises of a living wage standard that applies only to full-time regular general government employees would require very few workers to get raises (i.e., few full-time regular general government employees earn less than $10.80). As a result, the mandated raises would leave basically unchanged the wage hierarchy among full-time general government workers. In other words, no ripple-effect raises would be needed to preserve the current wage hierarchy.

C. Total costs for $10.80/health proposal

In Table 3, we summarize the cost increases the metropolitan government would face from the living wage measure that would cover all general government workers. These costs include all mandated raises and mandated increases in health insurance benefits for $6.55 to $10.80 per hour workers, as well as ripple-effect raises and ripple-effect increases in health insurance benefits for workers earning up to $12.80 per hour. To these, we then add payroll taxes of 7.65 percent that the metropolitan government will face along with each category of wage and health insurance cost increases.

TABLE 3. TOTAL ESTIMATED COST INCREASES FROM IMPLEMENTING A $10.80/HEALTH LIVING WAGE PROPOSAL FOR METROPOLITAN GENERAL GOVERNMENT WORKERS

Coverage	*Wage increases*	*Health insurance cost increases*	*Payroll tax increases*	*Total cost increases*
Mandated costs				
Full-time general government workers	$214,696	-	$16,424	$231,120
Part-time general government workers	$317,722	$775,250	$24,306	$1.12 million
Seasonal and temporary general government workers	$482,688	$660,378	$36,926	$1.18 million
Ripple-effect costs				
Full-time general government workers	$2.5 million	$20,533	$191,250	$2.71 million
Part-time general government workers	$551,335	$140,295	$42,177	$733,807
Seasonal and temporary general government workers	$166,439	$81,074	$12,733	$260,246
Total costs	$4.23 million	$1.68 million	$323,816	$6.23 million

Source: Figures taken from Tables 1 and 2.

As we can see, the total costs break out as follows: $4.2 million in wage increases, $1.7 million in health insurance coverage, and about $320,000 in payroll tax increases. The total costs for this measure covering all general government workers would therefore be about $6.2 million.

In Table 4, we break down these costs to show the differences in costs when coverage is restricted to full-time general government workers, or to full- and part-time workers, excluding seasonal/temporary workers. As we see in Table 4, covering only full-time workers would amount to about $2.9 million, while a measure applying to full- and part-time workers only would amount to about $4.8 million. That is, the costs of covering only full-time workers would be about 47 percent as large as covering all general government workers. The proposal that would cover full- and part-time workers, but exclude seasonal/temporary workers, would cost about 77 percent as much as the full coverage.

TABLE 4. TOTAL COSTS FOR ALTERNATIVE $10.80/HEALTH MEASURES FOR GENERAL GOVERNMENT WORKERS: PARTIAL VERSUS FULL COVERAGE

	Coverage for full-time workers only	*Coverage for full plus part-time workers*	*Coverage for all general government workers: full plus part-time plus seasonal/ temporary workers*
Total costs for each measure	$2.94 million	$4.79 million	$6.23 million
Costs of partial coverage as percent of full coverage	47%	77%	100%

Source: Figures taken from Table 3.

D. How to pay for the $10.80/health proposal for general government workers?

The total budget for the Nashville-Davidson County metropolitan government is $1.57 billion for fiscal year (FY) 2009. This means that the living wage measure for all general government workers—costing $6.2 million in total—would represent about 0.4 percent of the County's overall budget. The cost of the measure only applied to full-time general government employees would represent about 0.2 percent of the County's overall budget, with an overall cost of

$2.9 million. The proposal to include full- and part-time government employees, but leave out seasonal and temporary workers, would amount to about 0.3 percent of the general government budget, with an overall cost of about $4.8 million.

Relative to the overall budget of the County of Nashville-Davidson, the $10.80/health living wage measure for general government workers thus represents a very modest level of expenditure. At the same time, whether the measure costs about $3 million, $4.8 million, or $6.2 million, this is still money that the government will have to find to cover these increases in wages and benefits.

There are three possible ways for the government to cover these increased costs. The first is to raise taxes, the second is to transfer funds from other programs, and the third is to channel a share of the increased revenue generated by economic growth to pay for living wages. We are not privy to assessments within the government or the community more generally as to the merits of existing government programs. We therefore will assume that all of these programs are operating effectively at their current levels, and that they should not experience cuts in their budgets. That therefore means that we are down to two potential sources of funds to cover the $10.80/health living wage measure: increased revenues either through higher tax rates or from economic growth.

Revenues from economic growth. Between FY 2007 and 2008, government revenues rose by $59.7 million, an increase of nearly 4 percent. Thus, under such circumstances of reasonably healthy economic growth and corresponding government revenue growth, the full costs of the $10.80 living wage measure for all general government workers would amount to only about 10 percent of the increase in government revenues. That is, the cost of a $10.80 living wage standard with health benefits for all general government workers could have been covered by about 10 percent of the rise in government revenues, while the remaining 90 percent increase in revenues could have still been devoted to all the other purposes of concern to the citizens of Nashville.

Of course, during the current recession, obtaining an increased flow of tax revenues will obviously be much more difficult. But even for FY 2009, Nashville tax revenues rose by $10.5 million, from $1.56 to $1.57 billion. Thus, even in the very weak economy as of 2009, the $10.80/health living wage proposal covering all general government workers would still only amount to about 55 percent of the increase in County tax revenues. A $10.80/health living wage restricted to full-time general government workers only would amount to only about 28 percent of the increase in FY 2009 revenues. That is, even under recession conditions of FY 2009, if the County had implemented and fully paid for the $10.80/health proposal with the most limited coverage of general government workers, it would still have 72 percent of its increased revenue, $7.6 million, to allocate to other purposes. This situation would also entail no cuts to existing programs and no tax increases. We recognize that the severity of the current recession accelerated during the spring, and as of this writing in October 2009, there are only weak signs of the economy stabilizing. This means that, at least for the coming year, revenue from economic growth is unlikely.

Revenues from tax increases. The major sources of tax revenues for Nashville-Davidson County are property taxes ($754 million, or 48 percent of total budget) and sales taxes ($298 million, or 19 percent of total budget). The remaining roughly 30 percent of revenues come from a range of grants and contributions from the State of Tennessee and federal government, as well as user fees, licenses, permits and related sources. One of the user fees is a hotel occupancy tax of five percent, which generated $27.5 million for FY 2009.

Assuming the citizens of Nashville-Davidson County prefer to pay for the living wage increases through raising taxes as opposed to capturing a share of the revenue gains from economic growth, one approach to limit the size of the tax burden from any given source would be to spread the costs among a range of revenue sources. For purposes of illustration, we consider a proposal to raise the property tax, sales tax, and hotel occupancy tax to each generate about $1.6 million in extra revenue—that is, each would generate enough additional revenue to cover about 25 percent of the total cost increase associated with the $10.80/health living wage measure covering general government workers.

To cover the remaining $1.6 million, we would propose a new tax—a modest entertainment tax for tourists to Nashville, equivalent to the entertainment tax that now operates in Las Vegas and a few other localities in the United States. Of course, Nashville is a well-known and desirable tourist destination. The Tennessee Department of Tourist Development estimates that tourist expenditures within the County for 2007 were nearly $4 billion. Given this level of spending, it would be necessary to establish only a very modest tax on entertainment activities—including attendance at concerts, nightclubs, sporting events, and other entertainment activities.

In Table 5, we show how much of a tax rate increase would be needed from the property tax, sales tax, hotel occupancy tax, and the new entertainment tax in order to raise about $1.6 million in new revenue from each source. As the table shows, these tax increases would be quite modest. For example, the property tax would have to rise from its present rate of 4.04 percent to 4.05 percent. This would mean an average cost increase of about $5 per year for the average Nashville homeowner or $63 per year for the average Nashville business owner. The sales tax would have to rise from 2.25 percent to 2.29 percent. This would mean that $1,000 in consumer goods would rise in cost to $1,000.40.

TABLE 5. RAISING $6.2 MILLION FOR $10.80/HEALTH LIVING WAGE FOR ALL GENERAL GOVERNMENT WORKERS THROUGH FOUR TAXES: PROPERTY, SALES, HOTEL, AND ENTERTAINMENT TAXES AT $1.55 MILLION EACH IN NEW REVENUE

	Tax rate increase	*Added burden for taxpayers*
Property tax	Rate rises from 4.04% to 4.05%	$5/year for average Nashville homeowner $63/year for average Nashville business owner
Sales tax	Rate rises from 2.25% to 2.29%	$1,000 in consumer goods rises to $1,000.40
Hotel occupancy tax	Rate rises from 5% to 5.28%	Average room cost rises from $136.50 to $136.90 per night
Entertainment tax	Establish a 0.4% tax rate for concerts, nightclubs, sporting events	Costs 18 cents per person per visit

Sources: See Technical Appendix for details.

The increase in the hotel occupancy tax would be from 5 percent to 5.28 percent, which would raise the average cost of a Nashville room from $136.50 to about $137.00 per night. Finally, a 0.4 percent entertainment tax would require a cost increase of about 18 cents for each visitor to a local concert, nightclub or sporting event.

We present these figures for illustrative purposes only, to show various ways in which the added tax burden to finance the $10.80/health living wage proposal for all general government workers could be widely disbursed, so that the burden would be light on any given taxpayer or for any type of tax. Note also that both the hotel occupancy tax and the entertainment tax would fall primarily on people living outside of the Nashville-Davidson County economy, and coming into the area as tourists, an issue that we will discuss further below.

Another factor to consider when weighing the various ways to finance the $10.80/health living wage proposal is that the local sales tax poses a heavier burden for low-income families compared to high-income families. This is because low-income families tend to spend a higher proportion of their income on purchasing such items as food and clothing which are subject to the tax. As a result, raising this tax rate significantly would work at cross purposes with the living wage measure. For that reason, any increase to the sales tax should be within the low range that we propose.

Productivity improvements. Considerable research in recent years has shown that a higher minimum wage standard can improve firm performance through several channels. These improvements can apply to the functioning of local governments as well. Productivity improvements include lower costs for recruiting low-wage workers as well as lower turnover and less absenteeism among the low-wage workers on the job. Less turnover and absenteeism in turn means that training and supervisory costs should fall. Combining all of these factors may then yield a workplace with better morale, less unneeded hierarchy and greater cooperation.

The recent research on the effects of living and minimum wage increases consistently shows that private companies paying higher minimum wages have

benefited by lowering turnover and absenteeism and raising morale. But these gains do not generate sufficient productivity gains to fully cover their increased labor costs. For example, the 2005 study by Fairris, Runsten, Briones, and Goodheart of the Los Angeles living wage ordinance, which established a $7.25 minimum wage with health benefits in 1997 for firms holding contracts with the City of Los Angeles (with the wage minimum rising to $8.78 in 2004) found that turnover did fall significantly. The annual turnover rate at living wage firms averaged 32 percent per year, which compared with 49 percent for comparable non-living wage companies. The authors found that such turnover reductions represented a cost savings for the average living wage business that covered 16 percent of their higher labor costs.

In other words, the savings gained through lowering turnover, absenteeism, and associated recruitment, training and supervisory costs tend to be less than the cost increases associated with a higher minimum wage standard. Put another way, the government may not get a $1 benefit in cost savings for a given $1 increase in wages. In general, we do not expect that the government will be able to cover a high proportion of its increased costs through improved productivity. But they are likely to make modest gains in productivity. And given that the tax increases the metropolitan government will need are quite modest, any improvement in productivity would make a significant contribution toward absorbing some of these costs.

We also emphasize, finally, that these calculations assume that *none* of the increased revenues that would normally be generated even by a modest level of economic growth would be devoted to covering the costs of the living wage measure. If, for example, we allowed that one-half of the costs of the $10.80/ health proposal for all general government workers were covered through economic growth—i.e. about $3.1 million—while the other $3.1 million were covered through tax increases, the tax rate increases and tax burdens that we document in Table 5 would be correspondingly reduced by one-half.

IV. THE COSTS OF PROPOSAL 2:

A living wage rate of $10.80 plus health insurance benefits with broad coverage for all metropolitan government workers

As discussed at the outset, there is an additional living wage proposal being considered for Nashville: a $10.80/health measure that would apply broadly for all metropolitan government workers.

In Table 6, we present the most basic estimates for this alternative proposal—that is, the number of workers covered by the measure, both through mandated and ripple-effect raises, with respect to both wages and health benefits; and the total estimated cost of the measure. We present details on how we derived these calculations in the Technical Appendix. Of course, the general approach underlying these estimates is identical to that which we have presented for the $10.80/health proposal for general government workers.

TABLE 6. COVERAGE FOR WORKERS AND COSTS OF ADDITIONAL NASHVILLE LIVING WAGE PROPOSAL FOR ALL METROPOLITAN GOVERNMENT WORKERS

	$10.80/health for all metropolitan government workers
Total number of workers covered	6,544
Total costs	$48.2 million

Sources: See technical appendix for details.

As we can see, when the $10.80/health proposal is extended to all metropolitan government workers, the overall costs rise dramatically—to $48.2 million. That is, when the proposal is extended to cover all metropolitan government workers, as opposed to just the general government workers, the cost of the living wage proposal rises by eight-fold.

As we discussed earlier, the category of all metropolitan workers is about twice as large as that for general government workers—about 21,300 metropolitan government workers versus about 10,400 for general government workers. This doubling in the number of workers in the overall pool of covered employees can therefore account for some of the eight-fold increase in costs. However, if the metropolitan government workers had the same profile as the more narrow category of general government workers in terms of wages, hours, and health benefits, then the rise in costs associated with a rough doubling of the coverage of the living wage ordinance should also be a roughly two-fold increase. Why do the costs rise instead with the broader coverage by eight-fold?

Three factors are at play:

1. There is a much higher proportion of workers in the broader pool of metropolitan government workers who are presently earning below the $10.80 living wage minimum;

2. There is a similarly higher proportion of metropolitan workers currently without employer-provided health insurance; and

3. There is a much larger pool of workers who would likely receive non-mandated ripple-effect gains, both in terms of wage increases as well as health benefits.

In the Technical Appendix we document how these factors come together to generate these much higher cost estimates when coverage is extended to all metropolitan workers.

A. How to pay for the $10.80/health proposal for all metropolitan government workers?

Obviously, paying for a $48 million cost increase—to cover all 21,300 metropolitan government workers with the $10.80/health living wage proposal—will be much more challenging than funding the $6.2 million needed to cover the proposal for general government workers only. However, we can consider strategies for covering this cost increase to the government in terms of the same set of possibilities that we have presented above—i.e. using a share of the increased revenues generated by economic growth, as well as distributing small tax increases among four possible taxes, the property tax, sales tax, hotel occupancy tax, and a new entertainment tax.

The simplest solution would be for the government to allocate a share of revenues generated from growth to covering the living wage increases. Of course, this approach would have to wait until the U.S. economy has begun to grow again at a reasonable rate. Raising the U.S. economy's overall growth rate will, in turn, be reflected in higher tax revenues for Nashville-Davidson County.

If we allow, for example, that, in a post-recession U.S. economy, Nashville returns to a level of increased revenue growth similar to FY 2008 that alone would generate an increase in government revenues in the range of $60 million. Thus, under these conditions in a post-recession economy, the full $48 million in costs for a $10.80/health living wage measure for all metropolitan workers could be covered through one-year's worth of growth-generated tax revenues, and the government would still have an additional $12 million in new revenue to devote to other priorities. The government could implement such a plan without increasing any taxes at all, or reducing spending on any existing budgetary items.

Another alternative might be that the government would devote only one-half of its increased growth-generated revenue, about $30 million, to covering the cost increases associated with the $10.80/health living wage for all metropolitan workers. That would mean that the remaining $18 million in total costs would need to be covered through some combination of tax increases. In Table 7, we consider how this $18 million in increased taxes could again be divided equally among four possibilities, the property tax, sales tax, hotel occupancy tax, and entertainment tax.

As we see in Table 7, even with having to now generate a total of $18 million, as opposed to $6.2 million in the previous example, the increased tax burden in all cases remains modest. The average homeowner would need to pay an additional $12.00 per year and the average business owner an additional $160 per year. The average hotel room would rise from $136.50 to about $138 and the entertainment tax would amount to about 50 cents per person for each concert, nightclub or sporting event. And again, the benefit of both the hotel occupancy and entertainment tax is that they would be paid for primarily by tourists coming to Nashville.

Overall, what this and the previous exercise show is that—beyond the specific figures presented in Tables 5 and 7—the costs of providing living wages to employees of Nashville-Davidson County can be covered through distributing those costs broadly among a range of alternatives.

TABLE 7. RAISING $18 MILLION FOR $10.80/HEALTH LIVING WAGE FOR ALL METROPOLITAN GOVERNMENT WORKERS THROUGH FOUR TAXES: PROPERTY, SALES, HOTEL, AND ENTERTAINMENT TAXES AT $4.5 MILLION EACH IN NEW REVENUE

	Tax rate increase	*Added burden for taxpayers*
Property tax	Rate rises from 4.04% to 4.07%	$12.00/year for average Nashville homeowner $160/year for average Nashville business owner
Sales tax	Rate rises from 2.25% to 2.36%	$1,000 in consumer goods rises to $1,001.10
Hotel occupancy tax	Rate rises from 5% to 5.8%	Average room cost rises from $136.50 to $137.54 per night
Entertainment tax	Establish a 1.05% tax rate for concerts, nightclubs, sporting events	Costs 51 cents per person per event

Sources: See technical appendix for details.

V. WHO WOULD BENEFIT FROM THE NASHVILLE LIVING WAGE MEASURE?

A. Benefits to workers

In Tables 8-10, we present some basic information on the workers who would benefit from a Nashville living wage and their family circumstances. The data we present are for the workers covered by the $10.80/health living wage for all metropolitan government workers.

Before proceeding, we need to note two major demographic differences between the metropolitan government workers who would receive raises under the proposal with broad coverage, the figures for whom we present in this section, and the general government workers who would receive raises under the proposal with narrow coverage.

The first major difference is that a greater proportion of general government workers who would benefit from the narrow coverage proposal are nonwhite compared to the pool of all metropolitan government workers who would benefit from the broad coverage proposal. We estimate that 52 percent of workers who would receive raises from the living wage proposal with narrow coverage are nonwhite. The same figure among all metropolitan government workers is 31 percent. This difference reflects the fact that the Nashville-Davidson County metropolitan government draws a large share of its low-wage general government workforce from central areas of the city of Nashville.[10,11] These areas tend to have higher concentrations of nonwhite residents compared to the rest of the metropolitan area.[12]

The second major demographic difference between the groups of workers covered by the two different proposals is with the proportion of full-time workers. Low-wage earners among general government workers are more concentrated in part-time, seasonal, and temporary positions compared to low-wage earners among all metropolitan government workers. We estimate that 47 percent of general government workers who would receive a raise from the living wage proposal with narrow coverage are classified as "full-time regular" employees.[13] This is much lower than our estimate of 81 percent of low-wage earners who work at least 35 hours weekly among all metropolitan government workers. This difference exists despite the fact a similar proportion of general government positions are full-time (90 percent) as metropolitan government positions overall (87 percent).

In sum, general government workers who would benefit from the living wage proposal with narrow coverage are more likely to be nonwhite and more likely to hold part-time, seasonal, or temporary positions than their counterparts under the living wage proposal with broad coverage. This has an important consequence for the demographic profiles we provide in this section. Nonwhite workers and workers who do not hold full-time positions are more likely to come from low-income households. As a result, workers who would be affected by the proposal with narrow coverage will tend to be poorer than the workers affected by the proposal with broad coverage. In other words, the figures we present in this section, based on workers affected by the proposal with broad coverage, will understate the proportion of workers from poor- and near-poor households that

10 Dr. Melissa Snarr and Ms. Erin Rehel of Vanderbilt University provide a description of where low-wage general government workers reside in their unpublished August 2008 paper, "Working Family Poverty in Davidson County: Metro Government Employees." In particular, they report that the vast majority of low-wage general government workers reside in the following ten zip codes (in order): 37207, 37218, 37206, 37209, 37211, 37115, 37013, 37208, 37203, and 37216.

11 For a detailed picture of the racial composition of Nashville-Davidson County neighborhoods, see *Measuring Racial Residential Segregation* by M. Elizabeth Kirkland (Nashville, TN: Race Relations Institute). Also, the website www.hellonashville.com provides 2000 Census data by zip code in Nashville (accessed October 22, 2009).

12 The broader metropolitan government workforce, in contrast, is more likely to be drawn from neighborhoods throughout the metropolitan area. This is because a large share of the metropolitan government workforce is employed in schools distributed throughout the metro area. This would explain why the proportion of nonwhite workers among affected metropolitan government workers is more in line with the 27 percent of nonwhite residents of Nashville-Davidson County, as reported by the U.S. Census Bureau.

13 These two definitions of full-time work are not strictly comparable. The city payroll data provides more detailed information about the full-time status of general government workers than what is available from the Current Population Survey (CPS), the data from which we draw information about all metropolitan workers. In particular, when we use the CPS data, we cannot distinguish temporary or seasonal workers who work 35 or more hours per week from full-time permanent workers.

would benefit from the living wage proposal with narrow coverage.

With these differences in mind, we begin with some basic characteristics in Table 8. From this table, we see that about 6,500 workers who would be covered by the $10.80/health living wage for all metropolitan government workers represent a bit more than two percent of all workers in the greater Nashville area. The average age of these workers is 42 years, and, on average, they have been in the labor force for 23 years. These are clearly people who are well into their long-term occupational trajectory; their current position is not a stepping-stone to a more lucrative opportunity in the near future. The percentage of teenagers is very low—only 1.4 percent of the total. About 65 percent are female, and 70 percent are white.

TABLE 8.BASIC CHARACTERISTICS OF WORKERS AFFECTED BY $10.80/HEALTH LIVING WAGE MEASURE FOR METROPOLITAN NASHVILLE WORKERS

Number of workers	6,545
Percentage of workforce	2.2%
Average age	42
Labor force tenure	23
% teenagers	1.4%
% female	65.1%
% nonwhite	30.8%

Source: 2004-2008 Current Population Surveys. See technical appendix for details.

In Table 9, we present basic evidence on the family characteristics of these workers. On average, they are living in families with two other people. They are not the sole income earner in their families. Indeed, they are contributing about 43 percent to their families' total average incomes of about $49,000. For a family of three, with two wage-earners and one child, the Economic Policy Institute calculates that a basic budget line in Nashville is $36,308. The median family income for those receiving the living wage increase is therefore about $13,000 a year above the basic budget line. The income of the person receiving the living wage increase is therefore crucial to this average family maintaining their living standard above the basic budget line.

TABLE 9. FAMILY STRUCTURE OF LOW-WAGE METROPOLITAN GOVERNMENT WORKERS AFFECTED BY $10.80/HEALTH LIVING WAGE PROPOSAL

Average family size	2.7
Average (median) percentage of total family income contributed by worker	43.3%
Total family income (median)	$49,314

Note: Affected workers include those who earn between $6.55 (the federal minimum wage rate during 2008) and $12.80 under the $10.80 proposal.

Source: 2004-2008 Current Population Surveys. See technical appendix for details.

But not all families with workers receiving raises have incomes above the EPI basic budget line. We see this in Table 10. As the table shows, about 10 percent of the workers live in families with incomes below the official government poverty line. But this poverty line has been widely recognized as being too low, because it does not take adequate account of child care and housing costs. We therefore term this official poverty line as a "severe poverty" standard. By a more reasonable figure, 200 percent of the official poverty line, we see that roughly 25 percent of the workers live in families below this line. Moreover, nearly half of all workers receiving raises live below the basic budget line for Nashville, as defined by the Economic Policy Institute.

TABLE 10. PROPORTION IN POVERTY AND BELOW BASIC BUDGET LINE AMONG METROPOLITAN GOVERNMENT WORKERS AFFECTED BY $10.80/HEALTH LIVING WAGE PROPOSAL

Families in severe poverty (below official poverty line)	10.0%
Families in near poverty (below 200% of official poverty line)	25.5%
Families below basic needs threshold	47.6%

Note: Affected workers include those who earn between $6.55 (the federal minimum wage rate during 2008) and $12.80 under the $10.80 proposal.

Source: 2004-2008 Current Population Surveys. See technical appendix for details.

To see how the living wage would affect the living standard of such families, in Table 11 we consider the situation for a representative family of a low-income metropolitan government worker who would receive a raise. From Table 11, we see that this representative family includes a metropolitan govern-

ment worker earning $9.00 per hour, working 33 hours per week, and 45 weeks per year. This work schedule produces annual earnings of about $13,400. This level of earnings amounts to about two-thirds of this family's total income of $20,100.

TABLE 11.BASIC CHARACTERISTICS FOR REPRESENTATIVE LOW-INCOME WORKER AND FAMILY AFFECTED BY LIVING WAGE LAW

	Representative low-income worker
Hourly wage	$9.00
Annual hours	1,485 (33 hrs./week x 45 weeks/year)
Worker's annual earnings	$13,365
Total family income	$20,100
Family members	2 adults, 1 child

Note: Affected workers include those who earn between $6.55 (the federal minimum wage rate during 2008) and $12.80 under the $10.80 proposal. Low-Income is defined to be 200% of the official poverty line.

Source: 2004-2008 Current Population Surveys. See technical appendix for details.

In Table 12, we present data on how the living standard of this family would change due to the $10.80 living wage increase alone. For simplicity, we assume in this example that the low-wage worker is already receiving health insurance from her employer. In the first column, we show the situation for this worker and family, based on the data for the family presented in Table 11. Thus, the low-wage worker is receiving $9.00 per hour and $13,365 in annual earnings. The family's total income is $20,100.

The family's total disposable income is then adjusted through a combination of taxes and three subsidies—the Earned Income Tax Credit, the Child Tax Credit, and Food Stamps. As we see in row 10, these taxes and transfers add up to a net increase in family disposable income of about $2,509. We then see that, overall, this family's disposable income is roughly $22,600.

What is the impact of the $10.80 living wage increase for this family? We show two scenarios in columns 2 and 3 of Table 12. In column 2, we assume the worker receiving the living wage increase obtains the mandated living wage raise only, i.e. this worker's wage rises from $9.00 to $10.80. In column 3,

TABLE 12. CHANGES IN LIVING STANDARDS AFTER LIVING WAGE OF $10.80 ADOPTED FOR A REPRESENTATIVE AFFECTED WORKER FROM A NEAR-POOR FAMILY

	Before living wage	*After mandated raise*	*After ripple-effect raise*
1. Average wage	$9.00	$10.80	$11.30
2. Annual hours (33 hrs./week x 45 weeks/year)	1,485	1,485	1,485
3. Annual earnings (average wage x annual hours)	$13,365	$16,038 ($2,673 above earnings before living wage)	$16,780 ($3,415 above earnings before living wage)
4. Total family earnings	$20,100	$22,773 ($2,673 above earnings before living wage)	$23,515 ($3,415 above earnings before living wage)
Deductions from income			
5. Federal income tax	-$0	-$136	-$211
6. Fica	-$1,538	-$1,742	-$1,799
Supplements to income			
7. EITC	$2,704	$2,272	$2,153
8. Child tax credit and additional child tax credit	$1,000	$1,000	$1,000
9. Food stamps*	$343	$0	$0
10. Net taxes and transfers (rows 4 + 5 + 6 + 7 + 8 + 9)	+$2,509	+$1,394	+$1,143
11. Disposable income (rows 4 + 10)	$22,609	$24,167 ($1,558 above income before living wage)	$24,658 ($2,049 above income before living wage)
12. % Change in disposable income		+7%	+9%

*Note: The average affected worker from a near-poor household receives health insurance from their employer therefore we do not consider any potential changes in Medicaid or Tenncare benefits. *The average affected worker's family becomes ineligible for Food Stamps after the mandated wage raise.*

Source: 2004-2008 Current Population Surveys. See technical appendix for details.

we assume that this worker receives a ripple effect raise over and above the mandated raise, with her new wage rate set at about $11.30.

When the worker receives the mandated raise only, we see that, in adding up all other sources of family income, as well as all taxes and subsidies, the family's disposable income rises to $24,167. This is a seven percent increase in the family's living standard resulting from the living wage increase. If the worker were able to get a raise to $11.30—allowing for the ripple-effect wage increase above the $10.80 mandated living wage rate—the overall disposable income level for the family would be $24,700. This is an increase of more than $2,000, a nine percent increase.

These are significant increases in the living standard for low-income households. However, they are not nearly enough to lift this family above the 200 percent of poverty line or the basic budget line, which are both in the range of $35,000. How much difference will this increased income matter? To give a concrete sense of this, it will be helpful to refer to interviews conducted in 2003 by our colleagues Mark Brenner and Stephanie Luce after workers in Boston received living wage increases of roughly this magnitude. Brenner and Luce report on their eight detailed interviews as follows:

Respondents signaled small but concrete advances in their personal and professional lives. Five had begun classes, four had been able to take vacations, and four had used higher disposable incomes to assist their families financially. This ability to help out friends and family was especially meaningful, as it signaled a degree of independence and security that these workers had not been able to attain with lower earnings. For example, one woman was able to regularly purchase groceries for her aging mother, and even to save enough money to buy her mother a new set of living room furniture and help her son with college expenses. One man was saving money to help his mother make a down payment on a house. Another woman was able to help two of her family members pay for funeral arrangements. Three individuals used the higher wages to help buy a car, and one young man had managed to improve his housing situation by leaving his mother's house to share an apartment with friends. Three respondents reported that they were able to reduce their work hours after receiving the living wage. All our interviewees confirmed that the living wage law had exerted a positive but modest impact on their lives. (Pollin et al. 2008, p. 190).

B. Benefits to state and federal governments

We saw earlier that with the $10.80/health living wage, living standards improved for the representative low-income metropolitan government worker receiving a raise. This happened even as we saw the low-income family received less in public subsidies—e.g,. Food Stamps and the EITC—as their wage earnings increased. What follows directly from this is that the government bodies that provide these public subsidies can spend less to help working people earning poverty wages.

What do these savings amount to for the various government bodies that pay for these subsidies? We look first at the potential benefit in the context of the $10.80/health living wage proposal for all general government workers. If we take the experience of our representative worker and his/her family as our guide, we approximate that the federal government would save about $140,000 in Food Stamp benefits and about $230,000 in EITC.[14]

There are also potential government savings that would occur when workers and their families become ineligible for Medicaid benefits as the earnings rise. Roughly five percent of low-income metropolitan workers (or someone in their household) receives Medicaid benefits. Under the provisions of the living wage, we assume these workers would become insured through the metropolitan government. Switching from Medicaid to the living-wage-provided health benefit would produce a savings for the Medicaid program of about $380,000.

Taken altogether, these government savings amount to about $750,000. These savings are equal to about twelve percent of the $6.3 million it would cost to adopt the $10.80/health living wage proposal for all general government workers. Unfortunately, given the way these programs are administered the Nash-

14 See Technical Appendix for details.

ville-Davidson County metropolitan government would not be the recipient of these savings, even though it would be providing the wage raises that made the savings possible. Savings from the reduction in Food Stamp benefits, EITC, and Medicaid coverage would go mostly to the federal government; the remainder of the savings from Medicaid would go to the state government. As such, these savings represent benefits to the Tennessee state government and the federal government.

Using the same basic technique, we can also approximate the $10.80/health living wage proposal with broader coverage for all metropolitan government workers. Government savings from the broader $10.80/health living wage proposal add up to roughly $3 million. These savings, broken down by program, are as follows: $580,000 in Food Stamps, $950,000 in EITC, and $1.5 million in Medicaid benefits. These government savings represent about six percent of the overall cost of the living wage proposal.

These two government savings estimates provide the approximate range of the size of the potential savings, relative to costs, from the living wage proposals.

C. Benefits to businesses in low-income neighborhoods

Private firms in low-income neighborhoods in the Nashville metropolitan area will benefit from the living wage proposals due to what we term a "low-income neighborhood spending injection." The reason they will benefit is straightforward: when low-wage workers and their families have more money to spend, they will spend a good share of it in the lower-income communities in which they live.

Recall that the wage gains established by the living wage will be paid for through small tax increases on all Nashville-Davidson County residents. This means that the extra money being received by low-wage government workers is coming out of the pockets of everyone else who is paying taxes in the County. In other words, the benefits to the low-wage workers and their families—families that are disproportionately low-income—are resulting from an income transfer from the incomes of all taxpayers in the area. When the low-wage workers spend their extra income in their local neighborhood store they are spending money that, if not for the living wage, would not otherwise have been available to consumers in their area. This is why we refer to this effect as a "low-income neighborhood spending injection" resulting from the living wage.

How large is this low-income neighborhood spending injection likely to be? Here we consider the potential benefit that would result from the $10.80/health living wage with the broadest coverage of all metropolitan workers. This is because, as will become clear, the potential benefit from the more narrow coverage of general government workers only would not be large enough to be meaningful. As we have seen, the cost of raising the minimum wage standard to $10.80 for all metropolitan government workers amounts to $48 million. Of this $48 million, $27 million represents wage increases to the approximately 6,500 government workers.

Not all the $27 million in wage gains will represent an increase in spending for Nashville businesses in low-income neighborhoods. There are two basic reasons for this:

1. As we have seen, the increases in net family incomes will be less than the wage gains because most low-wage workers will see their government subsidies go down and their taxes go up after they receive a raise. This is why the family earnings of our representative worker rose by about $3,400 but the family's disposable income increased by only $2,000.

2. We expect the wage gains of low-income workers only to be spent primarily in low-income neighborhoods. We saw in Table 10 that about 48 percent of low-wage metropolitan government workers fell below the basic budget income threshold. We thus estimate that roughly 48 percent of the $27 million in wage gains from the $10.80/health living wage proposal will go to low-income workers.

Taking these two factors into account, we estimate that the annual net income increase to low-income metropolitan government workers will be about $9 million.[15] But this $9 million in increased spending

15 This is simply the $27 million in wage gains multiplied by the percent of low-income workers among all metropolitan government workers (48 percent) and the percent of the increased earnings due to the

will in turn create further spending increases within the local area—what economists call a *multiplier effect*. A multiplier effect will occur after low-income families spend their extra $9 million. The business owners and workers who receive this extra money will also then spend a portion of their gains on purchases from other nearby business owners and workers. Thus, the effect of the initial $9 million multiplies throughout the local economy. To be specific, for every extra dollar spent by low-income families due to the low-income neighborhood injection the total increase in spending in the local businesses will be about $1.40. In other words the $9 million of extra income transferred into low-income neighborhoods will generate a total of $12.6 million in new spending.

How significant will be the spending increases in low-income neighborhoods? To gauge the significance of this nearly $13 million in new spending in low-income neighborhoods, we turn to our research on the experience of other cities that considered living wage proposals. With our colleagues Mark Brenner and Stephanie Luce, we have examined in depth the "low-income neighborhood injection" due to living wages in New Orleans, Phoenix, and Miami, Florida. Based on this prior research, we estimate that this $13 million increase in spending amounts to a 0.5 percent increase in the overall spending level in low-income neighborhoods.[16] This 0.5 percent increase is a small, but still positive boost in sales for retail businesses in Nashville's low-income neighborhoods.

Note that this 0.5 percent increase in spending is based on the living wage proposal that has the broadest coverage (all metropolitan government workers). The likely benefit to businesses in low-income neighborhoods from the alternative living wage proposal with the narrower coverage of general government workers will be smaller. As such, this benefit under the narrower coverage is unlikely to be perceptible.

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living wage than result in an increase in disposable income ($2,400/$3,400, or 70 percent).

16 See technical appendix for details on these comparisons.

VI. EFFECT OF INDEXING LIVING WAGE TO INFLATION

The analysis we provide considers the effects of a one-time event – the establishment of a living wage standard at the $10.80/health living wage given the current state of the Nashville economy. Would our overall conclusions about the impact of the measure be altered when, in future years, the Nashville living wage continues to rise in step with inflation?

In fact, our basic analysis of costs and benefits would not change as the living wage rises above its initial level. Rather, the purpose of indexing the living wage to inflation is precisely to prevent the benefits of the living wage standard from dissipating with inflation. This is because in an economy with inflation – i.e. a general rise in prices over time – what one can buy with one dollar, or $10.80, necessarily goes down over time. Indeed, if the living wage did not rise with inflation after its initial level is set then all the costs and benefits described above would diminish with time relative to what we have identified. It is only through indexing that our analysis of costs and benefits will remain approximately stable over time.

VII. CONCLUSION

Overall, the Nashville living wage proposals for either general government workers or, more broadly, all metropolitan government workers will offer significant, if modest, gains in living standards for the workers covered by these measures and their families. The costs of the measures are, in both cases, relatively small in proportion to the annual fiscal budget of Nashville-Davidson County, especially with respect to the more narrow measure covering general government workers only.

In the case of the proposal for general government workers, most of the costs could be borne though a modest share of the increased revenues generated by economic growth. But to obtain such revenues, the economy will need to begin growing again. However, even without growth, the costs could be borne through very modest tax increases that could be spread among the property tax, sales tax, hotel occupancy tax, and a new entertainment tax. When the costs are spread widely among these taxes, the additional burden on any single taxpayer will negligible. The benefits and corresponding costs are larger when the living wage measured is extended to include all metropolitan government workers. Still, the same general approach to spreading the costs widely—combining a share of the revenues from economic growth and very modest tax increases—will continue to apply. The fact that the benefits of the living wage proposal will be concentrated among low-wage workers and their families while the costs can be widely diffused throughout the Nashville-Davidson County community is a primary factor establishing its economic viability.

TECHNICAL APPENDIX

Data sources

We primarily used three different data sets for our cost estimates and demographic profiles of the workers we expect to receive raises due to the $10.80 living wage proposals.

Nashville-Davidson County Metropolitan General Government Employee Payroll Data. This data set includes payroll data on metropolitan general government employees as of June 2008. This excludes employees of The Board of Education, The Airport Authority, Nashville Electric Service, Register of Deeds, Metro Transit Authority (except for their director), Metro General Hospital, Metro Davidson Housing Authority, and Election Poll workers and other workers who work on a per diem or "piece-rate" basis (e.g., baseball referee who is paid per game). We exclude salaried elected officials since they are not the intended beneficiaries of any living wage proposal. A full list of the departments in which general government Employees work is provided in Table A1.

TABLE A1. GENERAL GOVERNMENT WORKERS BY DEPARTMENT

Department	*Number of general government workers*	*Percent of all general government workers in study*
Police	1,756	16.9%
Fire	1,161	11.1%
Sheriff	820	7.9%
Water services	733	7.0%
General hospital	729	7.0%
Parks	661	6.3%
Bordeaux long term care	500	4.8%
Health	498	4.8%
Public works	418	4.0%
Public library	339	3.3%
Metro action commission	330	3.2%
State fair board	220	2.1%
General services	198	1.9%
State trial courts	167	1.6%
Emergency communication center	153	1.5%
Information technology service	122	1.2%
Juvenile court	120	1.2%
Finance	116	1.1%
General sessions court	107	1.0%
Social services	95	0.9%
Codes administration	91	0.9%
Criminal court clerk	91	0.9%
Assessor of property	88	0.8%
County clerk	80	0.8%
District attorney	77	0.7%
Ncac	68	0.7%
Public defender	68	0.7%
Knowles home	61	0.6%
Convention center	57	0.5%
Law	55	0.5%
Human resources	54	0.5%
Circuit court clerk	53	0.5%
Planning commission	53	0.5%
Juvenile court clerk	43	0.4%
Election commission	32	0.3%
Mayor's office	32	0.3%
Trustee	32	0.3%
Justice integration services	21	0.2%
Clerk and master	20	0.2%
Metropolitan clerk	15	0.1%
Municipal auditorium	10	0.1%
Community education alliance	9	0.1%
Historical commission	9	0.1%
Internal audit	9	0.1%
Farmer's market	8	0.1%
Metropolitan council	8	0.1%
Agricultural extension	7	0.1%
Arts commission	6	0.1%
Beer board	4	0.0%
Criminal justice planning unit	4	0.0%
Human relations commission	4	0.0%
Transportation licensing comm.	4	0.0%
Sports authority	2	0.0%
Metro transit authority	1	0.0%
Soil and water conservation	1	0.0%
Total	10,420	100.0%

Source: Nashville metropolitan general government employee payroll data, 2008. See technical appendix text for details.

We assume that workers making below the $6.55 federal minimum rate (in effect during June 2008) fall under the per diem or "piece-rate" category of workers. Only 0.2 percent of all workers fell into this category.

Current Population Survey Data. The other two data sets are from the Current Population Survey (CPS). These data are prepared by the U.S. Census Bureau for the Bureau of Labor Statistics of the U.S. Department of Labor. Both of these publicly available government data sets are widely used by policymakers and economists to track labor market trends.

The first data set from the CPS is the Outgoing Rotation Group (CPS-ORG). This data set provides detailed data on hourly wages and hours worked, as well as, basic demographic information. These data are derived from one-fourth of the approximately 60,000 households surveyed monthly. Workers wages in the CPS-ORG data are based on the hourly rate reported by hourly wage workers or the usual weekly earnings divided by usual hours worked weekly reported by non-hourly wage workers.

The second data set from the CPS is the Annual Social and Economic Supplement (CPS-ASEC) and provides detailed data on family structure, income, earnings, and poverty status. These data are derived from a supplemental survey conducted in March, in conjunction with the CPS basic monthly survey described above. Workers' wages in the CPS-ASEC are based on the annual earnings divided by weeks worked and multiplied by usual weekly hours.

In order to estimate worker characteristics for Nashville-Davidson County metropolitan government workers we have to draw on five years of (2004-2008) CPS data. All dollar figures were adjusted to reflect 2008 values. However, even with five years of CPS data, we still needed to expand our sample in order to provide reliable estimates of the number of affected workers, as well as their current wages and hours.

We expanded our sample by including all local government workers in Tennessee living in metropolitan areas. In other words, we based our estimates of Nashville-Davidson County metropolitan government workers on a sample that combines local government workers in the Nashville-Davidson County area as well as local government workers in other Tennessee metropolitan areas. We are confident that our estimates, based on this more general group, provide a sufficiently accurate picture of the worker characteristics of local government workers in the Nashville-Davidson County area exclusively. For example, we find that the worker characteristics of general government workers are broadly similar those among all metropolitan government workers. We also compared, when possible, the worker characteristics of local government workers who lived in the Nashville-Davidson County-Murfreesboro Metropolitan Statistical Area specifically to our more general sample of local government workers who lived in all metropolitan areas of Tennessee. Here again we found that the characteristics of both groups of workers to be broadly similar.

Treatment of minimum wage workers over 2004 to 2007. For the pooled CPS data files, we adjusted all figures to 2008 dollars. However, for the years of 2004 to 2008 the federal minimum wage rate—the effective minimum wage in Tennessee—increased from $5.15 to $5.85 (in 2007) and $5.85 to $6.55 (in 2008). To adjust for this changing wage floor, we assume that workers earning between the minimum wage effective at the time of the survey (e.g., in 2004) and 2008 minimum wage of $6.55 would have received a raise equal to the full increase in the minimum wage.

To simplify our calculations, we do not account for ripple-effect raises caused by the federal minimum wage increases that also likely occurred for workers earning just above the effective minimum wage. This assumption will cause us to overstate the proportion of near-minimum wage workers, their expected raises from the living wage proposals, and therefore the expected cost increases. In other words, our cost estimates should be slightly overstated due to this assumption.

Estimating the number of all metropolitan government workers. We adjusted the CPS-provided sampling weights to reflect the overall number of local government workers in Nashville-Davidson County exclusively. We estimated the overall number of local government workers to be equal to 21,292. This estimate is derived by first estimating the fraction of the Nashville metropolitan area workers employed in local government from the CPS (6.9 percent) and applying this fraction to the overall employment level estimated by the U.S. Census Bureau for Davidson County (306,678) for 2005-2007.

Generating cost estimates

We calculate cost estimate for four distinct groups. The following are the definitions of each group. Estimates for the first three groups are based on the metropolitan general government Employee Payroll data set. Estimates for the fourth group are based on the CPS data.

1. Full-time regular general government employees

This group includes all workers who have an "employment status" of full-time. From this group we exclude elected officials, as well as workers who fall in the following "position status" categories (position status indicates employees' access to benefits and provide a more detailed description of their position):
Pension / Part Time
Temporary
Seasonal
Part Time (no benefits)
Part Time (with benefits)
Part Time Non-Civil Service / Grant / State Supplement with Benefits
Pool (no benefits)
Pool (with benefits)

The last two categories of workers (pool) are, according to the Nashville government website, "…not regular salaried employees and are not appointed to a budgeted position. They are called to report to work when needed because of periods of peak workload, employee absences, emergencies, or other short-term situations where the hiring or regular salaried employees or the use of overtime is not efficient of cost efficient (www.nashville.gov/civil_service/csr/ section_2.htm; Accessed 2/5/09)." We categorize these workers as "temporary" employees below.

2. Part-time regular general government employees

This group includes the all workers who are NOT full-time regular employees or elected officials. We also exclude the following "position status" categories:
Temporary
Seasonal
Pool (no benefits)
Pool (with benefits)

3. Seasonal and temporary general government employees

This group includes workers who fall in the following "position status" categories:
Temporary
Seasonal
Pool (no benefits)
Pool (with benefits)

4. For all metropolitan government workers

This group includes all local government workers residing in metropolitan areas in Tennessee regardless of full-time, part-time, or temporary/seasonal position status. We adjust the overall number of these workers to reflect what we estimated to be the size of the entire Nashville-Davidson County metropolitan government workforce, or approximately 21,000.

CALCULATING THE RIPPLE EFFECT FOR $10.80 LIVING WAGE STANDARD FOR GENERAL GOVERNMENT WORKERS

The statistical results that form the background for our estimation procedure are the wage increases that Wicks-Lim calculated as having occurred at different wage levels subsequent to recent federal and statewide minimum wage increases (see Ch. 11 in Pollin et al. 2008).

Wicks-Lim (2005; also see Pollin et al. 2008) studied ripple-effect raises that accompanied federal and statewide minimum wage increase in the U.S. between 1983 and 2002. Living wage rates however, typically require much larger raises compared to minimum wage hikes because the wage floors established by living wage proposals are usually twice as high as those established by minimum wage laws (Brenner and Luce 2005). To take account of the fact that living wage laws will typically require many more workers within a particular labor market to get larger raises than would be the general case for minimum wage hikes, Wicks-Lim looked at ripple-effects of minimum wage hikes among low-wage, retail workers in particular. Her research concludes that the ripple-effect raises among low-wage workers are similar to those among all workers.

We draw on the findings of this study to estimate the likely size of ripple-effect raises that would accompany the living wage proposals. That is, we proceed with our analysis here on the assumption that the patterns for the relationship between mandated wage increase and ripple-effect raises due to minimum wage hikes that held through the U.S. between 1983 and 2002 will also apply, at least roughly, for the current situation in Nashville-Davidson County.

How large are these ripple effects likely to be? Based on Wicks-Lim's previous research, we present in Table A2 estimates of the size that ripple-effect raises are likely to be, assuming a rise in the wage floor of 10 percent. As the table shows, if the minimum wage were to rise by 10 percent at the federal or statewide level for low-wage retail trade workers between 1983 and 2002, the typical raises experienced by workers around the 10th percentile—workers whose wages were higher than 10 percent of all retail trade workers but lower than 90 percent of the workforce—would be 7.3 percent. That would be a raise of 73 percent as large as the 10 percent mandated raise for a minimum-wage worker. Workers in the 15th wage percentile typically receive a 6.0 percent raise. As the table shows, the 45th wage percentile typically receives no ripple-effect raise from a minimum wage raise.

TABLE A2. ESTIMATED RAISES FROM RECENT FEDERAL AND STATEWIDE MINIMUM WAGE INCREASES FOR RETAIL TRADE WORKERS

Wage level	*Estimated raise from a 10% increase in minimum wage*
Minimum wage	10.0%
10th percentile	7.3%
15th percentile	6.0%
20th percentile	4.2%
25th percentile	2.0%
30th percentile	2.0%
35th percentile	2.0%
40th percentile	1.4%
45th percentile	0.0%

Source: Pollin et al. (2008) and Wicks-Lim (2005).

We then apply these figures to generate a ripple-effect estimate for the $10.80 living wage proposals.

Wicks-Lim's research indicates that, on average, minimum wage ripple-effect raises extend to about 19 percent above a newly set minimum wage rate. As a result, we assume that a raise in the minimum pay of metropolitan government workers to $10.80 will produce ripple-effect raises up to about 19 percent above $10.80 or roughly $12.80.

1. Estimates of wage increases at different wage percentiles. We assume that the ripple-effect increase for workers in the 5th through 35th wage percentiles among metropolitan government workers will be proportionate to the typical ripple-effect increases we observe in the previous cases describe above for the 10th through 40th wage percentiles. Note that we spread these estimates of wage increases suggested in Table A2 evenly over the 5th through 35th wage percentiles among metropolitan government workers. As a result, we assume that the impact of the wage floor on the 5th wage percentile among metropolitan government workers will be equal to the impact of the wage floor observed in Table A2 on the 10th wage percentile, and that impact on the 10th wage percentile among metropolitan government workers will be equal to the impact observed in Table A2 on the 15th wage percentile, and so on.

For example, we saw in Table A2 the increase for the 15th percentile was 60 percent as large as the increase in the minimum wage itself (a 10 percent increase in the minimum wage producing a 6.0 percent increase in the wages of the 15th percentile workers). Thus, we estimate that in Nashville-Davidson County, the 65 percent increase from the federal minimum wage of $6.55 to the living wage rate of $10.80 would elicit a wage increase for the 10th percentile workers 60 percent as large as a 65-percent increase—meaning that wages will rise by 39 percent for the 10th percentile workers. Given the 65-percent increase in the minimum rate to $10.80, we present in Table A3 our estimates of the likely percentage raises for workers up to the 35th wage percentile.

TABLE A3 ASSUMPTIONS ON PROPORTIONATE WAGE INCREASE RESULTING FROM ESTABLISHING LIVING WAGE OF $10.80

Wage level	*Wage rate among local government workers in tennessee metropolitan areas*	*Estimated raise (percentage) from a 65% increase in the minimum wage rate*
Minimum wage	$6.55	65%
5th percentile	$7.48	47%
10th percentile	$8.82	39%
15th percentile	$9.61	27%
20th percentile	$10.80	13%
25th percentile	$11.58	13%
30th percentile	$12.48	13%
35th percentile	$13.15	9%

Source: Pollin (2008); also see Appendix text.

2. Defining raises for different wage ranges. We then assume that workers within a given wage range will receive increases equal to each of the percentage point estimates we see in Table A3.

For example, we assume that workers earning between $7.78 and $9.00 (approximately the 7th to 12th wage percentile) will receive raises of 39 percent—the increase of the 10th percentile worker. The $7.78 worker will be the first to earn a ripple-effect raise because a 39 percent raise over $7.78 is $10.81. That is, the $7.78 worker will receive a mandated raise to $10.80 and a one-cent ripple-effect raise to $10.81.

We have to extrapolate at times from the estimates in Table A3, however. This is due to the fact that we need to construct wage intervals wide enough to capture a sufficient number of observations (i.e., greater than 25 observations) and these wage intervals tend to span over a range of the wage percentiles for which we have ripple-effect estimates, rather than centering on one wage percentile.

So for example, we then assume that metropolitan government workers earning between $9.00 and $10.80 (approximately the 12th to 20th wage percentiles) will all receive a percentage wage increase equal to the average increase of the 10th, 15th and 20th percentile workers, or 26 percent.

Metropolitan government workers earning between $10.80 and $12.00 (approximately the 20th to 27th wage percentile) will all receive a percentage wage increase equal to the average increase of the 20th and 25th percentile workers, or 13 percent. The metropolitan government workers earning between $12.00 and $12.80 (approximately the 27th to 33th wage percentile) will all receive a percentage wage increase equal to the average increase of the 30th and 35th percentile workers, or 11 percent.

3. Dividing total wage increases between mandated and ripple-effect increases. Workers who now earn between $7.78 and $9.00 will all receive raises that put them over the $10.80 minimum. But for these workers, part of their wage increase will be mandated—the part of the raise that puts them at $10.80—and only the remainder of their wage increase will be a ripple-effect raise. For example, based on our estimation technique, we assume that a worker now earning $9.00 per hour will receive a 26 percent raise if a living wage rate is set at $10.80. This means that the $9.00 per hour worker will receive a new wage of $11.34—26 percent above $9.00. For this worker, the total increase to $11.34 should be divided into two parts. Her mandated increase is from $9.00 to $10.80. Her ripple-effect raise is from $10.80 to $11.34.

4. Ripple-effect health insurance benefits. For the $10.80 living wage proposals, we assume that workers who receive any raises due to the change in the minimum pay rate to $10.80—mandated or ripple-effect raises—will also receive health insurance benefits. For example, workers earning $11.00 per hour before a $10.80 living wage is adopted would receive both a ripple-effect raise equal to 13 percent and health insurance benefits. In our cost estimates, we only add health insurance benefit costs for workers who currently do not have them.

In Table A4, we document the ripple-effect raises for the $10.80 proposals that will apply for the three different sub-groups of general government workers we examine. We also show the breakdown in the wage increases between the amounts that are mandated, bringing these workers to $10.80, and the remainder that are ripple-effect raises.

TABLE A4. ESTIMATION OF RIPPLE-EFFECT INCREASES FROM IMPLEMENTING A $10.80 LIVING WAGE PROPOSAL FOR METROPOLITAN GENERAL GOVERNMENT WORKERS

Table A4. A. Full-Time General Government Workers

Wage interval	*Present average wage*	*Estimated percentage wage increase*	*Average wage after $10.80 living wage*	*Average annual hours*	*Numbers of workers*	*Total yearly wage increases*
$7.78-$8.99	$ -	-	$ -	-	-	-
$9.00-$10.79	$10.29	26%	$12.96	2,089	200	$1,117,023 ($214,696 mandated; $902,328 ripple-effect)
$10.80-$11.99	$11.41	13%	$12.89	2,073	305	$937,696 (all ripple-effect)
$12.00-$12.80	$12.43	11%	$13.80	2,075	234	$664,144 (all ripple-effect)
Totals					739	$2.7 million ($214,696 mandated; $2.5 million ripple-effect)

Source: Nashville metropolitan general government employee payroll data, 2008.

Table A4. B. Part-Time Regular General Government Workers

Wage interval	*Present average wage*	*Estimated percentage wage increase*	*Average wage after $10.80 living wage*	*Average annual hours*	*Numbers of workers*	*Total yearly wage increases*
$7.78-$8.99	$8.58	39%	$11.92	980	47	$154,026 ($102,471 mandated; $51,555 Ripple-effect)
$9.00-$10.79	$9.95	26%	$12.53	873	269	$605,879 ($199,611 Mandated; $406,268 Ripple-effect)
$10.80-$11.99	$11.40	13%	$12.89	951	54	$76,167 (all ripple-effect)
$12.00-$12.80	$12.28	11%	$13.63	1168	11	$17,345 (all ripple-effect)
Totals					381	$853,418 ($302,082 Mandated; $551,335 Ripple-effect)

Source: Nashville metropolitan general government employee payroll data, 2008.

Table A4. C. Seasonal and Temporary General Government Employees

Wage interval	*Present average wage*	*Estimated percentage wage increase*	*Average wage after $10.80 living wage*	*Average annual hours*	*Numbers of workers*	*Total yearly wage increases*
$7.78-$8.99	$8.25	39%	$11.46	534	203	$347,970 ($276,425 mandated; $71,545 Ripple-effect)
$9.00-$10.79	$9.62	26%	$12.12	366	124	$113,460 ($53,553 Mandated; $59,907 Ripple-effect)
$10.80-$11.99	$11.32	13%	$12.79	556	27	$22,068 (all ripple-effect)
$12.00-$12.80	$12.28	11%	$13.63	957	10	$12,920 (all ripple-effect)
Totals					364	$496,418 ($329,979 Mandated; $166,439 Ripple-effect)

Source: Nashville metropolitan general government employee payroll data, 2008.

In the following sections, we present the analogous calculations for the remaining proposal: $10.80 living wage plus health for all metropolitan workers. We use the same approach to estimate the cost of this alternative proposal. Therefore, in this section we present a set of tables for the alternative proposal that is analogous to Tables 1-3 in the main text. We also include a set of tables that documents our ripple-effect estimates. These tables are analogous to table A.3 and A.4 above.

COSTS FOR $10.80/HEALTH LIVING WAGE STANDARD FOR ALL METROPOLITAN GOVERNMENT WORKERS

The mandated and ripple-effect cost increases are calculated exactly as with the $10.80 living wage standard for general government workers. The only differences between these calculations and our earlier calculations are 1) we do not distinguish between types of workers (full-time, part-time, and temporary and seasonal workers) and 2) these estimates are based on the publicly available government data from the Current Population Survey (CPS) as described above in the Data Sources section.

As we can see in Table A5, the total mandated wage and health insurance cost increases add to about $23.2 million for 3,915 metropolitan government workers.

TABLE A5. MANDATED INCREASES IN WAGES FROM IMPLEMENTING A $10.80 LIVING PLUS HEALTH INSURANCE BENEFITS FOR ALL METROPOLITAN GOVERNMENT WORKERS

	All metropolitan government workers
1) Number of workers	3,915
2) Average weekly hours	36
3) Average weeks worked	45
4) Average annual hours	1,613
5) Average wage	$8.81
6) Average raise	$1.99
7) Average yearly wage increase	$3,203
8) Total wage increase	$12.5 million
Health insurance benefits	
9) Number of workers without healthcare insurance from employer	2,004 (51.2%)
10) Cost of health insurance to employer per hour	$3.30
11) Cost of health insurance to employer per worker	$5,323
12) Cost increase to employer due to health care benefits	$10.7 million
13) Total cost increase due to wage raises and new health insurance benefits	$23.2 million

Source: 2004-2008 Current Population Survey; all figures in 2008 dollars. See technical appendix text for details.

Non-Mandated, Ripple-Effect Increases. In Table A6, we document the ripple-effect raises and increases in health insurance benefits for the $10.80/health proposal that will apply for all metropolitan government workers. We also show the breakdown in the wage increases between the amounts that are mandated, bringing these workers to $10.80, and the remainder that are ripple-effect raises.

As Table A6 shows, we estimate that about 5,473 metropolitan government workers will receive ripple-effect wage increases, and another 1,317 workers will receive health-care coverage through the ripple effect. For these workers, then, the full costs of the ripple effect will amount to about $22.9 million.

TABLE A6. ESTIMATION OF RIPPLE EFFECT FROM $10.80/HEALTH LIVING WAGE PROPOSAL ALL METROPOLITAN GOVERNMENT EMPLOYEES

Table A6. A. Wage Increases

Wage interval	*Present average wage*	*Estimated percentage wage increase*	*Average wage after $10.80 living wage*	*Average annual hours*	*Numbers of workers*	*Total yearly wage increases*
$7.78-$8.99	$8.59	39%	$11.94	1,698	1,005	$5.7 million ($3.8 million Mandated; $1.9 million Ripple-effect)
$9.00-$10.79	$9.85	26%	$12.41	1,716	1,839	$8.1 million ($3.0 million Mandated; $5.1 million ripple-effect)
$10.80-$11.99	$11.44	13%	$12.92	1,948	1,477	$ 4.3 million (all ripple-effect)
$12.00-$12.80	$12.43	11%	$13.80	1,962	1,152	$ 3.1 million (all ripple-effect)
Totals					5,473	$21.2 million ($6.8 million mandated; $14.4 million ripple-effect)

Table A6. B. Health Insurance Benefits

Number of workers receiving health care coverage through ripple effects	1,317
Average annual hours for workers receiving health care coverage through ripple effects	1,954
Cost increase (at $3.30 per hour) to employers due to health care benefits	$8.5 million

Source: 2004-2008 Current Population Survey; all figures in 2008 dollars.

Total Costs for $10.80/health proposal. In Table A7, we summarize the cost increases the metropolitan government would face from the $10.80/health living wage measure that would cover all metropolitan government workers. These costs include all mandated raises and mandated increases in health insurance benefits for $6.55 to $10.80 per hour workers, as well as ripple-effect raises and ripple-effect increases in health insurance benefits for workers earning up to $12.80 per hour. To these, we then add payroll taxes of 7.65 percent that the metropolitan government will face along with each category of wage and health insurance cost increases. As we can see in Table A12, the total costs break out as follows: $26.9 million in wage increases, $19.2 million in health insurance coverage, and $2.1 million in payroll tax increases. The total costs for this measure would therefore be about $48.2 million.

TABLE A7. TOTAL ESTIMATED COST INCREASES FROM IMPLEMENTING A $10.80/HEALTH LIVING WAGE PROPOSAL FOR ALL METROPOLITAN GOVERNMENT WORKERS

	Wage increases	*Health insurance cost increases*	*Payroll tax increases*	*Total cost increases*
Mandated costs	$12.5 million	$10.7 million	$956,250	$24.2 million
Ripple effect costs	$14.4 million	$8.5 million	$1.1 million	$24.0 million
Total costs	$26.9 million	$19.2 million	$2.1 million	$48.2 million

Source: Figures taken from Tables A.10 and A.11.

COMPARING DIFFERENCES IN TOTAL COSTS BETWEEN THE TWO BASIC PROPOSALS

As we note in the main text, increasing coverage from all metropolitan general government workers to the broader coverage of all metropolitan government workers increases overall costs eight-fold even though the number of covered workers only increases by a factor of two. Why is this?

Here we present in Table A8 some figures to illustrate how three factors combined to produce this large increase in overall costs when moving from the narrower coverage of all metropolitan general government workers to the broader coverage of all metropolitan government workers. These three factors are:

1. There is a much higher proportion of workers in the broader pool of metropolitan workers who are presently earning below the $10.80 living wage minimum;

2. There is a similarly higher proportion of metropolitan workers currently without employer-provided health insurance; and

3. There is a much larger pool of workers who would likely receive non-mandated ripple-effect gains, both in terms of wage increases as well as health benefits.

To illustrate these factors, we present in Table A8, the number of workers affected by the $10.80/health living wage proposal—that is, the number of workers who would see their wages or benefits rise because of the living wage proposal— under the narrower and broader coverage ranges. In the first row, we can see that 944 workers would receive mandated raises under the proposal with narrow coverage and 3,915 workers would receive mandated raises under the proposal with broad coverage. In other words, the number of workers receiving mandated raises increases by a factor of more than four when the coverage range increases from metropolitan general government workers only to all metropolitan government workers.

We can look at this another way: the figures in the second row show that the proportion of the all metropolitan general government workers we expect to receive mandated raises—9.1 percent (944 of 10,420)—is smaller than the proportion of the all metropolitan government workers we expect to receive mandated raises—18.4 percent (3,915 of 21,292). In other words, there is a higher concentration of below-living wage workers among all metropolitan government workers than among general government workers specifically. The same pattern holds for ripple-effect raises and for increases in health insurance benefits. The higher proportion of affected workers among all government workers causes the total cost of the $10.80/health living wage proposal with the broader coverage range to more than double the cost of the $10.80/health living wage proposal with the narrower coverage range, even though the number of *covered* workers only doubles.

TABLE A8. COMPARING COSTS OF $10.80/HEALTH LIVING WAGE PROPOSAL WITH NARROW COVERAGE AND BROAD COVERAGE

	Narrow coverage: metropolitan general government workers	*Broad coverage: All metropolitan government workers*
Number of workers receiving mandated raises	944	3,915
% of covered workers	9.1%	18.4%
Number of workers receiving ripple-effect raises only	641	2,629
% of covered workers	6.2%	12.3%
Number of workers receiving mandated health insurance coverage	687	2,004
% of covered workers	6.6%	9.4%
Number of workers receiving ripple-effect health insurance coverage	83	1,317
% of covered workers	0.8%	6.2%
total costs	$6.2 million	$48.2 million

Source: Figures taken from Tables 1, 2, 3, A.4, A.5, A.6 and A.7.

Calculating changes in disposable income

We assign our representative low-income affected worker approximately the mean wage, mean annual hours worked, and the mean family income among all affected local government workers who live in

metropolitan areas in Tennessee and come from near-poor families.

Tax liabilities and credits are taken from 2008 federal 1040 tax forms and instructions. We assume workers have the average family structure of two adults and 1 dependent child, file a joint tax return with the other adult in the family, and that all of their family income comes from earnings.

Eligibility guidelines for Food Stamps (rename the Supplemental Nutrition Assistance Program or SNAP) were taken from the USDA Food and Nutrition Service website (www.fns.usda.gov/FLS/ applicant_recipients/eligibility.htm; accessed 2/10/09).

Calculating changes in tax rates to raise $6.2 million for $10.80/health living wage for all general government workers

PROPERTY TAX

According to the 2008 Comprehensive Annual Financial Report produced by the Finance Department of the Nashville-Davidson County metropolitan government, there was $14.65 billion in assessed real property value. The current General Services District property tax rate is 4.04 per $100 of assessed value.

We present our calculations for determining the new property tax rate in Table A9. We estimate the current tax rate of 4.04 would produce $592 million in property tax revenue ($14.65 billion/$100 x 4.04). In order to generate an additional $1.55 million in tax revenue, the property tax rate has be raised enough to generate about $593.6 million. The new tax rate would then be equal to 4.052 per $100 of assessed value [i.e., $593.6 million/($14.65 billion/$100)].

TABLE A9. PROPERTY RATE INCREASES REQUIRED TO COVER INCREASED COST OF A $10.80 LIVING WAGE PLUS HEALTH INSURANCE BENEFITS FOR GENERAL GOVERNMENT WORKERS

Assessed real property value (FY 2007)	$14.65 billion
Current tax rate per $100 of assessed value	4.04
Current tax revenue with no changes in tax rate [($14.65 billion/$100) x 4.04]	$592 million
To generate $1.55 million in additional revenue	
Current tax revenue plus additional $1.55 million in revenue needed to cover raises	$593.6 million
New tax rate per $100 of assessed value [$593.6 million/($14.65 billion/$100)]	4.052

Source: 2008 Comprehensive Annual Financial Report produced by the Finance Department of the Nashville-Davidson County metropolitan government.

We next calculate how this change in tax rate would affect the average home and business owner is presented in Tables A.10 and A.11. According to the U.S. Census Bureau, the median house value in Nashville-Davidson County was $150,400. The assessed value would be 25 percent of the actual value according to the metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget, or $37,600, producing a current tax bill of $1,519. We then apply the new tax rate to the assessed value and find that the new tax bill would rise by $5.

TABLE A10. PROPERTY TAX INCREASE FOR THE AVERAGE HOME OWNER REQUIRED TO COVER INCREASED COST OF A $10.80 LIVING WAGE PLUS HEALTH INSURANCE BENEFITS FOR GENERAL GOVERNMENT WORKERS

Median house value	$150,400
Assessed value (25% of actual value)	$37,600
Current tax rate per $100	4.04
Annual tax bill ($37,600/100 x 4.04)	$1,519
To generate $1.55 million in additional revenue:	
New tax rate	4.052
New annual tax bill ($37,600/100 x 4.052)	$1,524
Increase in annual tax bill	$5

Source: U.S. Census Bureau, 2008.

TABLE A11. PROPERTY TAX INCREASE FOR THE AVERAGE BUSINESS OWNER REQUIRED TO COVER INCREASED COST OF A $10.80 LIVING WAGE PLUS HEALTH INSURANCE BENEFITS FOR GENERAL GOVERNMENT WORKERS

Total assessed value of commercial and mixed use real property	$7.5 billion
Number of establishments (with employees) in Nashville-Davidson consolidated city	14,240
Average assessed property value per establishment ($7.5 billion/14,240 establishments)	$526,685
Current tax rate per $100	4.04
Annual tax bill [($526,685/100) x 4.04]	$21,278
To generate $1.55 million in additional revenue:	
New tax rate	4.052
New annual tax bill ($526,685/100 x 4.052)	$21,341
Increase in tax bill	+$63
% increase in annual tax bill	+0.3%

Sources: 2008 Comprehensive Annual Financial Report produced by the Finance Department of the Nashville-Davidson County metropolitan government; Metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget; 2002 Economic Census. All figures adjusted to 2008 dollars.

We conduct a similar exercise for the average business owner. Here we estimate the total assessed value of commercial and mixed use real property to be $7.5 billion based on figures from the metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget. According to the 2002 Economic Census, the latest figures available, there were 14,240 establishments with employees in Nashville-Davidson County. We combine these figures to estimate that average assessed property value to be $526,685 (i.e., $7.5 billion/14,240 establishments). We then apply the current

property tax rate and the increased property tax rate to determine how much the average business' tax bill would increase. We find that this increase would be approximately $63 per year.

SALES TAX

Only one-third of this tax revenue can be used for general purposes. The current tax rate is 2.25 percent, therefore 0.75% can be used for general purposes.

According to the metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget, the current revenue from the local sales tax for FY09 is $296.8 million. This implies taxable sales revenue of $13.2 billion (i.e., $296.8 million/0.0225).

If the local sales tax is raised by 0.04 percent to 2.29 percent, 0.76 percent (or one-third of 2.29 percent) can go to general purposes. This increase of 0.04 percent in the local sales tax would generate about $1.55 million in additional revenue that could be used for general purpose spending (1/3 of 0.04 percent = 0.012 percent x $13.2 billion taxable sales revenue = $1.6 million).

HOTEL OCCUPANCY TAX

According to the metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget, the current tax revenue from this source is projected to be $27.5 million. This implies taxable revenue of: $550 million (i.e., $27.5 million/0.05). If this tax rate is raised by 0.28 percent, this would raise an additional $1.55 million in tax revenue (i.e., 0.28 percent of $550 million = $1.55 million).

According to the Nashville Convention and Visitors Bureau (www.visitmusiccity.com), the average spending per person per room per night in 2007 was $130.04. Therefore the average person currently spends $136.50 per night ($130.04 + 5.0 percent hotel tax of $6.50). An increase of 0.28 percent would add $0.36 per night, or about $136.90 per night.

ENTERTAINMENT TAX

According to a 2008 study, titled "The Economic Impact of Travel on Tennessee Counties 2007," prepared for the Tennessee Department of Tourist Development by the Research Department of the Travel Industry Association, domestic travelers' expenditures in Davidson County registered almost $4.0 billion, accounting for 28.9 percent of the state's total (see http://www.tnvacation.com/media/industry/EconomicImpact2008.pdf).

The entertainment tax however, would be levied on only a proportion of these expenditures—basically those that occur in the "entertainment and recreation" sector, which includes "amusement parks and attractions, attendance at nightclubs, movies, legitimate shows, sports events, and other forms of entertainment and recreation while traveling." In Tennessee as a whole, 10.7 percent of direct domestic travel expenditures were in the "entertainment and recreation" sector. Therefore, we estimate that 10.7 percent of the $4.0 billion of direct domestic travel expenditures, or $428 million, in Davidson County would be subject to this entertainment tax. To generate $1.55 million from this revenue, the entertainment tax would need to be 0.4 percent.

How much would this cost tourists? We estimate the number of tourists by dividing the average expenditures by tourists and the total amount of expenditures reported by the Nashville Convention and Visitors Bureau website. In 2007-2008 the average visiting party spent $1,593. This then implies that about 2.5 million parties visited in 2007 ($4.0 billion in spending/$1,593 spending per party).

Therefore, if the entertainment tax generates $1.55 million in new tax revenue from 2.5 million tourist parties, that implies an increase of $0.62 in expenses per visit by the average tourist party. Since the average size of a tourist party is about 3.5 people (again from the Nashville Convention and Visitors Bureau website) the new tax would equal about $0.18 per person per visit.

Calculating changes in tax rates to raise $18 million for $10.80/health living wage for all government workers

We use the same procedures as described in the preceding section to determine the necessary tax rate increases and added tax burden to taxpayers to raise $18 million.

PROPERTY TAX

In order to generate an additional $4.5 million in tax revenue, the property tax rate has be raised enough to generate about $596.5 million. The new tax rate would then be equal to 4.07 per $100 of assessed value [i.e., $596.5 million/($14.65 billion/$100)].

For the average home owner, the new tax rate of 4.07 would produce an annual tax bill of $1,531 ($37,600/100 x 4.07; see Table A12 for details). This represents an increase of $12 from their current annual tax bill of $1,519.

TABLE A12. PROPERTY TAX INCREASE FOR THE AVERAGE HOME OWNER REQUIRED TO COVER INCREASED COST OF A $10.80 LIVING WAGE PLUS HEALTH INSURANCE BENEFITS FOR ALL METROPOLITAN GOVERNMENT WORKERS

Median house value	$150,400
Assessed value (25% of actual value)	$37,600
Current tax rate per $100	4.04
Annual tax bill ($37,600/100 x 4.04)	$1,519
To generate $4.5 million in additional revenue:	
New tax rate	4.07
New annual tax bill ($37,600/100 x 4.07)	$1,531
Increase in annual tax bill	$12

Source: U.S. Census Bureau, 2008.

For the average business owner, the new tax rate of 4.07 would produce an annual tax bill of $21,436 ($526,685/100 x 4.07; see Table A13 for details). This represents an increase of $160 from their current annual tax bill of $21,278.

TABLE A13. PROPERTY TAX INCREASE FOR THE AVERAGE BUSINESS OWNER TO COVER INCREASED COST OF A $10.80 LIVING WAGE PLUS HEALTH INSURANCE BENEFITS FOR ALL METROPOLITAN GOVERNMENT WORKERS

Total assessed value of commercial and mixed use real property	$7.5 billion
Number of establishments (with employees) in Nashville-Davidson consolidated city	14,240
Average assessed property value per establishment ($7.5 billion/14,240 establishments)	$526,685
Current tax rate per $100	4.04
Annual tax bill [($526,685/100) x 4.04]	$21,278
To generate $4.5 million in additional revenue:	
New tax rate	4.07
New annual tax bill ($526,685/100 x 4.07)	$21,436
Increase in tax bill	+$160
% increase in annual tax bill	+0.7%

Sources: 2008 Comprehensive Annual Financial Report produced by the Finance Department of the Nashville-Davidson County metropolitan government; Metropolitan government of Nashville and Davidson County Fiscal Year 2008-2009 Operating Budget; 2002 Economic Census. All figures adjusted to 2008 dollars.

SALES TAX

If the local sales tax is raised by 0.11 percent to 2.36 percent, 0.79 percent (or one-third of 2.36 percent) can go to general purposes. This increase of 0.11 percent in the local sales tax would generate about $4.5 million in additional revenue that could be used for general purpose spending (1/3 of 0.11 percent = 0.037 percent of $13.2 billion taxable sales revenue = $4.8 million).

HOTEL OCCUPANCY TAX

If this tax rate is raised by about 0.8 percent, this would raise an additional $4.5 million in tax revenue (i.e., 0.81 percent of $550 million = $4.5 million).

Therefore the average person who currently spends $136.50 per night ($130.04 + current 5 percent hotel tax) would see an increase in cost of $1.04 per night (0.8 percent of 130.40), or about $137.54 per night.

ENTERTAINMENT TAX

To generate $4.5 million from $428 million of taxable revenue, the entertainment tax would need to be 1.05 percent (1.05 percent of $428 million = $4.5 million).

An entertainment tax that generates $4.5 million in new tax revenue from 2.5 million tourist parties with 3.5 people in each party, on average, implies an increase of $0.51 in expenses per visit per person ($4.5 million/2.5 million tourist parties/3.5 people per party).

Calculating government savings

FOOD STAMPS

To derive the total savings for the food stamps program that we would expect to receive we need to estimate the average Food Stamps benefits we expect low-income metropolitan government workers receive, the number of low-income metropolitan government workers that receive these benefits, and whether these Food Stamp beneficiaries would likely lose their benefits if their earnings rise under the $10.80/health living wage proposal for general government workers only.

The situation of our representative worker (see Table 12) provides us with the average value of Food Stamps that the average low-income metropolitan government receives, a value of $343. We also know that among all metropolitan government workers, 26 percent are low-income (see Table 10). Based on these figures, we can approximate that of the about 1,600 general government workers who we expect to receive raises under the $10.80/health living wage proposal, about 400 are low-income and receive, on average, $343 in Food Stamps. We also know from that our representative worker would lose their entire Food Stamp benefit after his/her wages rise under the living wage proposal. In other words, the typical situation among the 400 low-income metropolitan government workers will be a loss of $343 in Food Stamp benefits. From the perspective of the Food Stamp program, this change in status among these low-income metropolitan government workers amounts to a total savings of about $140,000 in Food Stamp benefits (400 x $343).

Under the $10.80/health living wage proposal covering all metropolitan government workers, the savings will rise considerably because the higher number of low-income workers who would be covered by the living wage. Specifically, of the 6,545 workers who would receive raises from the living wage proposal, 1,700 (26 percent) are low income. Based on this, the potential savings to the Food Stamp program amounts to $580,000 (1,700 x $343).

EARNED INCOME TAX CREDIT

We use the same technique as described above to approximate the savings to the Earned Income Tax Credit Program. In this case, the savings to the program would be roughly $560 per low-income metropolitan government worker. The savings under the narrow coverage of general government workers only with the $10.80/health living wage proposal would therefore total to about $230,000 (400 x $560). The savings under the broad coverage of all metropolitan government workers would total to $950,000 (1,700 x $560).

MEDICAID

we used a similar technique as described above with the food stamp and eitc programs to approximate the savings to medicaid. in this case, however, the calculation requires a few other steps. as before, we have to approximate the number of low-income metropolitan government workers who receive the benefits. we approximate this by using the cps-asec data to estimate the proportion of all low-income workers in tennessee who receives, or lives with someone who receives medicaid benefits. this figure is 38 percent. that is, 38 percent of low-income workers live in a household where at least one member receives medicaid benefits. however, because of data limitations we cannot approximate this for local government workers only. therefore,

we also have to take into account that a sizeable proportion—about half—of low-income metropolitan government workers who already receive health insurance benefits from the metropolitan government. as we noted above, about 26 percent of metropolitan government workers who would receive living wage raises are low-income.

We combine these figures to approximate that about five percent of all metropolitan government workers (or someone in their household) receives Medicaid benefits (38 percent x 50 percent x 26 percent = 5 percent). In other words, in the case of the $10.80/health living wage proposal with the narrow coverage, we roughly approximate that five percent of the 1,585 metropolitan government workers—or about 79 workers—is low-income and receives Medicaid benefits. We also use the CPS data to estimate the average number of recipients per household. The average figure is one member per household.

Under the $10.80/health living wage proposal with narrow coverage, all of these 79 workers should gain health insurance benefits from the metropolitan government. Therefore, the savings to the Medicaid program should amount to the value of the Medicaid benefits received by these 79 workers. According to the Bureau of Tenncare (see www.tn.gov/tenncare/forms/tenncareannual0607.pdf), the average Medicaid recipient in Davidson County received a benefit worth about $4,400. Given this figure, we approximate that the Medicaid program would save on the order of $350,000 (79 x $4,400).

Under the $10.80/health living wage proposal with broader coverage extending to all metropolitan government workers, the number of workers that receive Medicaid benefits (or lives with someone who received Medicaid benefits) rises to about 330 (5 percent of 6,545). Again, all of these 330 workers should gain health insurance benefits from the metropolitan government. Therefore, the savings to the Medicaid program should amount $1.5 million (330 x $4,400).

Estimating the low-income neighborhood spending injection

In our past research on various living wage proposals, we have estimated the potential for a "low-income neighborhood spending injection." We use our past estimates as a guide to approximate such an effect in low-income Nashville area neighborhoods, given the overall size of the earnings increase as well as the number of poor families in the area.

Our past estimates[17] include:

New Orleans. In a 2002 study of a $6.15 citywide minimum wage, Pollin, Brenner and Luce estimate that a rise in the New Orleans minimum wage would bring about $20 million in extra disposable income to low-income neighborhoods and generate a 2.7 percent increase in spending in low-income neighborhoods.

Based on U.S. census data, there were about 27,000 poor families (now using the official poverty income threshold) in New Orleans in 2000.

Phoenix. In our 2006 study of a $6.75 Arizona state minimum wage, we estimate that $148.3 million in new disposable income generated 2.2 percent in increased spending.

U.S. Census estimates that from 2005-2007 data, about 41,000 poor families resided in Phoenix.

Miami, Florida. In our 2004 study with Brenner of a $6.15 Florida state minimum wage, we estimate that $91.7 million in new disposable income generated 3.1 percent in increased spending.

U.S. Census estimates that from 2005-2007 data, about 18,000 poor families resided in Miami.

We assume that the impact of a low-income neighborhood injection would be roughly comparable in size to what we found in these other studies, taking in account, again the size of the overall increase in earnings among low-income workers under the $10.80/health living wage proposal for all metropolitan government workers, as well as the overall size of the poor population in each city. The relevant figures for Nashville-Davidson County are 16,000 poor families during 2005-2007, and a $12.6 million increase in new disposable income among low-income families.

We therefore solve for X in each of the following equations:

Using New Orleans figures:
2.7% increase/[$20 million/27,000 poor families] =
X increase in Nashville/[$12.6 million/16,000]
X = 1.3%; i.e., if Nashville's low-income neighborhoods experience a spending injection comparable to that in New Orleans, we would expect the spending injection to raise overall spending in the low-income neighborhoods of Nashville to rise by 1.3%

Using Phoenix figures:
2.2% increase/[$148.3 million/41,000 poor families] =
X increase in Nashville/[$12.6 million/16,000]
X = 0.5%; i.e., if Nashville's low-income neighborhoods experience a spending injection comparable to that in Phoenix, we would expect the spending injection to raise overall spending in the low-income neighborhoods of Nashville to rise by 0.5%.

Using Miami figures:
3.1% increase/[$91.7 million/18,000 poor families] =
X increase in Nashville/[$12.6 million/16,000]
X = 0.5%; i.e., if Nashville's low-income neighborhoods experience a spending injection comparable to that in Miami, we would expect the spending injection to raise overall spending in the low-income neighborhoods of Nashville to rise by 0.5%

These figures indicate that the low-income neighborhood spending injection in Nashville, under the $10.80/health proposal for all metropolitan government workers would be in the range of 0.5 percent and 1.3 percent. To be conservative, we chose the lower-end estimate of 0.5 percent to discuss in the main report.

17 See Pollin et al. (2008).

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Acknowledgements

We are grateful for the assistance of Dr. Melissa Snarr in obtaining and using Nashville-Davidson County payroll data. We also benefitted from advice and comments on previous drafts by associates of Middle Tennessee Jobs with Justice and The Nashville Movement, including Matt Leber, Megan Macaraeg, Siobhan Sargent, and Melissa Snarr. We also want to thank Debbie Zeidenberg, PERI Communications Director, for producing the final format of the report and more generally, facilitating the progress of this report. We are thankful for the funding support for this report provided by Sociological Initiatives Foundation.