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Poverty Programs and Prices: How Adjusting for Costs of Living Would Affect Federal Benefit Eligibility

Leah Beth Curran

Kimberly Furdell

Edward W. Hill
Cleveland State University, e.hill@csuohio.edu

Poverty, Programs, and Prices:
How Adjusting for Costs of Living Would Affect Federal Benefit Eligibility

by Leah B. Curran, Harold Wolman, Edward W. (Ned) Hill and Kimberly Furdell[1]

"Researchers and policymakers should closely examine how regional differences in the cost of living impact the adequacy of programs to boost incomes and reduce poverty."

Findings

Public policies rarely account for regional differences in living costs across the country. Applying cost-of-living adjustments to measurements of economic well-being and eligibility standards for social programs in 98 central cities reveals that:

• **Federal poverty guidelines, often used to determine eligibility for social programs, change significantly when indexed for cost of living (COL) differences.** Out of 38 large cities in higher-cost areas in the Northeast and West, 36 experience increases in the federal poverty guidelines. Conversely, more than half of the large cities located in lower-cost areas in the South and Midwest (38 of 60) see shifts in the opposite direction.

• **The percentage, number, and distribution of families that are considered poor under federal poverty guidelines would change dramatically in many central cities if regional differences in the cost of living were recognized.** In high-cost areas on the East and West coasts, the poor population would increase substantially both in real and proportional terms. Cities like New York, NY and Los Angeles, CA rank among those with the greatest increases in both the number and proportion of poor families under COL-adjusted standards. However, cities in lower-cost areas of the South and West, such as El Paso, TX and Shreveport, LA, have among the largest declines in the number and share of poor families once living costs are taken into account.

• **Adjusting federal poverty guidelines for regional differences in the cost of living has a considerable impact on the number of families eligible for public programs.** Overall, the share of families eligible for Early Head Start and Head Start as well as the National School Lunch Program would increase 29 percent in large cities across the country. San Francisco, CA, San Jose, CA, and Bridgeport, CT experience the largest increases in eligibility for these programs, while San Antonio, TX, Corpus Christi, TX, and El Paso, TX see the largest declines in the eligible population under COL-adjusted guidelines.

Measures such as the federal poverty guidelines provide more accurate perceptions of the relative economic wellbeing of populations across the country when they consider regional cost-of-living differences. To craft effective public policies and programs for low-income families throughout the United States, researchers and policymakers should give further attention to the impact that regional COL differences have on program eligibility standards. In particular, policymakers can employ COL-adjusted measures to determine where state and local policies are most needed to supplement federal assistance targeted to low-income families and individuals.

Introduction

Regional cost of living affects the quality of life that individuals and families experience in different places. The national median household income for a family of four ($46,242 in 2005), for instance, purchases a much higher standard of living in Wichita, KS than in New York City, NY.[2] Yet, policymakers rarely consider the impact of cost of living differences on quality of life or factor these differences into decisions about the allocation of federal resources for working families.

Failing to accurately account for cost of living differences influences both our perceptions of the relative economic wellbeing of places as well as the distribution of public policies. In terms of our perceptions, both researchers and policymakers use income-based measures—particularly median household income, per capita income, and the proportion of the population with incomes below the poverty level—to gauge the relative economic wellbeing of an area's residents. However, unadjusted income-based measures inevitably yield misleading results by understating economic wellbeing in low-cost areas of the country and overstating wellbeing in high-cost areas.[3]

Such mistaken perceptions of wellbeing may have serious adverse consequences for cities and their residents. For instance, the Census Bureau reported that in 2003 a larger proportion of people were living below the national poverty threshold in Cleveland, Ohio than in any other major city in the nation, making Cleveland the poorest city in America (Proctor et al., 2003). However, Cleveland's living costs are relatively low when compared to other major cities, making it doubtful that the magnitude of poverty in Cleveland is in fact higher than in many other large metropolitan areas. Still, the perception of being home to the highest proportion of urban poor in the country may affect confidence in the region among potential investors, unduly depressing growth.

Ignoring cost of living differences also has important impacts on the allocation of federal resources for low-income working families because the buying power of government benefits, like the Earned Income Tax Credit, varies widely across places. According to the Congressional Research Service (CRS), there were approximately 85 federal means-tested programs providing cash and noncash benefits in 2002 to more than 22 million individuals every year in the United States.[4] Eligibility criteria for these programs are typically based upon one of five measures: (1) the federal poverty guidelines or the Census Bureau's poverty thresholds (or a combination of the two), (2) state or area median income, (3) the "Lower Living Standard Income Level" determined by the Bureau of Labor Statistics, (4) an absolute monetary standard or (5) an income level considered to indicate "need" (CRS, 2003).[5] Most programs do not take living costs into consideration when determining program eligibility. Exceptions include certain programs with qualification standards based upon state or area median income, the two programs that are based on the Lower Living Standard Income Level[6] and, in some cases, those that are based on multiples of the federal poverty standards.[7] Furthermore, the few programs that take living cost differences into account use imprecise or outdated methods for estimating interarea cost of living (COL) differentials.

Similarly, economic and community development programs such as the HOPE VI program and the Community Development Block Grant program also fail to account for regional living cost differences when computing community need levels. In addition, the current tax code, which is where an increasing amount of social policy expenditures occur, also neglects to account for regional COL differences. As a result, these federal investments may be systematically providing more of a relative benefit to low-cost areas of the country, and less of a benefit to high-cost areas.

This paper first presents the history of the debate surrounding cost of living adjustments and discusses the current methods used to account for regional COL differences. After reviewing the methodology, the paper then analyzes the impact of applying a cost of living adjustment to the federal poverty guidelines in 98 central cities across the country. It also evaluates how COL adjustments to the poverty guidelines would affect the number of families considered poor in these communities. Focusing on two programs that use the federal poverty guidelines (or multiples thereof) to determine eligibility, the paper then explores the extent to which COL adjustments would affect eligibility for means-tested programs. By analyzing the implications of accounting for COL differences in these cases, this paper highlights the potential role of COL adjustments in contributing to research that presents more

accurate perceptions of economic wellbeing across regions and in crafting policies better targeted to low-income families. The paper concludes with a discussion of implications for policymakers and researchers.

Background

The Debate

Policymakers and existing public policy often do not account for COL differences because amenities that improve quality of life are thought to be capitalized into land and housing costs. Attributes of an area such as the weather, the regional labor market, the culture, the crime rate, the amount of pollution, and the natural environment, for instance, are thought to be reflected in the differences in housing costs between places. As a result, residents of high-cost areas pay for the higher value of the amenities they receive, while residents of low-cost areas forego those amenities in exchange for lower living costs. For example, a resident of San Francisco, CA pays a relatively high price for housing because of the great deal of amenities in the region, while a resident of Duluth, MN may not enjoy the same level of amenities, but pays significantly less for housing as a result.

According to this argument, people make decisions about where to live based upon the relative cost of housing and the value they place on the amenity packages offered in different areas. This logic also suggests that it would be undesirable to account for geographic COL differences in public programs. Doing so might distort an individual's

behavior by subsidizing people in higher-cost areas, allowing them to stay when they would have otherwise moved to a lower-cost community. This would result in overcrowding in high-amenity areas and under-populated lower-amenity areas.[8]

However, in several cases this argument does not bear out in practice, underscoring the importance of accounting for COL differences, especially where low-income individuals are concerned. First, while regional variations in housing prices likely capture amenity or disamenity differences among areas (Kaplow, 1995), housing is only one component of disparities in the regional cost of living. Variations in the cost of food, clothing, health care, utilities, etc. can reflect real differences in supply costs and comprise important differences in the quality of life. These disparities are likely to be largely, if not completely, independent of the amenity characteristics of the area.

Second, this argument assumes that individuals are highly mobile and face no constraints upon where they can live. It also assumes that individuals have full information about housing and labor markets in different metropolitan areas. However, not all segments of the population are equally mobile or have access to the same information. Highly-educated and amenity-seeking households have a greater degree of inter-metropolitan mobility and choice because they do not face the same financial, informational, and educational constraints that poor households experience. Poor and low-income households have less money for moving costs, less information about inter-metropolitan occupational

and residential opportunities, and less human capital to employ to take advantage of those opportunities. Subsequently, poor and low-income households have a relatively lower degree of inter-metropolitan residential mobility and choice than the rest of the population (Gimpel, 1999). As a result, poor people often bear the costs of amenities through higher housing prices, regardless of whether or how much they actually value them.

Therefore, while low-income people may be enjoying some of the amenities associated with high-cost metropolitan areas, they have a limited opportunity to make choices between residential locations compared to the rest of the population. In this light, when households are immobile, adjusting for COL differences is economically efficient because it will not distort individuals' decisions about where to live (Kaplow, 1995). Thus, even with the limitations of current cost of living measures—which we discuss in more detail in the next section—we conclude that it is preferable to account for COL differences, particularly when measuring poverty, rather than to disregard them altogether.[9]

Cost-of-Living Measures

Housing-Based Measures

The two primary approaches to measuring cost-of-living differences include housing-based measures and market basket measures. Housing-based measures rely on housing costs alone as the source of interregional COL differences and do not take the costs of other goods and services such as groceries, heating and cooling costs, automobile insurance, and clothing into account. These

measures assume that housing costs are the primary source of COL differences among areas and that the other sources of inter-regional price differences are highly correlated with housing costs differences. Housing-based measures often obtain housing price data from the Department of Housing and Urban Development's Fair Market Rents data or the U.S. Census Bureau's American Housing Survey.

Housing-based COL measures prove useful in estimating the relative costs of housing between geographic areas, but they exhibit weaknesses as broader measures of the regional differences in the quality of life. On average, housing comprises only 33 percent of U.S. households' budgets. Therefore, housing-based measures do not recognize regional variation in 67 percent of the average after-tax household budget. This would not be a problem if inter-area variations in the costs of other goods were highly correlated with the variation in housing costs; however, this is not necessarily the case (Curran et al., 2006). In fact, housing-based measures generally overstate inter-area COL differentials because housing costs

vary geographically more than the costs of other goods.

Table 1 illustrates the inter-area variation of the costs of housing, healthcare, utilities, groceries, transportation, and miscellaneous goods and services for the second quarter of 2004 for the nation's 26 largest MSAs (ACCRA, 2004). (The national average value for each sub-index and the overall index is 100.) The standard deviation for these 26 metropolitan areas are displayed for each sub-index, as is their correlation with housing costs. As the table illustrates, the standard deviation of the housing cost indices is more than four times greater than the next highest sub-index, the cost of health care. The standard deviation of housing is more than seven times that of miscellaneous goods and services, the category with the lowest standard deviation across all of the 26 largest metropolitan areas. Thus, it is clear that COL measures that rely only on housing costs will overstate COL differences.

Market Basket Measures

The second approach to measuring COL differences uses market baskets. Market basket

measures are more inclusive as they compare the costs of a constant combination of goods and services across geographic areas. To determine which goods and services to include in the market basket and the appropriate proportion of income allotted to each item, researchers construct consumer profiles based upon consumption data from the U.S. Bureau of Labor Statistics' (BLS) Consumer Expenditure Survey. Consumer profiles are usually derived from the national average consumption patterns of a study population (for instance, the national average expenditure patterns of a family of four earning $55,000 per year). Researchers use the consumption patterns to specify a market basket of goods and services. They then compare the relative cost of obtaining the market basket across local areas and construct indices to measure how far prices in each locality deviate from the reference area or the national average.

Constructing market basket COL indices is a data-intensive process because researchers must collect baseline price data for a sample of each of the goods and

Table 1. ACCRA Cost of Living Index Values for the 26 Largest Metropolitan Areas, Second Quarter 2004

Component of the Cost of Living Index	Highest	Lowest	Std. Deviation	Correlation with Housing Index
Housing	259.8	79.3	58.8	
Health Care	138.3	82.9	13.7	0.36
Utilities	134.1	90.4	12.2	0.42
Groceries	133.3	85.9	10.8	0.79
Transportation	131.9	95.7	10.4	0.79
Miscellaneous goods and services	124.3	95.3	8.3	0.68

National average = 100.0

Source: Authors' analysis of ACCRA at
http://www.accra.org/media

services included in the market basket in each of the locations being compared. Oftentimes, researchers use existing price data from local sources to estimate local living costs (for instance, housing rental price data may be obtained from local realtors' offices). In addition, when local-level data are unavailable, researchers often use state-level price data to gauge local living costs.

Research has established, however, that COL measures that rely on existing data sources or use state-level data to estimate living cost differences are less accurate than those that employ original data collected for the purpose of COL measurement. Currently, only two U.S. firms measure interarea COL differences with original data. ACCRA (formerly known as the American Chamber of Commerce Research Association) develops COL indices for roughly 200 urbanized areas every quarter.[10] ACCRA collects its data through self-administered surveys in which retailers respond to questions regarding the prices they charge for goods and services (ACCRA, 2003). In addition, Runzheimer International creates Cost-of-Living Differentials that estimate COL differences for 350 domestic and international cities on a monthly basis using price data collected by on-site researchers (Runzheimer, 1994).[11]

Limitations

Though research has shown these primary data market basket measures to be superior to other COL measures, potential limitations exist in the ACCRA and Runzheimer models. First, both the ACCRA and Runzheimer measures document the COL experiences of professional-level households. Therefore, the components of the market baskets reflect consumption patterns of higher-income households rather than low-income households. This is an important limitation when considering the application of COL measures to social policy eligibility standards.

Further, it is not clear at this point whether market basket COL measures are the optimal approach to COL measurement. Koo et al. (2000) identify several potential biases in the market basket approach. First, because baseline indices count all cities equally rather than by population weighting them, the overall baseline (i.e. the standard against which other scores are based) is arguably too low. As a consequence, the market basket approach overestimates the cost of living for large cities. Second, indices based on a national market basket of goods do not reflect regional differences in consumption patterns. The bias introduced by using a market basket measure has a marked effect on the housing price input. For instance, because the ACCRA index measures the COL experiences of mid-level managers, the price of housing that goes into the ACCRA index is for a 2,400 square foot home with three to four bedrooms, two full baths, an attached two-car garage, and several other amenities (ACCRA, 2003). While mid-level managers living in the South or the Midwest may purchase this type of housing, mid-level managers living in higher-cost areas on the East or West coasts often cannot afford to do so because of the cost of real estate in the area. The ACCRA model allows for a small degree of regional sensitivity when collecting data on housing prices in New York and some other high-cost areas; however, the size of the housing units remains constant across geographic areas (ACCRA, 2003). Therefore, using this standard of housing as a proxy for housing prices in all metropolitan areas has the potential to overestimate living costs in high-cost areas.

Thus, in the best of all possible worlds, the market basket approach would be improved by incorporating population weighting and regional sensitivity to consumption patterns, especially in terms of housing.[12] In addition, for the purposes of indexing public policies for regional COL differences, a market basket measure reflecting the consumption patterns of poor and low-income families is essential. However, further research is needed to complete such tasks. In the interim, we believe that applying an imperfect measure leads to a better understanding of the economic conditions faced by families than failing to account for living cost differentials altogether. Therefore, for illustrative purposes, we apply the ACCRA measure to the federal poverty guidelines — a measure of economic wellbeing commonly used to determine program eligibility — and we consider the implications for our perception of the distribution of poor people in the U.S. and their eligibility for public programs.

Methodology

As discussed previously, the primary applications of COL adjustments involve measuring the relative economic wellbeing of geographic areas and determining eligibility for social programs. A

typical indicator used to gauge the economic wellbeing of geographic areas is the portion of the population or the percentage of households with incomes that are at, or below, the federal poverty level. There are two versions of the federal poverty measure: poverty thresholds and poverty guidelines. The U.S. Census Bureau uses the poverty thresholds to calculate the official poverty rate, while federal agencies use the poverty guidelines—a simplified version of the poverty thresholds—for administrative purposes, such as determining eligibility for social programs (CRS, 2003). Because the federal poverty guidelines are more widely used in program eligibility criteria, we use this version of the federal poverty measure as the basis of our analysis. In order to assess the difference that would result if COL adjustments were applied to the federal poverty level, we apply the ACCRA Cost-of-Living Index to the 2000 poverty guidelines in 98 central cities in metropolitan and primary metropolitan statistical areas (MSAs/PMSAs) across the country.[13]

One weakness we encounter when using ACCRA's COL indices for measuring geographic COL differences is that, although the data are reported for geographic areas that represent 70 percent of the U.S. population (ACCRA, 2003), the set of urbanized areas for which cost-of-living indices are available varies every quarter because participation in the ACCRA survey is voluntary.[14] As a consequence, the ACCRA data appear to pose problems for research use because they are inconsistent and often unavailable for specific urbanized areas.[15] We remedy this problem through the speci-

fication of a regression equation that estimates geographic COL indices for the areas not included in ACCRA reports. Please refer to the Methodological Appendix for a detailed discussion of the regression specification and results.

After adjusting for missing data in the ACCRA COL measures, we apply the ACCRA indices (and predicted ACCRA indices) to the 2000 federal poverty guidelines, obtained from the Federal Register in our selection of 98 cities. We derive ACCRA-adjusted poverty levels by dividing the appropriate index by 100 and multiplying it by the current poverty guideline. We then calculate the real difference between the current and ACCRA-adjusted values by subtracting the unadjusted values from the adjusted values. In addition, we calculate the percentage difference between the ACCRA-adjusted values and the current federal standards.

Next we determine how the number of families considered poor would change in each of the 98 central cities if the current poverty guidelines were indexed for COL differences. Again, we use federal poverty guidelines as opposed to federal poverty thresholds because poverty guidelines are used more frequently in program eligibility formulas (CRS, 2003), and therefore have a direct impact on individuals' and families' lives. Using data from the U.S. Census Bureau on family income by family size (1999), we interpolate both the number of families considered poor under current standards as well as the number of poor families under income-adjusted standards. The Methodological Appendix contains a detailed discussion of the calculations used.

Finally, we evaluate the change

in the eligible population for two national programs that use federal poverty guidelines to determine eligibility. For each of the 98 central cities we estimate the number of families eligible for the Head Start and Early Head Start programs and the number of families eligible for the National School Lunch program if the federal poverty guidelines were indexed for COL differences. We assess these programs because they are prevalent across the country and have consistent eligibility parameters regardless of region or location. Therefore, these examples provide an effective benchmark to illustrate the extent to which COL adjustments would impact the eligible population across regions. Once again, we interpolate the number of families eligible for these programs under current and income-adjusted guidelines. See the Methodological Appendix for a detailed explanation of these calculations.

The purpose of this analysis is to assess the implications of applying cost of living adjustments to an existing measure of economic wellbeing and to evaluate the impact of these adjustments on selected programs currently using these guidelines as eligibility criteria. We do not address whether the federal poverty guidelines should be more generally reformed (e.g., NRS, 1995), nor do we suggest that all programs using federal poverty guidelines as eligibility criteria should adjust for cost of living differences. If COL adjustments were applied to the federal poverty guidelines, decisions should be made on a program by program basis as to whether or how eligibility criteria might be

changed to accommodate the new guidelines. Rather, by focusing on the current parameters of the poverty guidelines and related program eligibility criteria, this analysis presents a baseline for measuring the impact of relative differences in regional living costs on our current perceptions and public policies.

Findings

A. Federal poverty guidelines, often used to determine eligibility for social programs, change significantly when indexed for COL differences. Like the federal poverty thresholds, the federal poverty guidelines are set at a uniform level across the country.[16] When adjusted for geographic COL differentials, however, the poverty guidelines show significant variation across the nation's central cities. Overall, 40 cities experience a decrease in their poverty level, while 58 cities see an increase after adjusting for living cost differences.

Table 2 depicts the 20 central cities that would experience the greatest change if the federal poverty guidelines were indexed for geographic cost-of-living differences (see Appendix A for all 98 central cities included in our analysis). As the table indicates, when indexed for cost of living, high-cost areas see large increases in the federal poverty guidelines. For instance, in Anaheim, CA the federal poverty guideline for a family of four increases from $17,050 to $23,535. In New York, NY, the federal poverty level increases more than 100 percent to $39,556. Newark, NJ and San Francisco, CA experience increases of 70 percent or more, with adjusted poverty

levels of $30,483 and $29,039 respectively. Out of the 98 central cities included in our analysis, 15 out of 16 central cities in the Northeast see an increase in the poverty measure, while 21 out of 22 Western central cities experience an increase.

Likewise, low-cost areas experience a decrease in the federal poverty guideline. For example, the federal poverty guideline in Corpus Christi, TX declines to $14,358, in Tulsa, OK it declines to $15,942 and in San Antonio, TX it decreases to $15,243. Of the 35 Southern cities included in our analysis, 25 see a decrease in the poverty measure. Overall, for the group of 98 central cities examined, the mean household poverty level for a family of four increases from the unadjusted level of $17,050 to an adjusted level of $18,272 in 2000.[17] When indexed for COL differences, the coefficient of variation for the maximum federal poverty level rises from zero to .21.[18]

The poverty line for 67 of the 98 central cities is calculated using actual ACCRA COL indices. As stated earlier, we specify a regression equation to predict missing indices for the remaining 29 cities. When specifying the regression equation, we find that three variables explain 79 percent of the variation in living costs among central cities: the median owner-occupied housing value in the central city of the MSA/PMSA, the natural log of population in the central city of the MSA/PMSA, and the region in which the MSA/PMSA is located. On average, median owner occupied housing values are positively related to living costs. Therefore, as home values rise within a city, one can expect living costs to

rise as well. In addition, higher living costs are positively associated with the population of a city. Therefore, on average, the more heavily populated a city is, the higher one can expect living costs to be. Furthermore, our regression equation indicates that there is an important relationship between the region in which a city is located and the city's living costs. In our analysis, we include twelve regional variables (see the Methodological Appendix for a list of the regions included), and on average we find that living costs are the highest in the Northeastern, Mid-Atlantic and Western cities, while living costs tend to be lowest in the Midwest and South.

The patterns uncovered by our regression analysis have important implications for our understanding of the distribution of poverty in the United States. As illustrated in Table 2, highly-populated cities with expensive housing in the Northeastern, Mid-Atlantic and Western regions, such as New York, NY, Boston, MA, Oakland, CA, and San Francisco, CA see the largest increases in their poverty line. In contrast, smaller cities with less expensive housing in the Midwest and South see decreases in their poverty line, as in the cases of San Antonio, TX, Memphis, TN, and Corpus Christi, TX. In some cases, cities are located in relatively inexpensive regions, yet still experience an increase in poverty standards (as in the cases of Chicago, IL and Detroit, MI). This pattern persists because of the cities' relatively large population, their median owner occupied housing values or a combination of both.

Table 2. Top and Bottom Central Cities for Percent Change in the 2000 Federal Poverty Guidelines for a Family of Four

Central Cities	Reported Federal Maximum Income Level	ACCRA Cost-of-Living Adjusted Maximum Income Level	Difference (ACCRA - Federal)	
			Dollar	Percent Change
New York, NY	$17,050	$39,556	$22,506	132.0%
Newark, NJ	$17,050	$30,483	$13,433	78.8%
San Francisco, CA	$17,050	$29,039	$11,989	70.3%
Bridgeport, CT	$17,050	$28,895	$11,845	69.5%
San Jose, CA	$17,050	$28,701	$11,651	68.3%
Jersey City, NJ	$17,050	$27,804	$10,754	63.1%
Oakland, CA	$17,050	$24,004	$6,954	40.8%
Anaheim, CA	$17,050	$23,535	$6,485	38.0%
Boston, MA	$17,050	$22,864	$5,814	34.1%
Honolulu, HI	$19,610	$26,244	$6,634	33.8%
Tulsa, OK	$17,050	$15,942	-$1,108	-6.5%
Des Moines, IA	$17,050	$15,818	-$1,232	-7.2%
Mobile, AL	$17,050	$15,754	-$1,296	-7.6%
Jackson, MS	$17,050	$15,669	-$1,381	-8.1%
Memphis, TN	$17,050	$15,498	-$1,552	-9.1%
Oklahoma City, OK	$17,050	$15,345	-$1,705	-10.0%
Shreveport, LA	$17,050	$15,267	-$1,783	-10.5%
San Antonio, TX	$17,050	$15,243	-$1,807	-10.6%
El Paso, TX	$17,050	$14,808	-$2,242	-13.2%
Corpus Christi, TX	$17,050	$14,358	-$2,692	-15.8%
Mean Values for 98 Select Central Cities	**$17,050**	**$18,655**	**$1,605**	**9.4%**

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.
Sources: 2000 Poverty Guidelines: Federal Register, Vol. 65, No. 31, February 15, 2000, pp. 7555-7557

B. The percentage, number, and distribution of families that are considered poor under federal poverty guidelines would change dramatically in many central cities if regional differences in the cost of living were recognized. When looking at all 98 cities in our sample, it is clear that if the poverty guidelines were indexed for living cost differences, the number of families considered poor in the largest U.S. cities would rise dramatically, which would greatly increase the number of people eligible for means-tested programs. Under unadjusted poverty standards, 1,893,899 families are considered poor in the 98 cities in our sample, while 2,508,305 families would be considered poor under income-adjusted guidelines. This marks an increase of more than 600,000 families who would be considered poor under the federal poverty guidelines and therefore potentially eligible for public policies. Further, the proportion of families considered poor in our sample would rise by 5 points, from 15.2 percent to 20.2 percent. Therefore, though some cities see decreases in the number of families considered poor, the magnitude of increases in larger, higher-cost cities leads to an overall increase in the number of poor families.

In addition to the overall rise in the number and share of poor families, the geographic distribu-

tion of families in poverty and the resultant distribution of public policies across the United States would change significantly under the COL-adjusted guidelines. Regionally, the percentage of the population considered poor and therefore potentially eligible for social programs in the Northeastern, Mid-Atlantic, and Western cities would increase, particularly in more expensive areas on the East and West coasts with large populations and high home values. In contrast, lower-cost regions in the South, with smaller populations and lower home values, would see decreases in their poor population.

Table 3 highlights the cities out of our sample that would experience the greatest changes in the proportion of the population considered poor under program eligibility standards if the federal poverty guidelines were adjusted for living cost differences (see Appendix B for all 98 cities). New York, NY experiences the greatest increase in both the number and proportion of poor families under COL-adjusted standards; an additional 431,132 families would be considered poor, representing a 23.1 percentage point increase. Jersey City, NJ, Bridgeport, CT, and Newark, NJ all see increases in their poor population of greater than 10 percentage points, although Los Angeles, CA, San Jose, CA, and San Francisco, CA experience greater increases in real terms. Thus, eligibility for a number of social programs would be expected to increase substantially in these areas if the federal poverty guidelines considered living cost differences.

Conversely, low-cost areas, primarily located in the South see the greatest decreases in their poor population. El Paso, TX and Corpus Christi, TX experience the largest percentage point decreases in family poverty. In addition, central cities in Texas also see the greatest decreases in the number of families considered poor: San Antonio, TX

Table 3. Top and Bottom Central Cities Experiencing the Greatest Change in the Share of Families in Poverty After Adjusting Federal Poverty Guidelines for Cost of Living

Central Cities	Total Poor Families			Poverty Rate		
	Unadjusted	COL-Adjusted	Change	Unadjusted	COL-Adjusted	Change
New York, NY	348,312	779,444	431,132	18.6%	41.7%	23.1%
Newark, NJ	15,941	26,987	11,046	25.5%	43.1%	17.7%
Bridgeport, CT	5,424	9,923	4,499	16.4%	30.0%	13.6%
Jersey City, NJ	9,397	15,881	6,484	16.7%	28.3%	11.6%
San Francisco, CA	12,017	25,312	13,295	8.2%	17.2%	9.0%
Paterson, NJ	6,460	9,173	2,713	19.1%	27.1%	8.0%
Oakland, CA	14,221	21,060	6,838	16.3%	24.1%	7.8%
Anaheim, CA	7,588	12,682	5,094	10.2%	17.1%	6.9%
San Jose, CA	12,242	25,583	13,341	5.9%	12.4%	6.5%
Los Angeles, CA	147,371	197,212	49,842	18.3%	24.4%	6.2%
Flint, MI	7,241	6,918	-324	23.6%	22.6%	-1.1%
Houston, TX	74,376	69,452	-4,925	16.1%	15.0%	-1.1%
Mobile, AL	9,194	8,417	-777	18.0%	16.5%	-1.5%
Oklahoma City, OK	16,316	14,088	-2,228	12.6%	10.8%	-1.7%
Memphis, TN	27,870	25,016	-2,854	17.4%	15.6%	-1.8%
Jackson, MS	8,873	8,012	-860	19.8%	17.9%	-1.9%
San Antonio, TX	40,191	34,530	-5,661	14.2%	12.2%	-2.0%
Shreveport, LA	9,512	8,339	-1,173	18.7%	16.4%	-2.3%
Corpus Christi, TX	10,219	8,097	-2,122	14.4%	11.4%	-3.0%
El Paso, TX	27,225	22,498	-4,728	19.2%	15.8%	-3.3%
Total for 98 Select Central Cities	**1,893,899**	**2,509,305**	**615,406**	**15.2%**	**20.2%**	**5.0%**

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.

Source: Authors' analysis of U.S. Census Bureau, Census 2000 SF4 Summary Tables, Table PCT117: "Family Size by Family Income in 1999"

loses 5,661 poor families, while Houston, TX and El Paso, TX experience a decrease of 4,925 and 4,728 poor families, respectively. Subsequently, these areas would expect to see declines in the number and percentage of people eligible for social programs.

C. Adjusting the federal poverty guidelines for regional differences in the cost of living has a considerable impact on the number of families eligible for public programs. As demonstrated above, if program eligibility standards were indexed for geographic COL differences, the geographic distribution of people eligible for social services would change substantially, as would the regional distribution of funds associated with these programs. The number of people eligible for public policies would increase in the Northeastern, Mid-Atlantic and Western cities dramatically. Again, cities with large populations and high home values in expensive regions would see the largest increases in program eligibility, while those in inexpensive regions with smaller populations and lower home values would see declines in the number of people eligible for public programs.

First, consider the extent to which COL adjustments would affect the number of families eligible for the Head Start and Early Head Start programs. Head Start, a child development program for families with incomes below 100 percent of the poverty guideline, provides a range of school readiness services to preschool-aged children and their families, including educational, nutritional, health, and other social services. Early Head Start, started in fiscal year 1995, extends these services to children from birth to three years of age. Both of these programs provide grants directly

Table 4. Top and Bottom Cities Experiencing the Greatest Change Change in the Percentage of Families Eligible for Public Programs if Cost of Living Adjustments Were Permissible, 2000

| Central Cities | Head Start/Early Head Start | | | | National Lunch Program | | | |
| | Total Families Eligible | | Change in Eligibility | | Total Families Eligible | | Change in Eligibility | |
	Unadjusted	COL-Adjusted	Families	Percent	Unadjusted	COL-Adjusted	Families	Percent
New York, NY	123,479	276,319	152,840	123.8%	290,262	624,501	334,239	115.2%
San Francisco, CA	3,436	7,236	3,801	110.6%	9,873	19,301	9,428	95.5%
San Jose, CA	4,767	9,962	5,195	109.0%	11,752	24,260	12,507	106.4%
Bridgeport, CT	2,252	4,121	1,868	83.0%	4,639	8,561	3,922	84.6%
Newark, NJ	6,229	10,545	4,316	69.3%	13,239	22,065	8,826	66.7%
Jersey City, NJ	3,423	5,785	2,362	69.0%	8,072	13,839	5,766	71.4%
Anaheim, CA	3,835	6,411	2,575	67.1%	8,506	13,906	5,400	63.5%
Honolulu, HI	2,631	3,951	1,319	50.1%	7,162	10,742	3,580	50.0%
Oakland, CA	5,440	8,055	2,616	48.1%	13,318	19,052	5,734	43.1%
Patterson, NJ	2,782	3,950	1,168	42.0%	6,145	8,703	2,558	41.6%
Mobile, AL	3,774	3,455	-319	-8.5%	7,980	7,384	-596	-7.5%
Tulsa, OK	5,078	4,612	-466	-9.2%	9,768	8,892	-876	-9.0%
Jackson, MS	3,559	3,214	-345	-9.7%	8,184	7,468	-716	-8.7%
Memphis, TN	12,076	10,840	-1,237	-10.2%	24,463	21,978	-2,486	-10.2%
Des Moines, IA	2,030	1,817	-214	-10.5%	3,664	3,241	-423	-11.6%
Shreveport, LA	3,659	3,208	-451	-12.3%	8,107	7,190	-917	-11.3%
Oklahoma City, OK	7,471	6,451	-1,020	-13.7%	14,321	12,514	-1,806	-12.6%
San Antonio, TX	18,455	15,856	-2,599	-14.1%	38,633	33,225	-5,408	-14.0%
El Paso, TX	11,143	9,208	-1,935	-17.4%	26,741	22,346	-4,395	-16.4%
Corpus Christi, TX	4,054	3,212	-842	-20.8%	9,226	7,364	-1,862	-20.2%

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.

Source: Authors' analysis of U.S. Census Bureau, Census 2000 SF4 Summary Tables, Table PCT117: "Family Size by Family Income in 1999"

to local organizations that operate programs at the community level. In fiscal year 2006 the programs received an appropriation of $6.8 billion and reported an average cost per child of $7,209 nationally.[19]

Overall, when considering the 98 cities in our sample, eligibility for the Head Start and Early Head Start programs would grow by 29 percent, as 227,349 more families would qualify for the programs if eligibility standards were indexed for geographic COL differences. Out of the 58 cities experiencing an increase in eligible families, almost one-third see an increase of more than 20 percent. In addition, COL-adjusted guidelines would extend eligibility to at least 1,000 additional families in 19 central cities, with an increase of more than 10,000 families in Chicago, IL and a gain of over 20,000 families in Los Angeles, CA (see Appendix C for all 98 cities).

Table 4 depicts the cities that would experience the largest changes in eligibility for the Head Start and Early Head Start programs if the poverty guideline and the resultant program eligibility standards were indexed for geographic cost-of-living differences. Once again, the percent increases under COL-adjusted guidelines outpace the declines. As the table indicates, New York, NY sees the biggest shift;152,840 more families would become eligible for the programs, marking a 123.8 percent increase in eligibility. San Francisco, CA and San Jose, CA would also experience eligibility increases of greater than 100 percent, although in real terms, the number of families would increase by much smaller amounts (3,801 and 5,195 respectively).

Likewise, low-cost areas in the South and West would experience declines in eligibility, though at lower rates than the cities experiencing the largest growth. Corpus Christi, TX would experience a 20.8 percent decline in families that qualify for the programs, while El Paso, TX, San Antonio, TX, Oklahoma City, OK, Shreveport, LA, and Des Moines, IA would all see declines in eligibility between 10 percent and 20 percent.

The second program we consider is the National School Lunch Program. This program provides free lunches for school-aged children from families with incomes at or below 130 percent of the poverty level. Children eligible for free lunches also receive free after-school snacks. School districts that choose to participate in this program receive cash reimbursements and other donated commodities from the U.S. Department of Agriculture. As of the 2006–2007 school year the cash reimbursement rate for a free lunch was $2.40, while schools received $0.65 for each after-school snack.[20] The entire National Lunch Program cost $7.9 billion in fiscal year 2005.

Taken as a whole, if eligibility standards were indexed for geographic COL differences, the 98 central cities in our sample would see 491,286 more families eligible for the National School Lunch Program, marking a 29.2 percent increase in program eligibility. Similar to the Head Start Program, about one-third of the central cities experiencing an increase in eligible families show growth rates exceeding 20 percent. In addition, 31 cities see the number of families eligible for free school lunches increase

by at least 1,000 families, and 13 of those show an increase of more than 5,000 families (see Appendix C for all 98 cities).

Table 4 shows the cities with the largest shifts in eligibility for the National School Lunch Program under COL-adjusted standards. The cities with the largest growth in the number of eligible families each show increases greater than 40 percent. Once again, New York, NY and San Jose, CA see increases in eligibility of greater than 100 percent, while San Francisco, CA and Bridgeport, CT also experience large increases in eligibility of 95.5 percent and 84.6 percent respectively. In contrast, Corpus Christi, TX experiences the largest proportional decline in eligibility of 20.2 percent, followed by El Paso, TX, San Antonio, TX, and Oklahoma City, OK.

Discussion

Though we do not necessarily recommend that existing federal means-tested programs change their eligibility guidelines, these programs provide a good benchmark to assess the impact that indexing for living cost differences would have on national policy and programs. Considering the number of means-tested programs, it is beyond the scope of this paper to address the effect of COL adjustments in each case. However, this paper addresses the challenges and advantages inherent in accounting for COL differences by evaluating the potential impact on the federal poverty guidelines, and the subsequent effects on selected national programs.

As this analysis demonstrates, failing to accurately account for interarea COL differences distorts

our perceptions of the relative economic wellbeing of places and results in considerable inequities in the distribution of public resources. This underscores the research done by the National Research Council (1995 & 2002), which demonstrates that current wellbeing measures that fail to capture the relative economic hardship of low-income people in higher-cost areas have real consequences in terms of public benefits and programs available to these individuals as they work to support themselves and their families. Large improvements could be made through the incorporation of COL adjustments to these measures, particularly when researching and crafting public policies targeted to low-income families.

However, it is also important to note that barriers exist to the assimilation of COL measures into existing public policies. First, we have established the methodological challenges associated with COL adjustments. While several COL measures exist, they vary greatly in their accuracy, cost-effectiveness, applicability to populations of various income levels and appropriateness of their components. Research demonstrates that market basket COL measures are superior to housing-based measures and primary data market basket measures are more reliable than those that rely on secondary data sources. However, further research is needed to better target market baskets to lower-income households, and to determine if market basket measures are in fact the most effective measure of differences in living costs.

Second, incorporating COL adjustments into measures of social wellbeing and policy eligibility

criteria has important political considerations that are likely to make efforts to change existing programs difficult. For instance, indexing the current poverty measure for COL differences would result in large, expensive cities experiencing dramatic increases in the proportion of their population considered poor. In terms of public image, it is possible that these cities would be averse to large increases in their poverty numbers because it might negatively impact public perceptions about the city. Negative public perceptions can result in real declines in economic investments in a city, making increases in poverty numbers a very undesirable prospect. More importantly, however, indexing federal program eligibility criteria for COL differences would likely face strong political resistance from the smaller, less expensive cities as it would result in a large redistribution of federal funds from low-cost areas in the rural South and the Midwest, to higher-cost, urbanized areas in the Northeast and on the West Coast. While Northeastern and Western policymakers may be in favor of siphoning off a greater proportion of public funds from these areas, it is likely that the proposition would face strong opposition from elected officials in the regions that would lose resources from such a redistribution. In addition, it is unlikely that federal funding levels for these programs would increase on pace with the rise in eligible families that could result from adjusted eligibility guidelines. Instead, programs might choose to change eligibility thresholds in response. For instance, lowering the income criterion for Head Start to 90 percent of the adjusted federal

poverty level may keep eligibility levels from rising too rapidly, though it would not lessen the tensions resulting from shifts in the geographic distribution of eligible families.

Despite the limitations faced at the federal level, states and regions have the potential to address the problem locally by supplementing federal funding floors for poor and low-income families living in high-cost areas. For example state-level Earned Income Tax Credit (EITC) programs in high-cost areas such as New York, New Jersey, and Massachusetts perform such a function for low-income workers today. Three local governments in higher-cost regions–New York, NY, San Francisco, CA, and Montgomery County, MD–have also implemented local versions of the EITC to further assist low-income workers. In these cases, state- and local-level policy works to ameliorate the undue economic burden faced by low-income workers living in relatively expensive places. These policies are not widespread as of yet, however regional solutions such as these should be considered in the effort to create more economically equitable public policies for those living in high-cost areas. To that end, crafting a measure of economic wellbeing that recognizes regional differences in the cost of living is a critical step towards understanding where local policies and programs can most effectively supplement federal assistance.

The incorporation of COL adjustments into static measures of economic wellbeing, such as the federal poverty level, faces both methodological and political limitations. However, these limitations should not inhibit

analysts from accounting for the presence of COL differences when conducting policy research, and they do not preclude accounting for COL differences when crafting new policies targeted at supporting low-income families. On the contrary, while a perfect measure does not currently exist, the simple calculations we have performed provide substantial evidence that applying a well-constructed, though imperfect, cost-of-living index yields a better understanding of the world than would ignoring these differences altogether.

Methodological Appendix

Predicting Missing ACCRA Indices

As the first step in our analysis we estimate a regression equation for 2000 ACCRA indices in which we regress a sample of sixty-seven ACCRA index values against three independent variables. The independent variables include the median owner-occupied housing value in the central city of the MSA/PMSA, the natural log of population in the central city of the MSA/PMSA, and the region in which the MSA/PMSA is located. We obtained median home value and population figures from the U.S. Census Bureau's American Housing Survey and the U.S. decennial Census of Population. We derived the twelve regions used in the model from the Bureau of Economic Analysis' eight regions, but modified them to better group regions by similarity in economic trends. The twelve regions included in the model for this report are defined as follows:

1. Coastal Southeast: Florida,

Georgia, North Carolina, South Carolina, Virginia
2. Continental Far West: California, Nevada, Oregon
3. Great Lakes: Illinois, Indiana, Michigan, Ohio, Wisconsin, all New York State MSAs west of Albany, and all Pennsylvania MSAs west of Philadelphia
4. Inland Southeast: Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Tennessee, West Virginia
5. Non-continental Far West: Alaska, Hawaii
6. Northern Mideast: New Jersey (except those in the NYC CMSA), New York (excluding those in Great Lakes region or NYC CMSA), Pennsylvania (excluding those in Great Lakes region)
7. Northern New England: Maine, New Hampshire, Vermont
8. Plains: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
9. Southern Mideast: Delaware, District of Columbia, Maryland
10. Southern New England:

Connecticut, Massachusetts, Rhode Island
11. Southwest: Arizona, Colorado, Idaho, Montana, New Mexico, Oklahoma, Texas, Utah, Wyoming
12. New York City CMSA

When we regress the ACCRA indices against the independent variables, the model produces an R-squared value of 0.789 for the year 2000. The high R-squared value suggests that the independent variables (median home value, population and regional location) explain roughly 79 percent of the variation in ACCRA Cost-of-Living Index in 2000. Furthermore, when we use the model to predict the COL index for a central city, the actual and predicted indices have a correlation coefficient of .882. Thus, we conclude that our model can be used to predict the ACCRA COL indices for those central cities with missing observations.

Interpolation of Poor Families

In order to interpolate both the number of families considered

Appendix Table A

Federal poverty guideline for a family of two	$11,250
Number of two person families earning less than $10,000 in Albuquerque, NM	3,335
Number of two person families earning $10,000 - $14,999 in Albuquerque, NM	3,029
Poverty guideline - Lower bound of range ($11,250 - $10,000)	1,250
Upper bound of range - Lower bound of range ($14,999 - $10,000)	4,999
Percent of category that are poor: (1,250/4,999)	25%
0.25(3,029) = 757 families in category that are poor	757
Two person poor families under current standards (3,335 + 757)	4,092

poor under current standards as well as the number of families considered poor under income-adjusted standards, we begin with data from the U.S. Census Bureau's SF-4 Summary Table PCT-117 on family income by family size (1999), and make the calculations presented in Table A for each central city (Albuquerque, NM is used in Table A).

We make the same calculations for each central city and for all family sizes (up to 7 or more people). The total number of poor families is the aggregate number of poor families at each family size in each central city. We use the same process for current and income-adjusted standards and then calculate the current and income-adjusted number of poor families as a percent of the total families in the central city.

Interpolation of Families Eligible for Free Lunches and Head Start/Early Head Start

Children eligible for free school lunches under the National School Lunch Program are school-aged children with annual family incomes at or below 130 percent of the federal poverty guidelines. These children are also eligible for free after-school snacks. (Children with family incomes greater than 130 percent but less than 185 percent of the federal poverty guidelines are eligible for reduced-price lunches; however, we do not include reduced-price lunches in our analysis.) In order to estimate the number of families eligible for free lunches under current

Appendix Table B

2 Person Families Eligible for Free Lunches Under Income-Adjusted Standards		2 Person Families Eligible for Free Lunches Under Current Standards	
Unadjusted Federal Poverty Guideline for 2 person families	11,250	Unadjusted Poverty Guideline for 2 person families	11,250
Adjusted for COL by ACCRA Index/100): 100.9/100 = 1.009	11,351		
Adjusted for Program Eligibility: 11,351 * 1.3	14,757	Adjusted for Program Eligibility: 11,250 * 1.3	14,625
Number of 2 person families earning less than 10,000	3,335	Number of 2 person families earning less than 10,000	3,335
Number of 2 person families earning 10,000 - 14,999	3,029	Number of 2 person families earning 10,000 - 14,999	3,029
14,999 - 10,000	4,999	14,999 - 10,000	4,999
14,757 - 10,000	4,757	14,625 - 10,000	4,625
4,757/4,999	0.952	4,625/4,999	0.925
.952 * 3,029	2,882	.925 * 3,029	2,802
Families with adjusted incomes ≤ 130% FPG (3,335 + 2,882)	6,217	Families with incomes ≤ 130% of FPG (3,335 + 2,802)	6,137

Appendix Table C

Families with COL-adjusted incomes at or below 130% of poverty		Families with incomes at or below 130% of poverty	
2 person families	6,217	2 person families	6,137
3 person families	4,421	3 person families	4,370
4 person families	3,370	4 person families	3,326
5 person families	1,721	5 person families	1,695
6 person families	774	6 person families	763
7 person families	566	7 person families	560
Total families	17,069	Total families	16,851
Percent of poor families in Albuquerque with children aged 5 - 17	0.618	Percent of poor families in Albuquerque with children aged 5 - 17	0.618
Total families eligible for free lunches	10,547	Total families eligible for free lunches	10,412
Change (6,602-6,518)	135		
Percent Difference (6,602-6,518)/6,518	1.3%		

and COL-adjusted standards, we begin with data from the U.S. Census Bureau, Census 2000 SF4 Summary Tables, Table PCT117: "Family Size by Family Income in 1999" and make the calculations presented in Table B for each central city (Albuquerque, NM is once again used as an example in Table B).

We repeat these calculations for all family sizes, up to families with 7 or more persons.

Next, using data from the U.S. Census Bureau, Census 2000 SF3 Summary Tables, Table P90: "Poverty Status in 1999 of Families by Family Type by Presence of Related Children Under 18 Years by Age of Related Children," we estimate the number of families with school-age children that are eligible for free lunches. We then compare the real and percentage differences under current and COL-adjusted standards (see Table C).

We use the same basic calculation as above to determine the number of families eligible for Head Start and Early Head Start. However, the Head Start program serves pre-school aged children from families with incomes at or below 100 percent of the federal poverty guideline, while Early Head Start is available to children from birth to three years of age from families at those income levels. The only differences in our calculations are: (1) we do not need to adjust incomes for program eligibility and, (2) using data from the U.S. Census Bureau, Census 2000 SF3 Summary Tables, Table P90: "Poverty Status in 1999 of Families by Family Type by Presence of Related Children Under 18 Years by Age of Related Children," we multiply the total number of families

eligible for the Head Start and Early Head Start programs by the percentage of poor families in each central city with children under 5 (as opposed to children aged 5 - 17).

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Appendix A
ACCRA-Adjusted Poverty Guidelines for 98 Central Cities, 2000

| Selected Central Cities | Federal Poverty Guideline, Family of Four, 2000 | | | |
| | Reported Federal Maximum Income Level | ACCRA Cost-of-living Adjusted Maximum Income Level | Difference (ACCRA - Federal) | |
			Dollar	Percent
Akron, OH	$17,050	$17,287	$237	1.4%
Albuquerque, NM	$17,050	$17,203	$153	0.9%
Anaheim, CA	$17,050	$23,535	$6,485	38.0%
Atlanta, GA	$17,050	$17,544	$494	2.9%
Austin, TX	$17,050	$16,351	-$699	-4.1%
Baltimore, MD	$17,050	$16,539	-$512	-3.0%
Baton Rouge, LA	$17,050	$17,203	$153	0.9%
Birmingham-Hoover, AL	$17,050	$16,504	-$546	-3.2%
Boston, MA	$17,050	$22,864	$5,814	34.1%
Bridgeport, CT	$17,050	$28,895	$11,845	69.5%
Buffalo, NY	$17,050	$16,862	-$188	-1.1%
Charlotte, NC	$17,050	$17,135	$85	0.5%
Chattanooga, TN	$17,050	$16,845	-$205	-1.2%
Chicago, IL	$17,050	$20,888	$3,838	22.5%
Cincinnati, OH	$17,050	$16,965	-$85	-0.5%
Cleveland, OH	$17,050	$19,113	$2,063	12.1%
Colorado Springs, CO	$17,050	$16,897	-$153	-0.9%
Columbus, OH	$17,050	$17,152	$102	0.6%
Corpus Christi, TX	$17,050	$14,358	-$2,692	-15.8%
Dallas, TX	$17,050	$17,152	$102	0.6%
Dayton, OH	$17,050	$17,186	$136	0.8%
Denver, CO	$17,050	$18,397	$1,347	7.9%
Des Moines, IA	$17,050	$15,818	-$1,232	-7.2%
Detroit, MI	$17,050	$19,351	$2,301	13.5%
El Paso, TX	$17,050	$14,808	-$2,242	-13.2%
Evansville, IN	$17,050	$16,232	-$818	-4.8%
Flint, MI	$17,050	$16,373	-$677	-4.0%
Fort Lauderdale, FL	$17,050	$17,426	$376	2.2%
Fort Wayne, IN	$17,050	$15,976	-$1,074	-6.3%
Fort Worth, TX	$17,050	$17,272	$222	1.3%
Fresno, CA	$17,050	$18,312	$1,262	7.4%
Gary, IN	$17,050	$16,970	-$80	-0.5%
Grand Rapids, MI	$17,050	$17,527	$477	2.8%
Greensboro, NC	$17,050	$16,470	-$580	-3.4%
Hartford, CT	$17,050	$20,594	$3,544	20.8%
Honolulu, HI	$19,610	$26,244	$6,634	33.8%
Houston, TX	$17,050	$16,198	-$853	-5.0%
Indianapolis, IN	$17,050	$16,573	-$477	-2.8%
Jackson, MS	$17,050	$15,669	-$1,381	-8.1%
Jacksonville, FL	$17,050	$16,402	-$648	-3.8%
Jersey City, NJ	$17,050	$27,804	$10,754	63.1%
Kansas City, MO	$17,050	$16,709	-$341	-2.0%
Knoxville, TN	$17,050	$16,300	-$750	-4.4%

Appendix A (continued)
ACCRA-Adjusted Poverty Guidelines for 98 Central Cities, 2000

Selected Central Cities	Federal Poverty Guideline, Family of Four, 2000			
	Reported Federal Maximum Income Level	ACCRA Cost-of-living Adjusted Maximum Income Level	Difference (ACCRA - Federal)	
			Dollar	Percent
Lansing, MI	$17,050	$18,005	$955	5.6%
Las Vegas, NV	$17,050	$18,175	$1,125	6.6%
Lexington, KY	$17,050	$16,607	-$443	-2.6%
Little Rock, AR	$17,050	$16,215	-$835	-4.9%
Los Angeles, CA	$17,050	$21,398	$4,348	25.5%
Louisville, KY	$17,050	$16,266	-$784	-4.6%
Madison, WI	$17,050	$17,995	$945	5.5%
Memphis, TN	$17,050	$15,498	-$1,552	-9.1%
Miami, FL	$17,050	$18,141	$1,091	6.4%
Milwaukee, WI	$17,050	$18,582	$1,532	9.0%
Minneapolis, MN	$17,050	$17,937	$887	5.2%
Mobile, AL	$17,050	$15,754	-$1,296	-7.6%
Montgomery, AL	$17,050	$16,521	-$529	-3.1%
Nashville, TN	$17,050	$16,283	-$767	-4.5%
New Haven, CT	$17,050	$20,989	$3,939	23.1%
New Orleans, LA	$17,050	$16,920	-$130	-0.8%
New York, NY	$17,050	$39,556	$22,506	132.0%
Newark, NJ	$17,050	$30,483	$13,433	78.8%
Norfolk, NE	$17,050	$16,521	-$529	-3.1%
Oakland, CA	$17,050	$24,004	$6,954	40.8%
Oklahoma City, OK	$17,050	$15,345	-$1,705	-10.0%
Omaha, NE	$17,050	$16,283	-$767	-4.5%
Orlando, FL	$17,050	$16,675	-$375	-2.2%
Paterson, NJ	$17,050	$22,768	$5,718	33.5%
Philadelphia, PA	$17,050	$20,238	$3,188	18.7%
Phoenix, AZ	$17,050	$17,613	$563	3.3%
Pittsburgh, PA	$17,050	$17,392	$342	2.0%
Portland, OR	$17,050	$19,181	$2,131	12.5%
Providence, RI	$17,050	$20,202	$3,152	18.5%
Raleigh, NC	$17,050	$17,272	$222	1.3%
Richmond, VA	$17,050	$17,715	$665	3.9%
Riverside, CA	$17,050	$19,028	$1,978	11.6%
Rochester, NY	$17,050	$17,075	$25	0.1%
Rockford, IL	$17,050	$16,266	-$784	-4.6%
Sacramento, CA	$17,050	$19,284	$2,234	13.1%
Salt Lake City, UT	$17,050	$17,911	$861	5.0%
San Antonio, TX	$17,050	$15,243	-$1,807	-10.6%
San Diego, CA	$17,050	$21,585	$4,535	26.6%
San Francisco, CA	$17,050	$29,039	$11,989	70.3%
San Jose, CA	$17,050	$28,701	$11,651	68.3%
Seattle, WA	$17,050	$21,927	$4,877	28.6%
Shreveport, LA	$17,050	$15,267	-$1,783	-10.5%
Spokane, WA	$17,050	$18,550	$1,500	8.8%

Appendix A (continued)
ACCRA-Adjusted Poverty Guidelines for 98 Central Cities, 2000

Selected Central Cities	Reported Federal Maximum Income Level	ACCRA Cost-of-living Adjusted Maximum Income Level	Difference (ACCRA - Federal) Dollar	Difference (ACCRA - Federal) Percent
	Federal Poverty Guideline, Family of Four, 2000			
St. Louis, MO	$17,050	$16,487	-$563	-3.3%
Stockton, CA	$17,050	$18,257	$1,207	7.1%
Syracuse, NY	$17,050	$17,221	$171	1.0%
Tacoma, WA	$17,050	$17,749	$699	4.1%
Tampa, FL	$17,050	$16,627	-$423	-2.5%
Toledo, OH	$17,050	$17,442	$392	2.3%
Tucson, AZ	$17,050	$17,374	$324	1.9%
Tulsa, OK	$17,050	$15,942	-$1,108	-6.5%
Washington, DC	$17,050	$21,040	$3,990	23.4%
Wichita, KS	$17,050	$16,402	-$648	-3.8%
Worcester, MA	$17,050	$19,894	$2,844	16.7%
Summary Statistics				
Mean	$17,050	$18,655	$1,605	9.4%
Standard deviation		3,886	3,843	22.5%
Coefficient of variation		0.21	2.39	2.39

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.

Sources: Authors' Ananlysis of 2000 Poverty Guidelines: Federal Register, Vol. 65, No. 31, February 15, 2000, pp. 7555-7557

Appendix B
Effect of Using ACCRA's Cost-of-living Adjustments to Estimate the Number of Families with Incomes at, or Below, the Federal Poverty Guidelines in 2000

Select Central Cities	Total Families	Total Families in Poverty			Poverty Rate		
		Unadjusted	COL-Adjusted	Change	Unadjusted	COL-Adjusted	Change
Akron, OH	54,104	7,681	7,800	119	14.2%	14.4%	0.2%
Albuquerque, NM	113,301	11,460	11,620	160	10.1%	10.3%	0.1%
Anaheim, CA	74,325	7,588	12,682	5,094	10.2%	17.1%	6.9%
Atlanta, GA	84,479	18,230	18,747	517	21.6%	22.2%	0.6%
Austin, TX	143,286	13,135	12,438	-697	9.2%	8.7%	-0.5%
Baltimore, MD	148,167	28,275	27,374	-900	19.1%	18.5%	-0.6%
Baton Rouge, LA	53,127	9,569	9,678	109	18.0%	18.2%	0.2%
Birmingham-Hoover, AL	59,696	12,728	12,261	-467	21.3%	20.5%	-0.8%
Boston, MA	116,657	18,280	25,191	6,912	15.7%	21.6%	5.9%
Bridgeport, CT	33,042	5,424	9,923	4,499	16.4%	30.0%	13.6%
Buffalo, NY	67,408	15,675	15,497	-178	23.3%	23.0%	-0.3%
Charlotte, NC	133,957	10,621	10,688	67	7.9%	8.0%	0.0%
Chattanooga, TN	39,912	5,653	5,567	-85	14.2%	13.9%	-0.2%
Chicago, IL	638,290	106,131	132,274	26,143	16.6%	20.7%	4.1%
Cincinnati, OH	72,833	13,244	13,177	-66	18.2%	18.1%	-0.1%
Cleveland, OH	112,838	26,255	29,644	3,388	23.3%	26.3%	3.0%
Colorado Springs, CO	93,891	5,724	5,650	-74	6.1%	6.0%	-0.1%
Columbus, OH	166,112	18,204	18,338	134	11.0%	11.0%	0.1%
Corpus Christi, TX	70,833	10,219	8,097	-2,122	14.4%	11.4%	-3.0%
Dallas, TX	269,602	40,675	41,003	329	15.1%	15.2%	0.1%
Dayton, OH	37,874	6,937	7,000	63	18.3%	18.5%	0.2%
Denver, CO	120,305	12,917	14,352	1,435	10.7%	11.9%	1.2%
Des Moines, IA	49,031	3,983	3,564	-419	8.1%	7.3%	-0.9%
Detroit, MI	220,418	48,241	54,994	6,753	21.9%	24.9%	3.1%
El Paso, TX	142,151	27,225	22,498	-4,728	19.2%	15.8%	-3.3%
Evansville, IN	30,791	3,180	2,967	-213	10.3%	9.6%	-0.7%
Flint, MI	30,676	7,241	6,918	-324	23.6%	22.6%	-1.1%
Fort Lauderdale, FL	33,244	4,598	4,720	122	13.8%	14.2%	0.4%
Fort Wayne, IN	50,856	4,977	4,593	-384	9.8%	9.0%	-0.8%
Fort Worth, TX	128,416	16,548	16,849	301	12.9%	13.1%	0.2%
Fresno, CA	98,925	20,334	22,135	1,801	20.6%	22.4%	1.8%
Gary, IN	25,846	5,857	5,831	-27	22.7%	22.6%	-0.1%
Grand Rapids, MI	44,934	5,365	5,557	192	11.9%	12.4%	0.4%
Greensboro, NC	54,065	4,733	4,514	-220	8.8%	8.3%	-0.4%
Hartford, CT	27,453	7,825	9,348	1,522	28.5%	34.0%	5.5%
Honolulu, HI	87,871	8,606	12,920	4,315	9.8%	14.7%	4.9%
Houston, TX	461,937	74,376	69,452	-4,925	16.1%	15.0%	-1.1%
Indianapolis, IN	194,395	17,973	17,285	-688	9.2%	8.9%	-0.4%
Jackson, MS	44,825	8,873	8,012	-860	19.8%	17.9%	-1.9%
Jacksonville, FL	191,923	18,390	17,427	-963	9.6%	9.1%	-0.5%
Jersey City, NJ	56,114	9,397	15,881	6,484	16.7%	28.3%	11.6%
Kansas City, MO	108,475	12,226	11,946	-279	11.3%	11.0%	-0.3%
Knoxville, TN	40,324	6,026	5,714	-311	14.9%	14.2%	-0.8%
Lansing, MI	28,550	3,722	3,991	269	13.0%	14.0%	0.9%
Las Vegas, NV	118,540	10,173	11,172	999	8.6%	9.4%	0.8%
Lexington, KY	63,648	5,423	5,222	-201	8.5%	8.2%	-0.3%
Little Rock, AR	47,155	5,380	5,056	-324	11.4%	10.7%	-0.7%

Appendix B (continued)
Effect of Using ACCRA's Cost-of-living Adjustments to Estimate the Number of Families
with Incomes at, or Below, the Federal Poverty Guidelines in 2000

Select Central Cities	Total Families	Total Families in Poverty			Poverty Rate		
		Unadjusted	COL-Adjusted	Change	Unadjusted	COL-Adjusted	Change
Los Angeles, CA	807,039	147,371	197,212	49,842	18.3%	24.4%	6.2%
Louisville, KY	61,582	11,149	10,637	-512	18.1%	17.3%	-0.8%
Madison, WI	42,760	2,509	2,694	185	5.9%	6.3%	0.4%
Memphis, TN	160,049	27,870	25,016	-2,854	17.4%	15.6%	-1.8%
Miami, FL	84,195	20,524	22,240	1,717	24.4%	26.4%	2.0%
Milwaukee, WI	136,327	23,751	26,154	2,402	17.4%	19.2%	1.8%
Minneapolis, MN	74,543	8,920	9,489	568	12.0%	12.7%	0.8%
Mobile, AL	51,043	9,194	8,417	-777	18.0%	16.5%	-1.5%
Montgomery, AL	51,240	7,140	6,883	-257	13.9%	13.4%	-0.5%
Nashville, TN	132,254	13,688	12,961	-727	10.3%	9.8%	-0.5%
New Haven, CT	26,272	5,436	6,743	1,307	20.7%	25.7%	5.0%
New Orleans, LA	113,948	27,134	26,923	-211	23.8%	23.6%	-0.2%
New York, NY	1,869,809	348,312	779,444	431,132	18.6%	41.7%	23.1%
Newark, NJ	62,549	15,941	26,987	11,046	25.5%	43.1%	17.7%
Norfolk, NE	5,902	458	434	-24	7.8%	7.4%	-0.4%
Oakland, CA	87,334	14,221	21,060	6,838	16.3%	24.1%	7.8%
Oklahoma City, OK	129,983	16,316	14,088	-2,228	12.6%	10.8%	-1.7%
Omaha, NE	95,793	7,586	7,124	-462	7.9%	7.4%	-0.5%
Orlando, FL	42,928	5,805	5,655	-150	13.5%	13.2%	-0.4%
Paterson, NJ	33,810	6,460	9,173	2,713	19.1%	27.1%	8.0%
Philadelphia, PA	355,253	66,062	78,995	12,934	18.6%	22.2%	3.6%
Phoenix, AZ	310,327	35,507	37,225	1,718	11.4%	12.0%	0.6%
Pittsburgh, PA	74,708	11,417	11,670	253	15.3%	15.6%	0.3%
Portland, OR	119,812	10,328	12,064	1,735	8.6%	10.1%	1.4%
Providence, RI	36,187	8,681	10,378	1,697	24.0%	28.7%	4.7%
Raleigh, NC	62,174	4,487	4,570	83	7.2%	7.4%	0.1%
Richmond, VA	44,225	7,719	8,021	301	17.5%	18.1%	0.7%
Riverside, CA	58,634	6,935	8,191	1,256	11.8%	14.0%	2.1%
Rochester, NY	47,713	11,231	11,248	17	23.5%	23.6%	0.0%
Rockford, IL	37,651	4,037	3,799	-238	10.7%	10.1%	-0.6%
Sacramento, CA	92,213	14,061	16,341	2,280	15.2%	17.7%	2.5%
Salt Lake City, UT	40,386	4,205	4,498	293	10.4%	11.1%	0.7%
San Antonio, TX	282,635	40,191	34,530	-5,661	14.2%	12.2%	-2.0%
San Diego, CA	274,198	29,040	40,522	11,482	10.6%	14.8%	4.2%
San Francisco, CA	147,186	12,017	25,312	13,295	8.2%	17.2%	9.0%
San Jose, CA	205,906	12,242	25,583	13,341	5.9%	12.4%	6.5%
Seattle, WA	115,498	7,965	10,727	2,762	6.9%	9.3%	2.4%
Shreveport, LA	50,961	9,512	8,339	-1,173	18.7%	16.4%	-2.3%
Spokane, WA	48,066	5,435	6,121	687	11.3%	12.7%	1.4%
Springfield, MA	36,753	7,147	8,855	1,708	19.4%	24.1%	4.6%
St. Louis, MO	77,784	16,457	15,898	-559	21.2%	20.4%	-0.7%
Stockton, CA	56,684	10,613	11,513	900	18.7%	20.3%	1.6%
Syracuse, NY	30,717	6,732	6,800	68	21.9%	22.1%	0.2%
Tacoma, WA	46,446	5,293	5,570	277	11.4%	12.0%	0.6%
Tampa, FL	71,665	10,249	9,950	-299	14.3%	13.9%	-0.4%

Appendix B (continued)
Effect of Using ACCRA's Cost-of-living Adjustments to Estimate the Number of Families
with Incomes at, or Below, the Federal Poverty Guidelines in 2000

Select Central Cities	Total Families	Total Families in Poverty			Poverty Rate		
		Unadjusted	COL-Adjusted	Change	Unadjusted	COL-Adjusted	Change
Toledo, OH	77,787	11,288	11,586	299	14.5%	14.9%	0.4%
Tucson, AZ	113,706	15,710	16,171	461	13.8%	14.2%	0.4%
Tulsa, OK	99,819	11,030	10,018	-1,012	11.1%	10.0%	-1.0%
Washington, DC	115,963	19,680	23,795	4,116	17.0%	20.5%	3.5%
Wichita, KS	88,473	7,535	7,123	-412	8.5%	8.1%	-0.5%
Worcester, MA	39,732	5,646	6,649	1,003	14.2%	16.7%	2.5%
Total	**12,430,759**	**1,893,899**	**2,509,305**	**615,406**	**15.2%**	**20.2%**	**5.0%**

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.
Source: Authors' Analysis of U.S. Census Bureau, Census 2000 SF4 Summary Tables, Table PCT117: "Family Size by Family Income in 1999"

Appendix C
Change in the Number of Families Eligible for Public Programs in 2000 if Cost of Living Adjustments Were Permissible

Select Central Cities	Head Start/Early Head Start				National Lunch Program			
	Total Families Eligible		Change in Eligibility		Total Families Eligible		Change in Eligibility	
	Unadjusted	COL-Adjusted	Families	Percent	Unadjusted	COL-Adjusted	Families	Percent
Akron, OH	3,443	3,496	53	1.6%	6,496	6,597	101	1.5%
Albuquerque, NM	5,000	5,069	70	1.4%	10,412	10,547	135	1.3%
Anaheim, CA	3,835	6,411	2,575	67.1%	8,506	13,906	5,400	63.5%
Atlanta, GA	7,783	8,003	221	2.8%	16,050	16,475	425	2.6%
Austin, TX	6,171	5,843	-327	-5.3%	11,343	10,661	-682	-6.0%
Baltimore, MD	10,685	10,345	-340	-3.2%	24,008	23,244	-763	-3.2%
Baton Rouge, LA	3,917	3,961	45	1.1%	8,099	8,177	78	1.0%
Birmingham-Hoover, AL	4,462	4,298	-164	-3.7%	11,023	10,654	-368	-3.3%
Boston, MA	6,676	9,200	2,524	37.8%	15,231	20,860	5,629	37.0%
Bridgeport, CT	2,252	4,121	1,868	83.0%	4,639	8,561	3,922	84.6%
Buffalo, NY	7,096	7,016	-81	-1.1%	13,719	13,572	-147	-1.1%
Charlotte, NC	4,232	4,259	27	0.6%	9,463	9,527	64	0.7%
Chattanooga, TN	2,022	1,991	-31	-1.5%	4,694	4,630	-64	-1.4%
Chicago, IL	44,152	55,027	10,876	24.6%	94,208	117,575	23,367	24.8%
Cincinnati, OH	6,002	5,973	-30	-0.5%	11,563	11,506	-57	-0.5%
Cleveland, OH	11,815	13,339	1,525	12.9%	22,852	25,718	2,866	12.5%
Colorado Springs, CO	2,647	2,613	-34	-1.3%	5,275	5,201	-74	-1.4%
Columbus, OH	8,135	8,195	60	0.7%	15,189	15,302	113	0.7%
Corpus Christi, TX	4,054	3,212	-842	-20.8%	9,226	7,364	-1,862	-20.2%
Dallas, TX	18,910	19,063	153	0.8%	37,244	37,536	292	0.8%
Dayton, OH	3,076	3,103	28	0.9%	6,041	6,094	53	0.9%
Denver, CO	6,004	6,671	667	11.1%	11,827	13,109	1,282	10.8%
Des Moines, IA	2,030	1,817	-214	-10.5%	3,664	3,241	-423	-11.6%
Detroit, MI	20,312	23,155	2,843	14.0%	44,374	50,352	5,978	13.5%
El Paso, TX	11,143	9,208	-1,935	-17.4%	26,741	22,346	-4,395	-16.4%
Evansville, IN	1,555	1,451	-104	-6.7%	2,557	2,382	-175	-6.8%
Flint, MI	3,443	3,289	-154	-4.5%	6,526	6,288	-238	-3.6%
Fort Lauderdale, FL	1,740	1,786	46	2.7%	3,932	4,024	92	2.3%
Fort Wayne, IN	2,533	2,337	-196	-7.7%	4,398	4,034	-365	-8.3%
Fort Worth, TX	7,873	8,016	143	1.8%	15,406	15,677	271	1.8%
Fresno, CA	10,232	11,138	906	8.9%	19,686	21,366	1,680	8.5%
Gary, IN	2,489	2,477	-11	-0.5%	5,007	4,983	-23	-0.5%
Grand Rapids, MI	2,518	2,608	90	3.6%	4,793	4,956	162	3.4%
Greensboro, NC	2,069	1,973	-96	-4.6%	4,011	3,830	-181	-4.5%
Hartford, CT	3,207	3,830	624	19.5%	6,764	8,008	1,244	18.4%
Honolulu, HI	2,631	3,951	1,319	50.1%	7,162	10,742	3,580	50.0%
Houston, TX	32,501	30,349	-2,152	-6.6%	67,241	62,879	-4,362	-6.5%
Indianapolis, IN	7,848	7,547	-300	-3.8%	16,423	15,803	-620	-3.8%
Jackson, MS	3,559	3,214	-345	-9.7%	8,184	7,468	-716	-8.7%
Jacksonville, FL	7,528	7,133	-394	-5.2%	17,275	16,355	-920	-5.3%
Jersey City, NJ	3,423	5,785	2,362	69.0%	8,072	13,839	5,766	71.4%
Kansas City, MO	5,134	5,017	-117	-2.3%	10,838	10,569	-269	-2.5%
Knoxville, TN	2,466	2,339	-127	-5.2%	4,523	4,279	-244	-5.4%
Lansing, MI	1,722	1,846	124	7.2%	3,377	3,624	247	7.3%
Las Vegas, NV	4,540	4,986	446	9.8%	9,416	10,346	931	9.9%
Lexington, KY	2,132	2,053	-79	-3.7%	4,579	4,423	-156	-3.4%
Little Rock, AR	2,329	2,188	-140	-6.0%	4,660	4,380	-280	-6.0%
Los Angeles, CA	65,943	88,245	22,302	33.8%	141,196	182,411	41,216	29.2%

Appendix C (continued)
Change in the Number of Families Eligible for Public Programs in 2000 if Cost of Living Adjustments Were Permissible

| | Head Start/Early Head Start | | | | National Lunch Program | | | |
| | Total Families Eligible | | Change in Eligibility | | Total Families Eligible | | Change in Eligibility | |
Select Central Cities	Unadjusted	COL-Adjusted	Families	Percent	Unadjusted	COL-Adjusted	Families	Percent
Louisville, KY	4,773	4,553	-219	-4.6%	9,309	8,866	-442	-4.8%
Madison, WI	1,006	1,080	74	7.4%	1,926	2,076	149	7.8%
Memphis, TN	12,076	10,840	-1,237	-10.2%	24,463	21,978	-2,486	-10.2%
Miami, FL	6,321	6,850	529	8.4%	16,624	17,880	1,256	7.6%
Milwaukee, WI	11,302	12,445	1,143	10.1%	22,226	24,530	2,304	10.4%
Minneapolis, MN	4,164	4,430	265	6.4%	8,388	8,951	563	6.7%
Mobile, AL	3,774	3,455	-319	-8.5%	7,980	7,384	-596	-7.5%
Montgomery, AL	2,788	2,688	-100	-3.6%	6,424	6,201	-224	-3.5%
Nashville, TN	5,983	5,665	-318	-5.3%	11,165	10,546	-619	-5.5%
New Haven, CT	2,404	2,982	578	24.0%	4,835	5,966	1,131	23.4%
New Orleans, LA	10,235	10,155	-80	-0.8%	24,889	24,704	-185	-0.7%
New York, NY	123,479	276,319	152,840	123.8%	290,262	624,501	334,239	115.2%
Newark, NJ	6,229	10,545	4,316	69.3%	13,239	22,065	8,826	66.7%
Norfolk, NE	252	239	-13	-5.3%	415	394	-21	-5.0%
Oakland, CA	5,440	8,055	2,616	48.1%	13,318	19,052	5,734	43.1%
Oklahoma City, OK	7,471	6,451	-1,020	-13.7%	14,321	12,514	-1,806	-12.6%
Omaha, NE	3,491	3,278	-213	-6.1%	7,034	6,618	-416	-5.9%
Orlando, FL	2,536	2,470	-66	-2.6%	5,198	5,063	-135	-2.6%
Patterson, NJ	2,782	3,950	1,168	42.0%	6,145	8,703	2,558	41.6%
Philadelphia, PA	23,736	28,383	4,647	19.6%	57,810	69,164	11,354	19.6%
Phoenix, AZ	18,761	19,669	908	4.8%	35,241	36,830	1,590	4.5%
Pittsburgh, PA	4,316	4,412	96	2.2%	9,364	9,580	217	2.3%
Portland, OR	4,342	5,072	729	16.8%	8,854	10,449	1,595	18.0%
Providence, RI	3,838	4,588	750	19.5%	8,243	9,747	1,504	18.2%
Raleigh, NC	2,141	2,181	40	1.9%	4,088	4,156	68	1.7%
Richmond, VA	3,153	3,276	123	3.9%	6,586	6,859	272	4.1%
Riverside, CA	3,037	3,586	550	18.1%	7,214	8,344	1,129	15.7%
Rochester, NY	5,006	5,014	8	0.2%	10,311	10,326	15	0.1%
Rockford, IL	1,825	1,718	-108	-5.9%	3,641	3,452	-188	-5.2%
Sacramento, CA	5,991	6,962	971	16.2%	13,868	16,047	2,180	15.7%
Salt Lake City, UT	1,958	2,095	136	7.0%	3,541	3,807	266	7.5%
San Antonio, TX	18,455	15,856	-2,599	-14.1%	38,633	33,225	-5,408	-14.0%
San Diego, CA	12,411	17,319	4,908	39.5%	28,964	39,534	10,570	36.5%
San Francisco, CA	3,436	7,236	3,801	110.6%	9,873	19,301	9,428	95.5%
San Jose, CA	4,767	9,962	5,195	109.0%	11,752	24,260	12,507	106.4%
Seattle, WA	2,764	3,723	959	34.7%	6,144	8,600	2,455	40.0%
Shreveport, LA	3,659	3,208	-451	-12.3%	8,107	7,190	-917	-11.3%
Spokane, WA	2,457	2,767	310	12.6%	4,711	5,343	632	13.4%
Springfield, MA	3,302	4,091	789	23.9%	6,779	8,183	1,403	20.7%
St. Louis, MO	6,655	6,429	-226	-3.4%	14,732	14,227	-505	-3.4%
Stockton, CA	5,048	5,476	428	8.5%	10,367	11,187	820	7.9%
Syracuse, NY	3,297	3,330	33	1.0%	5,380	5,433	53	1.0%
Tacoma, WA	2,294	2,414	120	5.2%	4,845	5,101	256	5.3%
Tampa, FL	4,251	4,127	-124	-2.9%	9,233	8,976	-257	-2.8%
Toledo, OH	4,889	5,019	129	2.6%	10,093	10,355	262	2.6%
Tucson, AZ	6,843	7,043	201	2.9%	14,183	14,536	353	2.5%
Tulsa, OK	5,078	4,612	-466	-9.2%	9,768	8,892	-876	-9.0%

Appendix C (continued)
Change in the Number of Families Eligible for Public Programs in 2000 if Cost of Living Adjustments Were Permissible

| Select Central Cities | Head Start/Early Head Start | | | | National Lunch Program | | | |
| | Total Families Eligible | | Change in Eligibility | | Total Families Eligible | | Change in Eligibility | |
	Unadjusted	COL-Adjusted	Families	Percent	Unadjusted	COL-Adjusted	Families	Percent
Washington, DC	7,786	9,415	1,628	20.9%	16,220	19,750	3,531	21.8%
Wichita, KS	3,485	3,294	-191	-5.5%	6,865	6,503	-362	-5.3%
Worcester, MA	2,403	2,830	427	17.8%	4,773	5,769	996	20.9%
Total	**783,159**	**1,010,508**	**227,349**	**29.0%**	**1,681,485**	**2,172,771**	**491,286**	**29.2%**

Bolded central cities are the regions for which the ACCRA COL index was predicted using our regression model.
Source: Authors' analysis of U.S. Census Bureau, Census 2000 SF4 Summary Tables, Table PCT117: "Family Size by Family Income in 1999"

Endnotes

1. An earlier version of this research was published in the December, 2006 version of Urban Studies. See, Curran, Leah B., Harold Wolman, Edward (Ned) W. Hill & Kimberly Furdell.(2006). "Economic Wellbeing and Where We Live: Adjusting for Geographic Cost-of-Living Differentials." Urban Studies. 43(13): 2443-2466. December.

2. 2005 American Community Survey, Census Bureau. The margin of error associated with the 2005 national median income is +/-104.

3. Two panels of the National Research Council (1995 and 2002) have looked at measurement issues related to poverty and cost-of-living adjustments. Citro and Michael (NRC 1995) report on the findings of a panel that looked at general poverty measurement issues. Schultze and Mackie (NRC 2002) led a panel that examined cost-of-living adjustments and their effect on measuring inflation and constructing price indices at the national level.

4. The referenced CRS report indicates that the actual number of means-tested programs is somewhat arbitrary because programs can be counted in different ways. For instance, a single program with multiple components (such as General Assistance) may be counted as one program or as multiple programs (CRS, 2003).

5. The official poverty line, or threshold, was developed by economist Molly Orshansky of the Social Security Administration in 1963 based on the U S Department of Agriculture's economy food plan of 1961. Orshansky used the average national ratio of food expenditures to total family after tax income as measured by the 1955 Household Food Consumption Survey to estimate the minimum family income required to purchase the food basket (Orshansky 1976). To this day the market basket of food is re-priced and used to estimate the poverty threshold. The size of the basket and the resulting poverty threshold is adjusted for family size (Ruggles 1990). The U.S. Census Bureau maintains a web site on poverty research **http://www.census.gov/hhes/www/povmeas.html.** The U.S. Census Bureau discusses the poverty threshold at: **http://www.census.gov/hhes/poverty/povdef.html**. The Office of Management and Budget's directive on the calculation and use of the poverty threshold can be found at: **http://www.census.gov/hhes/poverty/povmeas/ombdir14.html.**

6. The 1998 Workforce Investment Act (WIA) requires the Secretary of Labor to annually establish the Lower Living Standard Income Level (LLSIL). The LLSIL is used to determine program eligibility for WIA and Work Opportunity Tax Credit programs. Calculation of the LLSIL is based on the Bureau of Labor Statistics' family budgets measure, which was an interarea market basket COL measure calculated for 25 metropolitan areas and four metropolitan regions from 1966 to 1981 (GAO, 1997). The LLSIL uses the 1981 family budgets data, indexed for annual cost-of-living increases by the Consumer Price Index (CPI), to determine program eligibility for WIA-related programs.

7. In addition to the LLSIL, several researchers have used family budgets data to predict interarea COL measures for missing metropolitan areas and future years, (see Cebula (1986), Fournier et al. (1988), and McMahon et al. (1991)). An obvious concern with using this approach today is that a quarter century has passed since the last family budgets data were collected in 1981. While cost of living differences based on regional market baskets among areas may be slow to change, they surely are not invariant over time and errors are likely to have accumulated with the passage of time (McMahon, 1991).

8. States sometimes set their own eligibility requirements for social programs based on inter-state COL differences, with some eligibility standards set at 150 or 200 percent of the federal poverty guideline.

9. See Cebula, 1979(a) and Cebula, 1979(b) for a survey of the literature regarding the relationship between welfare benefit levels, inter-state migration and adjusting policies for geographic cost-of-living differences.

10. This paper focuses solely on the implications of adjusting the current federal poverty guidelines for cost of living differences. As mentioned earlier, however, there is an extensive body of literature that discusses the limitations of the current federal poverty measure and offers a broader scope of recommendations to improve the measure. See e.g., Citro and Michael (NRC 1995). Recommendations range beyond adjusting for regional differences in the cost of living to counting tax credits and other in-kind benefits as income to accounting for differences in need by family size.

11. Urbanized areas are defined by the Census Bureau as areas within a federally designated Metro-

politan Area (MA) that have a residential population density of at least 1,000 persons per square mile. In this analysis, we use the ACCRA index as a proxy for living costs experienced by the central cities within the urbanized areas, because city-level COL indices do not exist. For a discussion of the geographic units used in ACCRA's analysis, see the "ACCRA Cost-of-Living Index Manual" available at **http://www.accra.org**.

12. An earlier version of this research provides a detailed discussion of the alternative COL measures, their methodologies and methodological concerns. See Curran, Leah B., Harold Wolman, Edward (Ned) W. Hill & Kimberly Furdell.(2006). "Economic Wellbeing and Where We Live: Adjusting for Geographic Cost-of-Living Differentials." Urban Studies. 43(13): 2443-2466. December.

13. Bureau of Labor Statistics' researchers Kokoski, Cardiff and Moulton (1994) and Kokoski, Moulton and Zieschang (1996) addressed many of the problems associated with the market basket approach through the use of hedonic regression on Consumer Price Index (CPI) microdata (or baseline data) for urban areas. This approach, known as the KCM or KMZ measure uses CPI baseline data to construct interarea COL indices. KCM/KMZ use hedonic regression on the CPI microdata to standardize the types of goods contained in the market basket across areas. In addition, the researchers control for differences in regional consumption patterns (or weights within the market basket) by including a control for climate in their regression models. The KCM/KMZ approach is very complex and uses CPI data on tens of thousands of items to

construct their indices. Although this approach addresses many of the problems associated with market basket measures, because of its complexity, the KCM/KMZ measure is cost prohibitive to most researchers. In addition, because of confidentiality restrictions, CPI microdata are usually unavailable to the public. In sum, this approach should be followed by a national government in constructing cost of living measures. It cannot be used by research teams on limited budgets.

14. The central cities were chosen from a study by Furdell, Hill and Wolman (2004), in which the authors studied urban distress in 98 central cities. The central cities included in their study were cities with populations over 125,000 that were in MSAs/PMSAs with populations of over 250,000 in 2000.

15. On average, ACCRA reports COL data on 200 urbanized areas each quarter. We do not have information about why regions do or do not participate to the ACCRA survey or why they drop in or out. There is a chance that there is some sort selection bias in the ACCRA data. We inspected the data and could not find any obvious omissions or pattern that should be considered.

16. A further weakness of ACCRA data, identified by Koo (2000), is that because participation in the survey varies each quarter, the base (100) value in each period is just the average of the urban areas included, not a fixed concept. Therefore, ACCRA data cannot be used for time series measures of COL.

17. In 2000 the federal poverty guideline for a family of four was $17,050 in the contiguous 48 states. Hawaii and Alaska

have different poverty guidelines for the purpose of determining program eligibility, $19,610 and $21,320 respectively as of 2000. The comparable average poverty threshold for a family of four was $17,029 for all 50 states.

18. The overall increase in the mean poverty line partially reflects the fact that our sample contains large central cities and low-cost, rural areas are underrepresented.

19. The coefficient of variation of poverty line has to be zero by definition because it is the same across the nation.

20. For more detail on these statistics or for more information on the national Head Start program see **http://www.acf.hhs.gov/ programs/hsb/research/2007. htm** [accessed June 2007]. For more information on the National School Lunch Program see **http://www.fns.usda. gov/cnd/lunch/AboutLunch/ NSLPFactSheet.pdf** [accessed June 2007].

For More Information:

Leah Beth Curran
Doctoral Candidate and Research Assistant
George Washington Institute of Public Policy
805 21st Street, NW
Washington, DC 20052
lcurran@gwu.edu

Hal Wolman
Director
George Washington Institute of Public Policy
805 21st Street, NW
Washington, DC 20052
(202) 994-5713
hwolman@gwu.edu

Edward (Ned) Hill
Professor; Vice President for Economic Development
Distinguished Scholar of Economic Development
Maxine Goodman Levin College of Urban Affairs
Cleveland State University
2121 Euclid Avenue, UR 335
Cleveland, OH 44115-2214
 (216) 687-2135
ned@urban.csuohio.edu

Kimberly Furdell
Doctoral Candidate
The Trachtenberg School of Public Policy and Public Administration
805 21st Street NW
Washington, DC 20052
kfurdell@gwu.edu