The Levy Economics Institute of Bard College

Levy Institute Measure of Economic Well-Being

United States, 1989, 1995, 2000, and 2001

EDWARD N. WOLFF, AJIT ZACHARIAS, and ASENA CANER

May 2004

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Preface

This report presents the latest findings of the Levy Institute Measure of Economic Well-Being (LIMEW) research project within our program on distribution of income and wealth. It enhances previous findings about economic well-being and inequality in the United States by extending our analysis to include additional years, 1995 and 2001, and by comparing our results with the U.S. Census Bureau's most comprehensive measure of a household's command over commodities, which we refer to as extended income (EI).

The LIMEW project seeks to assess policy options and to provide guidance toward improving the distribution of economic well-being in the United States, and it gives us the opportunity to track the progress of economic well-being using a comprehensive measure. Our expectation is that the LIMEW will become a vital tool for policymakers to use in assessing programs and designing policies that will ensure improvement in economic well-being.

Although the EI measure is a better approximation of a household's command over commodities than is gross money income, the most widely used official measure, the LIMEW findings reported here suggest that both of these measures understate the level of inequality in the distribution of the command over commodities; that the increase in economic well-being attained during the economic expansion of the 1990s was accompanied by a comparable increase in hours of total work (paid and household work); and that the effectiveness of government spending and taxation policies in reducing inequalities generated by market forces has declined. While economic well-being has improved, government policies and regulations have failed to temper the time crunch faced by U.S. households or to mitigate the growing inequality in the distribution of well-being.

Some important findings herein emerge from the decomposition analysis of overall inequality, showing a higher, inequality-enhancing effect of income from wealth and a much larger inequality-reducing effect from government spending than taxes, compared to the EI measure. These findings are relevant in formulating programs and policies to reduce inequality.

We intend to supplement this report with a more detailed analysis of economic well-being later this year.

Dimitri B. Papadimitriou, *President*
May 2004

Introduction

Economic well-being refers to household members' command over, or access to, the goods and services produced in a modern market economy during a given period of time. Ideally, household income should reflect the magnitude of the command over, or access to, the goods and services, so that social and economic policies aimed at shaping household economic well-being can be formulated based on comprehensive and accurate measures.

In a welcome and significant shift, the U.S. Census Bureau began placing what used to be called "experimental measures of income" on par with gross money income (MI) in its annual reports—the official scorecard of the level and distribution of economic well-being (DeNavas-Walt et al. 2003). The Census Bureau's most comprehensive measure, which we refer to as extended income (EI), is a better approximation of a household's command over commodities than MI, which is the most widely used official measure. EI is, appropriately, an after-tax measure of income, since taxes reduce the purchasing power of households. It expands the definition of income from work by incorporating employer contributions for health insurance and subtracting mandatory payroll taxes. Similarly, it expands the notion of income from wealth by including realized net capital gains and imputed return on home equity, in addition to property income. The inclusion of noncash transfers and taxes, in addition to cash transfers, also broadens the accounting of the government's role in mediating the command over commodities.

The EI and MI measures seek to estimate the command over commodities. Although commodities are of critical importance, they form only a portion of the entire set of goods and services available to households. The state plays a crucial role in the direct provisioning of the "necessaries and conveniences of life" (to use Adam Smith's famous expression), as exemplified by public education and highways. Nonmarket household work, such as child care, cooking, and cleaning, also provides the necessaries and conveniences of life.

The Levy Institute Measure of Economic Well-Being (LIMEW) is a more comprehensive measure than the two official measures (*see* Table 1 for a comparison between the LIMEW and EI). The LIMEW is constructed as the sum of the following components: base money income (money income minus property income and government cash transfers),

Table 1 A Comparison of the LIMEW and Extended Income (EI)

LIMEW	EI
Money income (MI)	Money income (MI)
Less: Property income and government cash transfers	*Less*: Property income and government cash transfers
Equals: Base money income	*Equals:* Base money income
Plus: In-kind compensation from work	*Plus*: In-kind compensation from work
Employer contributions for health insurance	Employer contributions for health insurance
Equals: Base income	*Equals:* Base income
Less: Taxes	*Less*: Taxes
Income taxes[1]	Income taxes
Payroll taxes[1]	Payroll taxes
Property taxes[1]	Property taxes
Consumption taxes	
Plus: Income from wealth	*Plus*: Income from wealth
Annuity from nonhome wealth	Property income and realized capital gains (losses)
Imputed rental cost of owner-occupied housing	Imputed return on home equity
Plus: Cash transfers[1]	*Plus*: Cash transfers
Plus: Noncash transfers[1,2]	*Plus*: Noncash transfers
Plus: Public consumption	
Plus: Household production	
Equals: LIMEW	*Equals*: EI

1. The amounts estimated by the Census Bureau and used in EI are modified to make the aggregates consistent with the NIPA estimates.
2. The government-cost approach is used: the Census Bureau uses the fungible value method for valuing Medicare and Medicaid in EI. The main difference between the two methods is that, while the fungible value method assigns an income value for a benefit according to the recipient's level of income, the government-cost approach assigns an income value for a benefit irrespective of the recipient's income.

employer contributions for health insurance, income from wealth, net government expenditures (transfers and public consumption, net of taxes), and household production. Income from wealth is estimated using the imputed rental cost for homes and a variant of the lifetime annuity method for nonhome wealth. Net government expenditures are calculated using the government-cost approach. The replacement-cost approach, with some modification, is used to value the time spent on housework by adult household members.

Our basic data are drawn from the public-use version of the data files (currently known as the Annual Social and Economic Supplement [ASEC]) used by the Census Bureau to construct MI and EI. The calculation of base money income uses values reported in the ASEC for the relevant variables without any adjustment. The value of employer contributions for health insurance is also taken directly from the ASEC. Additional information from Federal Reserve System surveys on household wealth, national surveys on time use, the National Income and Product Accounts (NIPA), and several government agencies is integrated into these data files in order to estimate the other components of the LIMEW (*see* Wolff, Zacharias, and Caner 2004 for details regarding the sources and methods).

This document provides estimates of the LIMEW for all households in the United States and for households in some key demographic groups. It also provides estimates of overall economic inequality. Findings based on the LIMEW are compared with those based on the official measures. The main results are summarized in the concluding section.

Level and Composition of Well-Being

The picture regarding economic well-being differs substantially when the LIMEW, rather than MI or EI, is used as the measure. By construction, MI and EI have average values lower than the LIMEW. The median values of the official measures amount to approximately 60 percent of the LIMEW in 2001 and approximately 65 percent in 1989 (*see* Figure 1 and Table 2). The three measures also show different rates of change. The most favorable answer to the question, "How much better-off economically is the average U.S. household in 2001 as compared to 1989?" is given by the LIMEW (13.2 percent), followed by EI (6.0 percent) and MI (2.1 percent).

Table 2 also shows two measures that are related to the LIMEW. As noted in the introduction, EI and MI are measures that seek to estimate the magnitude of command over commodities. If we exclude public consumption and household production from the LIMEW, we arrive at a similar measure: LIMEW–C. EI is particularly suited to comparison with LIMEW–C because both estimates are post-tax, post-transfer measures of economic well-being. The addition of public consumption to LIMEW–C results in a "post-fiscal income" (PFI) measure that reflects the effect of net government expenditures, including public consumption and transfer payments net of taxes. Similar to the LIMEW, these measures also show

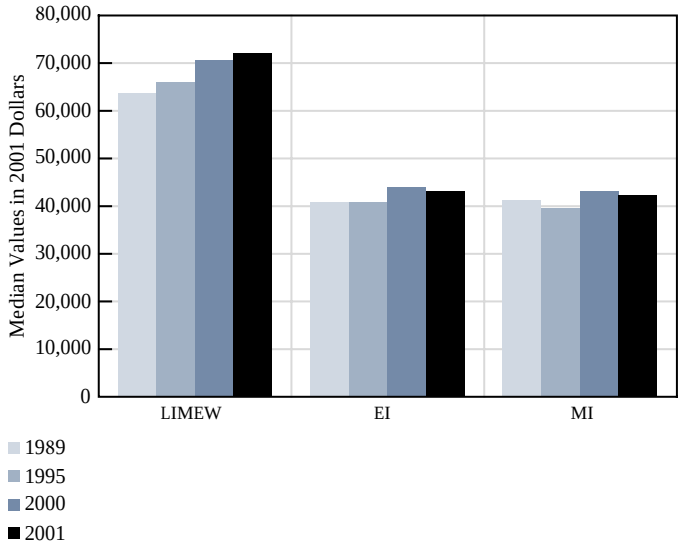
Table 2 Economic Well-Being and Work, 1989 to 2001

	Median Values in 2001 Dollars			
	1989	1995	2000	2001
Levy measures				
LIMEW	63,590	66,028	70,559	72,014
PFI[1]	55,962	57,616	61,659	62,616
LIMEW–C[2]	40,227	41,620	44,292	44,645
Official measures				
Money income	41,310	39,510	43,195	42,198
Extended income	40,742	40,884	43,882	43,199
Addendum:				
Total annual work hours[3]	4,401	4,659	4,727	4,639
	Percentage change			
	1989–1995	1995–2000	2000–2001	1989–2001
Levy measures				
LIMEW	3.8	6.9	2.1	13.2
PFI[1]	3.0	7.0	1.6	11.9
LIMEW–C[2]	3.5	6.4	0.8	11.0
Official measures				
Money income	-4.4	9.3	-2.3	2.1
Extended income	0.3	7.3	-1.6	6.0
Addendum:				
Total annual work hours[3]	5.9	1.5	-1.9	5.4

1. PFI equals the LIMEW less the value of household production.
2. LIMEW–C equals the LIMEW less the value of household production and public consumption.
3. Total work hours is the sum of hours of paid work and housework. Weekly hours of housework for 1995, 2000, and 2001 are imputed from the time use survey conducted in 1998–99. Estimates of housework and paid work for 1989 are imputed from the time use survey conducted in 1985. Annual hours of paid work are calculated by multiplying the imputed weekly hours of paid work with the weeks worked per year reported in the ASEC, and annual hours of housework are obtained by multiplying weekly hours of housework by 52.

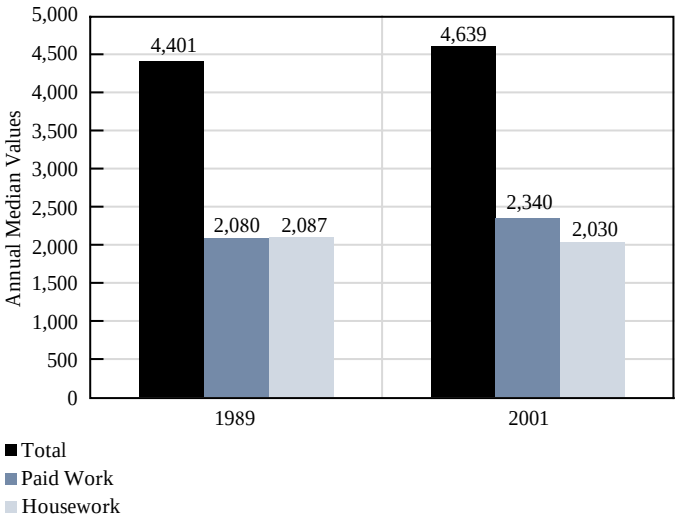
Source: Authors' calculations

Figure 1 Economic Well-Being by Income Measure



Source: Authors' calculations

Figure 2 Total, Paid, and Housework Hours, 1989 and 2001



Source: Authors' calculations

much greater percentage increases between 1989 and 2001, as compared to the official measures.

An advantage of the information base constructed for the LIMEW is that it allows us to estimate the hours spent on total work (paid work plus housework) by the average household. Our estimates are shown in Figure 2 and the last line of Table 2. They indicate that the median annual hours of work in 2001 (4,639) was 5.4 percent (or 238 hours) more than in 1989, an increase of about six weeks of full-time work (using a 40-hour work week). Therefore, the reported increase in economic well-being was accompanied by a considerable increase in total hours of work. The estimates of median annual hours suggest that, while the amount of paid work was higher in 2001 than in 1989 (2,340 hours versus 2,080), time spent on housework was quite similar in the two years (2,030 hours versus 2,087). Our findings for total work and paid work are quite sensitive to the use of two possible estimates of the usual weekly hours of paid work in our synthetic data file: (1) imputed weekly hours generated from the statistical matching of time-use data and ASEC, and (2) weekly hours reported in the ASEC. Using the second estimate, annual hours of paid work (i.e., multiplying weekly hours reported in the ASEC by number of weeks worked per year), yields a median value of 2,175 hours in 2001, as compared to 2,236 in 1989, a decline of 2.7 percent.[1]

The differences in the picture of well-being, as conveyed by the various measures, are due to each measure's individual components (e.g., public provisioning is included in the LIMEW but not in the official measures) and the manner in which the components are included in the measure (e.g., income from non-home wealth is included as a lifetime annuity in the LIMEW but as the sum of property income and realized net capital gains in EI). As it turns out, the differences in the level of mean values across the measures are similar to the differences among them in the level of median values. However, as shown in Table 3, the rate of change in the mean values of the measures between 1989 and 2001 is much closer (14.2 percent for MI and EI, and 16.9 percent for the LIMEW) than the rate of change of the median values outlined at the beginning of this section.

In an accounting sense, the percentage change in an income measure can be expressed as the sum of the contributions by the individual components. The results of this calculation for the LIMEW and EI are shown in Table 3. Base income—the sum of base money income and employer contributions for health insurance—is the only identical component in concept and

Table 3 Contribution to the Change in Economic Well-Being, 1989 and 2001

Mean Values in 2001 Dollars						
	LIMEW			Extended Income (EI)		
	1989	2001	Contribution to change (in percent)	1989	2001	Contribution to change (in percent)
Base income	45,047	53,185	10.2	45,047	53,185	17.1
Income from wealth	15,961	19,383	4.3	8,662	8,567	-0.2
Net government expenditures	1,019	867	-0.2	-6,129	-7,399	-2.7
Transfers	7,137	9,157	2.5	5,699	6,559	1.8
Public consumption	7,343	8,697	1.7			
Taxes	-13,461	-16,986	-4.4	-11,829	-13,958	-4.5
Household production	18,053	20,160	2.6			
Total	80,080	93,595	16.9	47,579	54,353	14.2
Addendum:						
Money income	50,981	58,213	14.2			

Source: Authors' calculations

amount for both measures. In the LIMEW, base income accounts for 10.2 percentage points of the total change (16.9 percentage points). In EI, however, base income's contribution exceeded the total change (14.2 percentage points) but was offset by the negative contributions from income from wealth and net government expenditures (government expenditures for households, net of taxes paid by households). While net government expenditures also contributed negatively to the change in the LIMEW, the effect was smaller, owing to the inclusion of public consumption. Indeed, it is striking that net government expenditures exerted a negative influence on the change in well-being by either measure. In contrast to EI, the component reflecting income from wealth in the LIMEW showed a strong positive contribution to the change in economic well-being. Finally, household production, which has no counterpart in EI, also contributed positively to the change in the LIMEW.

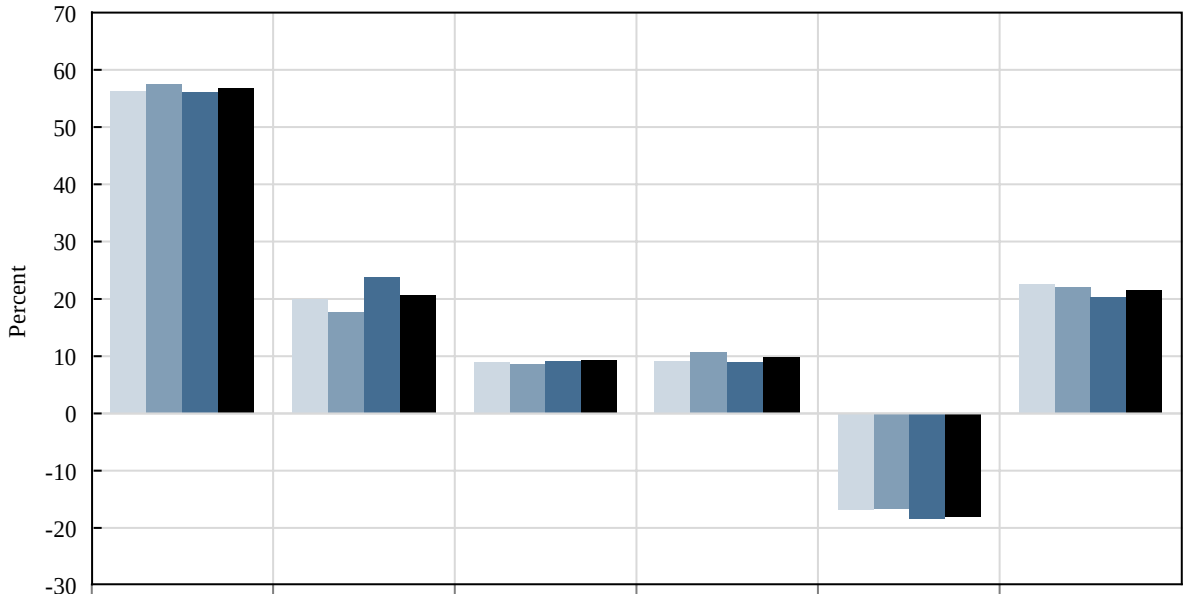
The huge gap between the rate of change in the mean and median values of the official measures reflects the commonly acknowledged higher levels of inequality in the official measures in 2001, as compared to 1989. The smaller gap in the rate of change in the mean and median values of the LIMEW suggests that the increase in inequality in our measure is likely to be lower. We return to the issue of overall economic inequality later in this document.

The composition of the LIMEW for various years is shown in Figure 3. Notable year-to-year fluctuations exist for the income from wealth component. After falling from 19.9 percent in 1989 to 17.8 percent in 1995, it surged to 23.7 percent in 2000, before retreating to 20.7 percent in 2001. The fluctuations largely reflect movements in stock prices, particularly the bull market of the late 1990s and the stock market collapse in 2001. Net government expenditures peaked at 3.4 percent in 1995 and bottomed at −0.3 percent in 2000. Although positive in 2001, these expenditures were still below their 1989 level, as a percentage of the LIMEW and in absolute terms (*see* Table 3), because of a higher tax burden. The share of household production fell from 22.5 percent in 1989 to 20.4 percent in 2000, before rising to 21.5 percent in 2001.

Disparities in Economic Well-Being

The extent of the disparities among households grouped according to salient social and economic characteristics and the ways in which these disparities change over time depend on the yardstick used for measuring well-being. Each bar in Figure 4A represents a ratio of mean values using the LIMEW, EI, or MI. In 2001 the racial disparity between nonwhites and whites[2] is less using the LIMEW (0.83), as compared to EI (0.78) and MI

Figure 3 Composition of the LIMEW, 1989 to 2001



	Base income	Income from wealth	Government transfers	Public consumption	Taxes	Household production
1989	56.3	19.9	8.9	9.2	-16.8	22.5
1995	57.6	17.8	8.6	10.7	-16.6	22.0
2000	56.1	23.7	9.2	9.0	-18.4	20.4
2001	56.8	20.7	9.3	9.8	-18.1	21.5

Source: Authors' calculations

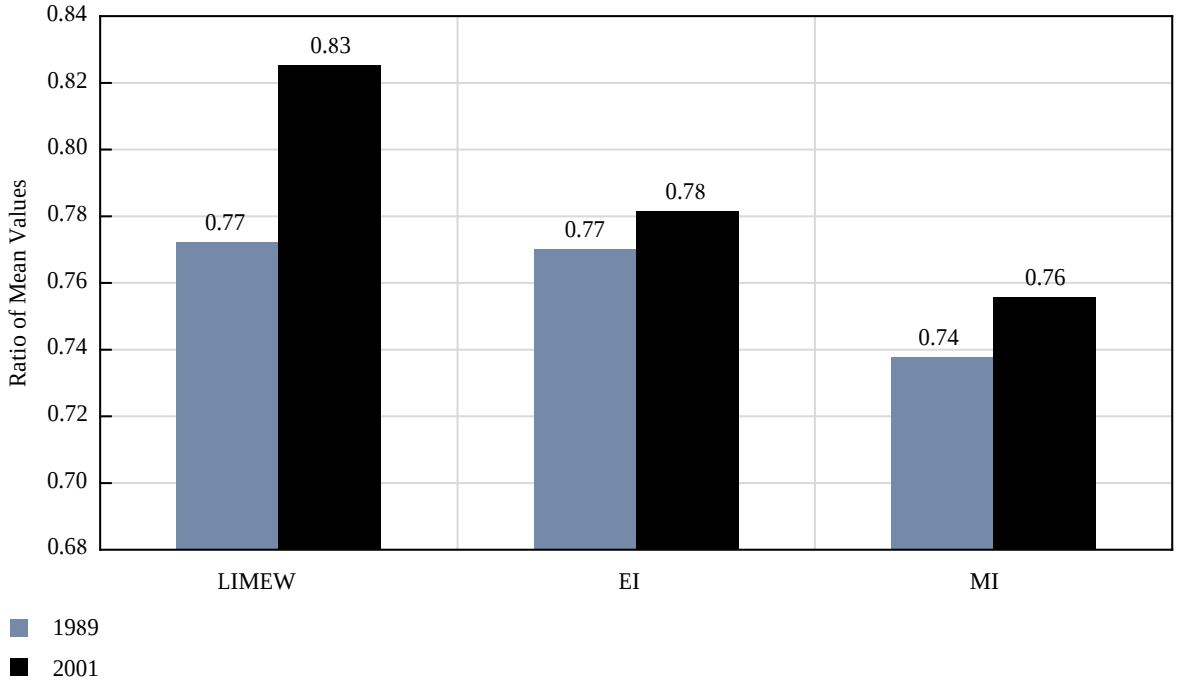
(0.76).[3] However, this finding does not imply that there is no disparity. Nonwhites remain far behind whites, given the mean difference of $17,152 in the LIMEW (as compared to $12,609 in EI). A review of the components of the LIMEW and EI gives us an idea of the reasons behind the differing disparities.

As shown in Figure 4B, nonwhites are at a disadvantage in terms of income from wealth and the extent of the disadvantage is greater in the LIMEW (the ratio of nonwhite to white mean values is 0.39) than in EI (0.51). This disadvantage is offset to a considerable extent by the lead of nonwhites in public consumption, a component included only in the LIMEW. Furthermore, in the LIMEW there is virtual parity between the two racial groups with respect to government transfers (whereas nonwhites receive only 75 percent of the amount whites receive in EI) and household production.

According to the LIMEW, racial disparity in 1989 was notably higher than in 2001, but the official measures show a much smaller difference (*see* Figure 4A). The LIMEW and EI show the same degree of disparity in 1989 but, compared to 2001, nonwhites had a greater disadvantage, according to the LIMEW, in terms of income from wealth (0.21), as compared to EI (0.45) (not shown in Figure 4A). The huge gap created by this component was not offset to the same degree, as in 2001, by the equalizing effects of government transfers, public consumption, and household production.

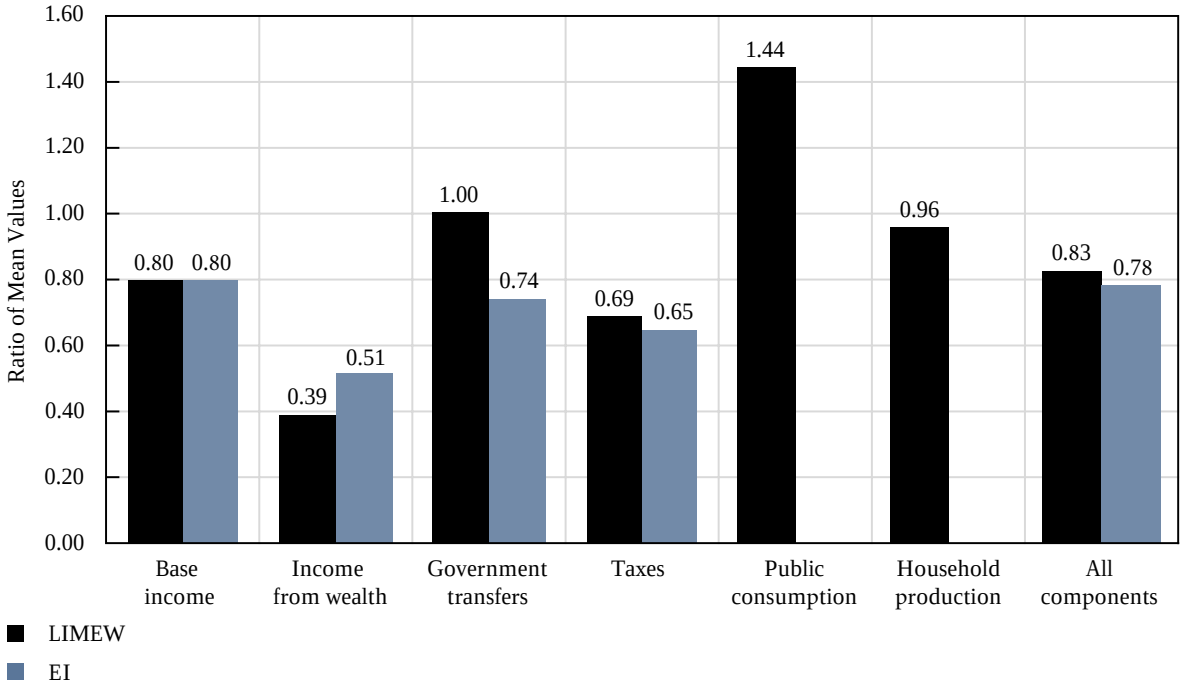
Similarly, the disparity between families with a single female householder and those with a married couple is less, according to the LIMEW, than the official measures (*see* Figure 5A). This is mainly due to the more comprehensive accounting of government expenditures in the LIMEW. In 2001 the ratio of mean values for the two family types in the LIMEW is 0.65, as compared to 0.55 in EI and 0.49 in MI.[4] At the mean, the gap between the two family types is $42,832, as measured by the LIMEW, and $31,662, as measured by EI. As shown in Figure 5B, the mean value of government transfers received by families with a single female householder is 139 percent that of married couples

Figure 4A Disparities by Race: Ratio of Nonwhite to White, 1989 and 2001



Source: Authors' calculations

Figure 4B Components of the LIMEW and EI: Ratio of Nonwhite to White, 2001



Source: Authors' calculations

according to the LIMEW (and 94 percent according to EI). This component, therefore, has a larger equalizing effect in the LIMEW. Public consumption is another equalizing factor that reduces disparity in the LIMEW (with a ratio of 1.38).[5]

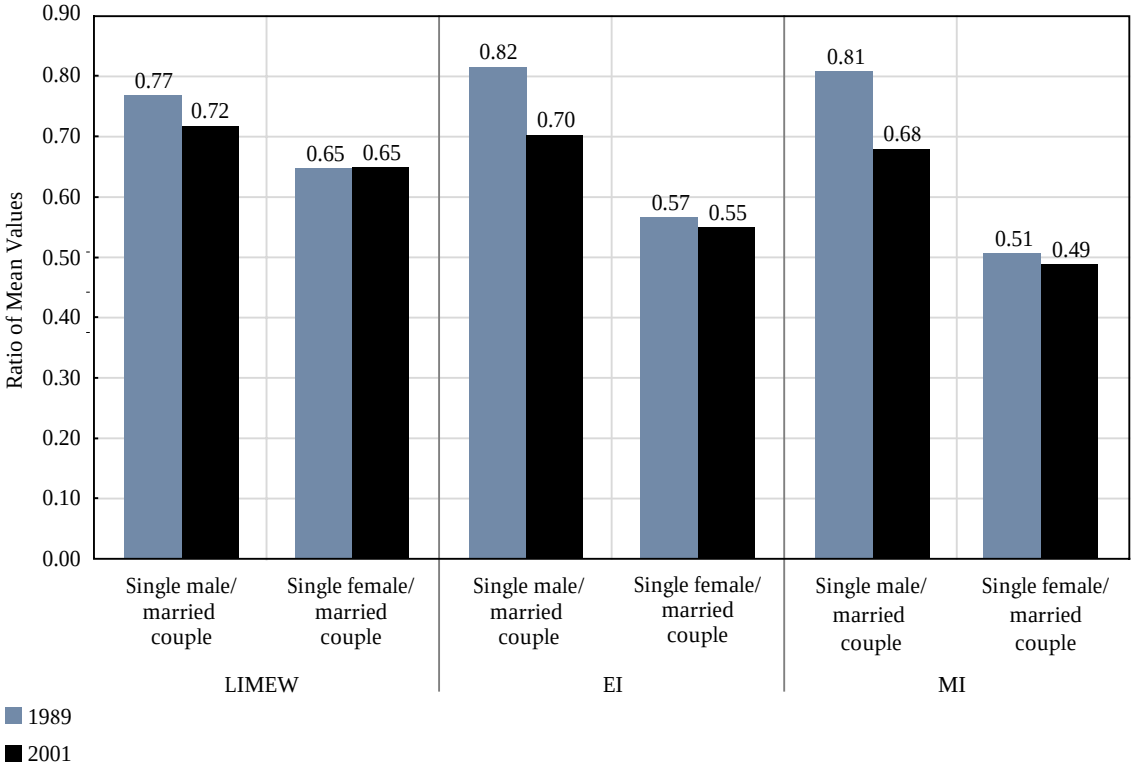
Other household groupings, by age or income, also show that economic disparity may differ substantially among the various measures. The disparity between elderly and average households is greatest according to MI (0.60) and least according to the LIMEW (0.95) (*see* Figure 6A).[6] The hump-like shape of the age-income relationship (i.e., the 35- to 64-year-old group is better off, while the youngest and oldest age groups are worse off, compared to the average) appears to be indifferent to the measure.

According to the LIMEW (in contrast to EI), the elderly appear to be almost on par with the average household. The difference stems mainly from the manner in which income from wealth is reckoned in the two measures (*see* Table 1). The LIMEW includes, as income, the annuity value from nonhome wealth, which can be quite high for the elderly, owing to a greater amount of accumulated wealth and a shorter remaining life expectancy. As a result, the wealth advantage of the elderly is more prominent in the LIMEW (179 percent of the average household) than in EI (133 percent) (*see* Figure 6B).

Also according to the LIMEW, elderly households were slightly better off than average households in 1989, but the situation reversed in 2001. The deterioration is due mostly to changes in income from wealth and government transfers. In 1989 the mean values for elderly households were 227 percent and 268 percent of average households, respectively (results not shown). In 2001 the corresponding figures were 179 percent and 264 percent. The elderly to average household ratios were more or less the same for the other components.

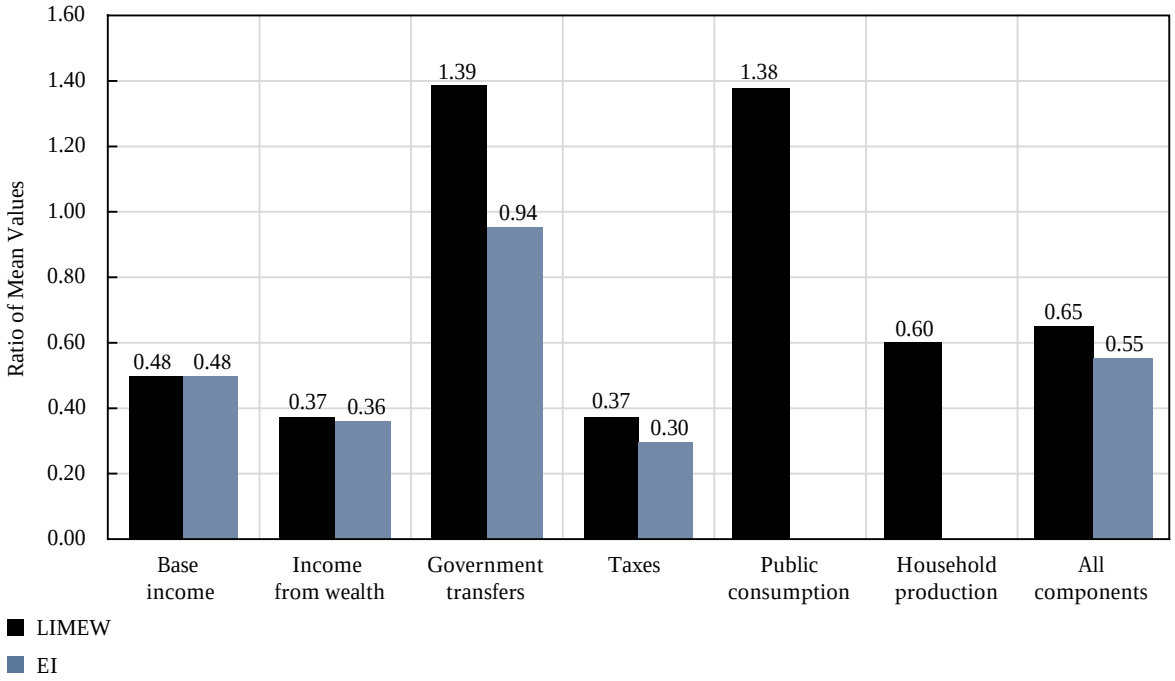
The disparities among households according to the LIMEW appear smaller when they are grouped according to money income in 2001 dollars (*see* Figure 7A).[7] For example, the $75,000 to $100,000 income group in 2001 is 28 percent better off than the average household, but 39 percent better off according to EI.[8] The smaller disparity in the LIMEW is due mainly to the incorporation of public consumption and household

Figure 5A Disparities by Family Type, 1989 and 2001



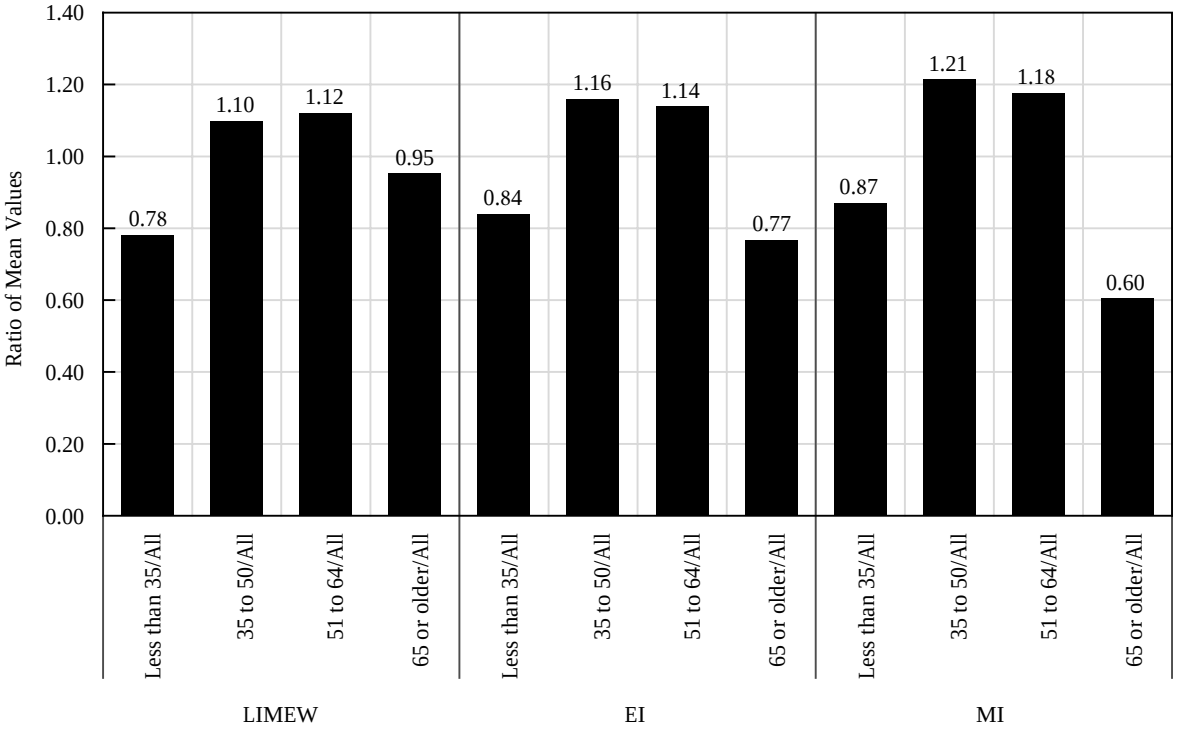
Source: Authors' calculations

Figure 5B Components of the LIMEW and EI: Ratio of Families with Female Householder to Married Couple Families, 2001



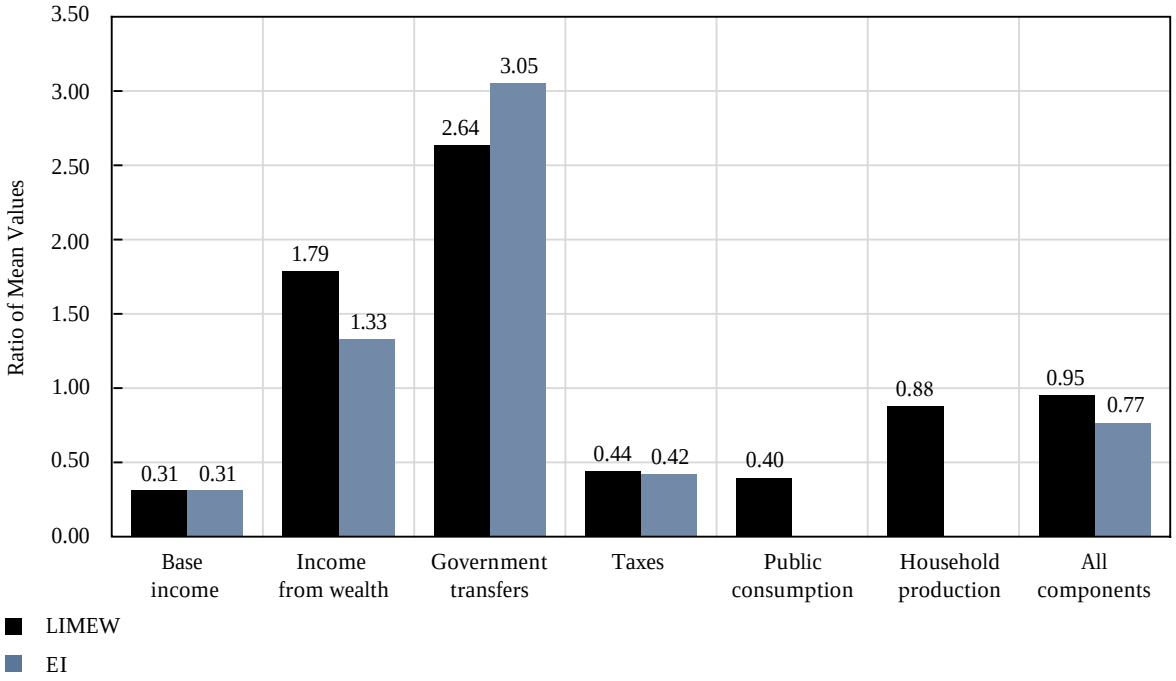
Source: Authors' calculations

Figure 6A Disparities by Age, 2001



Source: Authors' calculations

Figure 6B Components of the LIMEW and EI: Ratio of Elderly to All, 2001



Source: Authors' calculations

production (*see* Figure 7B). In addition, there is, presumably, a small effect from government transfers, since the ratio of mean values in the LIMEW (0.53) is smaller than in EI (0.61).

Economic Inequality

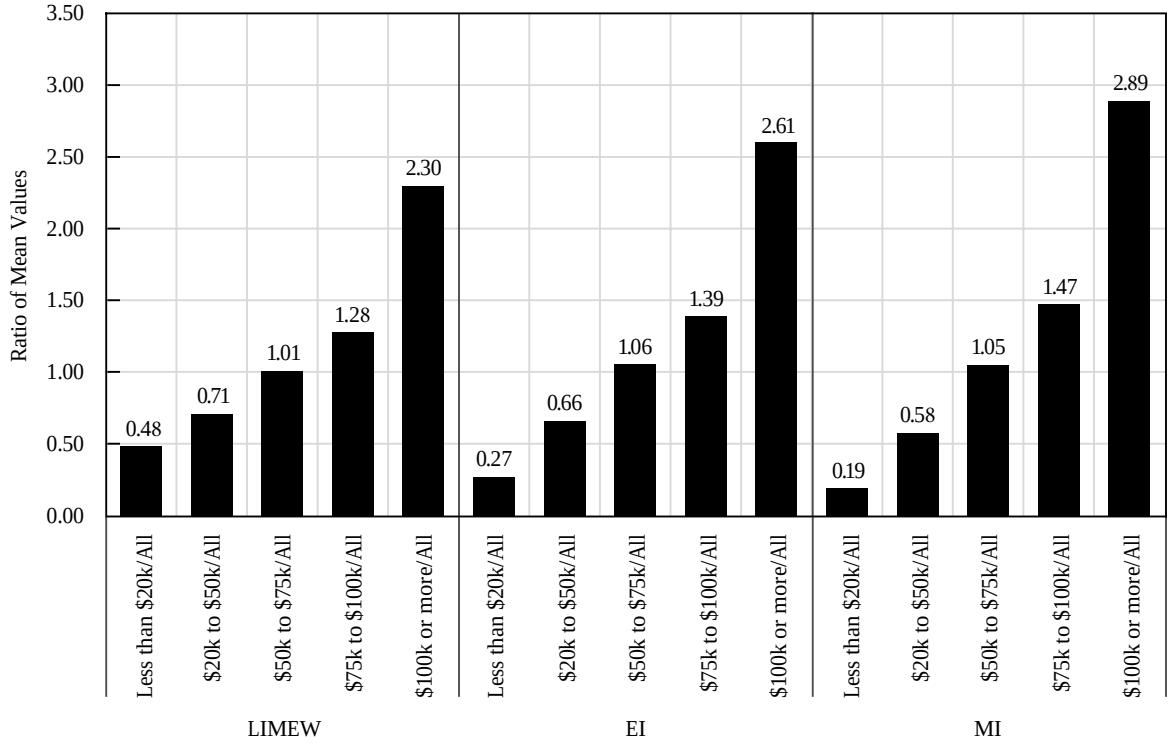
The official measures and the LIMEW indicate that the distribution of economic well-being, as measured by the Gini coefficient,[9] was more unequal in 2001 than in 1989 (*see* Figure 8). The official measures show a greater increase in equality between the two years (4.2 percentage points in EI and 3.7 in MI) than does the LIMEW (2.0). A comparison between 1995 and 2001, however, shows that inequality in distribution, as measured by the LIMEW, grew by a much greater extent (2.3 percentage points) than either MI (0.6) or EI (1.9). While MI, the most widely used official measure, suggests that inequality has hardly changed in the second half of the 1990s, the other measures point toward an increase in inequality.

As noted earlier, LIMEW–C, EI, and MI are measures that approximate the magnitude of command over commodities. Our estimates demonstrate that the level of inequality shown by the LIMEW–C is substantially higher than that shown by EI (by a difference of 5.4 percentage points in 2001). With the exception of 1995, the LIMEW–C shows the highest degree of inequality, suggesting that the official measures may understate inequality in the distribution of command over commodities. In the period from 1995 to 2001, the growth in inequality was also highest (3 percentage points) using the LIMEW–C measure.

Public consumption and household production are, relatively, more equally distributed. Hence, their inclusion in an income measure generally lowers the degree of inequality. PFI, our measure that includes public consumption in addition to the command over commodities, has a higher level of inequality than EI, surprisingly, and the difference is considerable (1.8 percentage points in 2001). What is not surprising is the much lower degree of inequality shown in PFI than that which appears in MI. Similarly, the degree of inequality in distribution shown by the LIMEW, which also includes household production, is, surprisingly, not that different from that shown by EI in 1995 or 2001, but is conspicuously higher in 1989 and 2000. As expected, the LIMEW shows more equality in distribution than does MI.

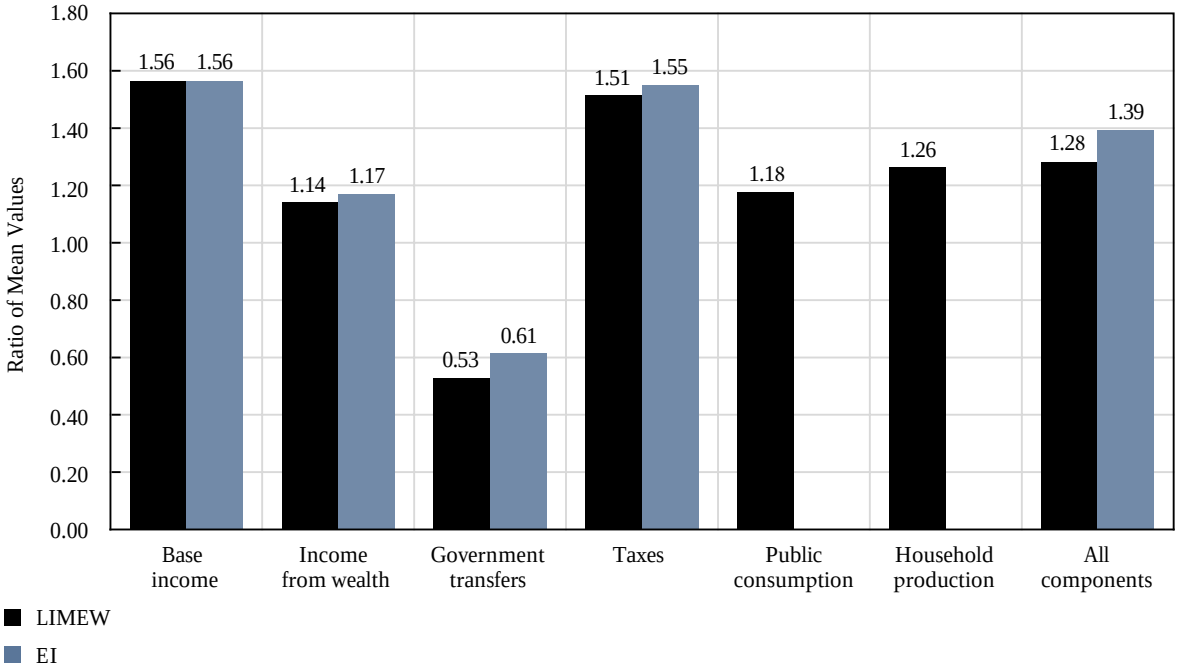
Compared to the LIMEW, MI overstates inequality because it is a pretax measure that does not fully account for government

Figure 7A Disparities by Income, 2001



Source: Authors' calculations

Figure 7B Components of the LIMEW and EI: Ratio of $75,000–100,000 Income Group to All, 2001



Source: Authors' calculations

transfers and excludes public consumption and household production. EI, on the other hand, requires a more complex comparison with the LIMEW. The degree of inequality is similar in the two measures in 1995 and 2001, but quite different in 1989 and 2000 (when the LIMEW is higher). What accounts for the different pattern?

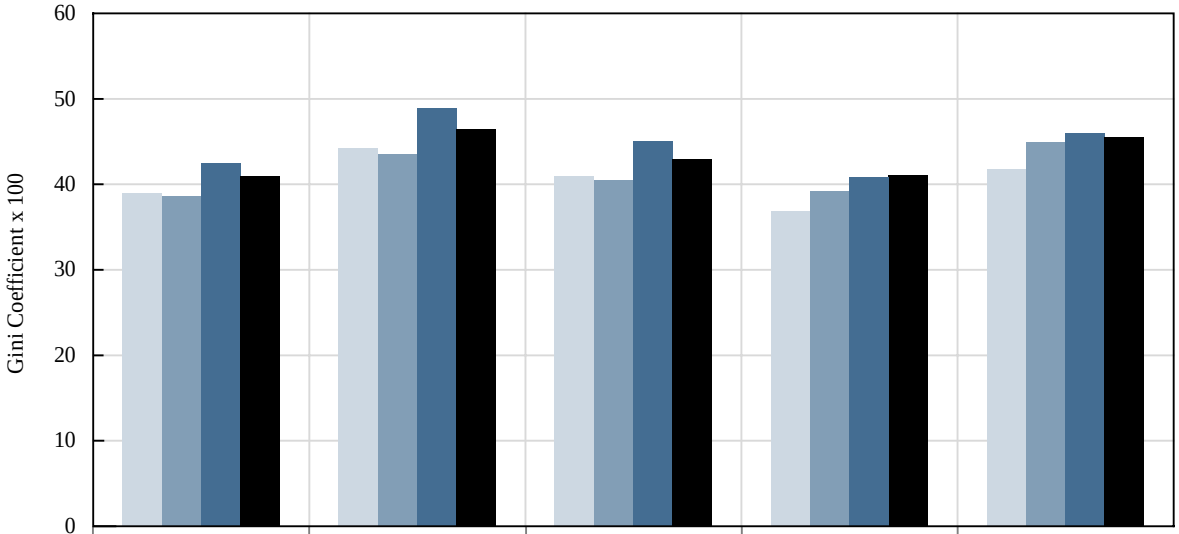
The overall degree of inequality in an income measure can be expressed in terms of the "contributions" of its individual components (Lerman 1999). A component's contribution can be calculated as the product of its concentration coefficient and its share of total income (Yao 1999, pp.1252–53).[10] In order to highlight the role of components, it is convenient to divide their contribution by the overall degree of inequality and express the result as a percentage of total inequality. Table 4 shows the estimated shares of the major components in the overall inequality of the LIMEW and EI.

First, we consider the difference in the composition of inequality of EI between 1989 and 1995. The shares of income from wealth and net government expenditures are lower (in absolute value) in 1995 and, in tandem the share of base income is higher. The same pattern holds for EI in 2000 and 2001. Next, we observe similar compositional change between 1989 and 1995 for the inequality in the LIMEW. However, the compositional change between 2000 and 2001 results in a decline for the income from wealth component, in favor of base income, net government expenditures, and household production.

What appears to be common between the LIMEW and EI, in terms of compositional change between years, is a shift in favor of base income and away from income from wealth. However, similar compositional changes were accompanied by diametrically opposite changes in overall inequality. Inequality in EI was higher in 1995 and 2001 than it was in 1989 and 2000, respectively. The converse is true for the LIMEW.

This kind of outcome occurs when the same component has very different incremental effects on inequality in two different income measures. The incremental effect of a particular component is the percentage change in overall inequality that would occur if every household's income from that component were to change by 1 percent, assuming other factors remain the same. If the incremental effect of a component were to increase

Figure 8 Economic Inequality by Income Measure, 1989 to 2001



	LIMEW	LIMEW-C	PFI	EI	MI
1989	38.9	44.2	41.0	36.9	41.8
1995	38.6	43.5	40.5	39.2	44.9
2000	42.5	48.9	45.0	40.8	46.0
2001	40.9	46.5	42.9	41.1	45.5

Note: For definitions, see Table 1 and notes to Table 2.

Source: Authors' calculations

inequality, we would expect inequality to be higher than it would otherwise be if the component's share in inequality were to increase. The incremental effects were similar for all years. Therefore, only 2001, the most recent year for which estimates are available, is shown in Figure 9.

The incremental effects of the base-income and income-from-wealth components on inequality are strikingly different in the LIMEW and EI. In fact, the components' roles are reversed in the two measures. Base income has a large positive effect on inequality (16.6 percent) in EI and a small negative effect (-1.2 percent) in the LIMEW. Conversely, income from wealth has a large positive effect on inequality (16.0 percent) in the LIMEW and a much smaller effect (5.7 percent) in EI.

Changes in the share of other components in the two measures further reinforced the opposing effects on inequality from the compositional change in favor of base income and against income from wealth. There was a reduction in the share of net government expenditures in the inequality of EI in later years (i.e., the share in 1995 and 2001 was lower than in 1989 and 2000, respectively). As is shown in Figure 9, net government expenditures have a strong negative incremental effect (-22.2 percent) on inequality in EI. Therefore, the reduction in the share of these expenditures contributed to higher inequality in 1995 and 2001, as compared to 1989 and 2000, respectively.

Net government expenditures have a smaller negative incremental effect (-12.8 percent) on inequality in the LIMEW. An increase in the share of net government expenditures in 2001, relative to 2000, contributed, therefore, to the decline in inequality. Household production (excluded from the EI), with its small negative incremental effect (-2.0 percent) contributed to lower inequality of the LIMEW in 1995 and 2001, as compared to 1989 and 2000, respectively.

A closer look at the composition of inequality and the incremental effects of individual components suggests that, although the LIMEW and EI display approximately the same degree of inequality in 2001, the implications differ. Policy considerations are often informed by the incremental effect of variables and, as already discussed, the two measures are significantly different in this respect.

Earnings, which make up the overwhelming portion of base income, are the decisive factor shaping the overall level of inequality in EI. But they represent a much smaller portion of inequality in the LIMEW. The difference suggests that to consider

Table 4 Shares of Income Components in Inequality by Income Measure, 1989-2001 (in percent)

	LIMEW				Extended Income (EI)			
	1989	1995	2000	2001	1989	1995	2000	2001
Base income	53.2	58.7	51.8	55.6	111.1	112.0	112.4	114.4
Income from wealth	37.1	31.4	42.0	36.7	26.1	21.8	23.8	21.4
Net government expenditures	-11.4	-11.2	-11.4	-11.9	-37.3	-33.9	-36.2	-35.8
Household production	21.0	21.1	17.7	19.5				
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Addendum:								
Gini coefficient x 100	38.9	38.6	42.5	40.9	36.9	39.2	40.8	41.1

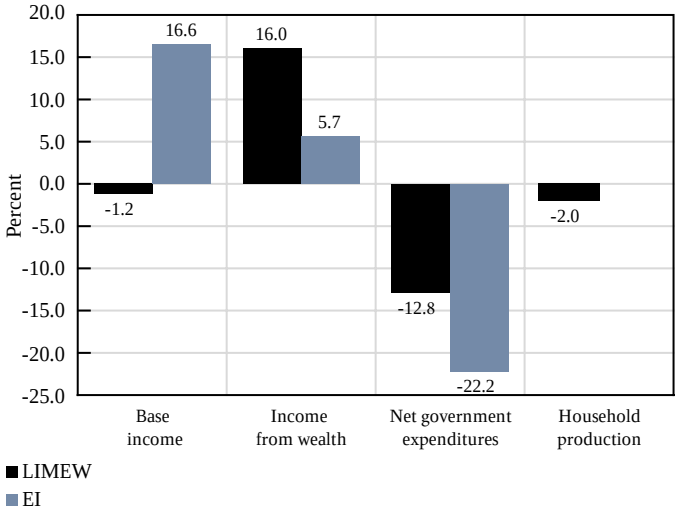
Note: The contribution of a given income component (k) is calculated as the product of its concentration coefficient (C_k) and its share in total income (S_k^y), with appropriate modification to allow population weighting. The share of an income component in inequality (S_k^I) is calculated as the contribution of that component divided by the overall Gini coefficient. Let the population weight of the i^{th} household be w_i and the total number in the sample be equal to n. Also, let y_{ki} denote the amount of income component k for the i^{th} household, and y_i its total income. Then,

$C_k = 1 - \sum_{i=1}^{n} p_i(2Q_{ki} - s_{ki})$, where $p_i = w_i / \sum_{i=1}^{n} w_i$, $s_{ki} = y_{ki} w_i / \sum_{i=1}^{n} y_{ki} w_i$, and, $Q_{ki} = \sum_{j=1}^{i} s_{kj}$.

The share of an income component in total income is calculated as: $S_k^y = \sum_{i=1}^{n} y_{ki} w_i / \sum_{i=1}^{n} y_i w_i$. It should be noted that the households in the sample are sorted in ascending order of y before C_k is calculated. The incremental effect referred to in the text is calculated as ($S_k^I - S_k^y$).

Source: Authors' calculations

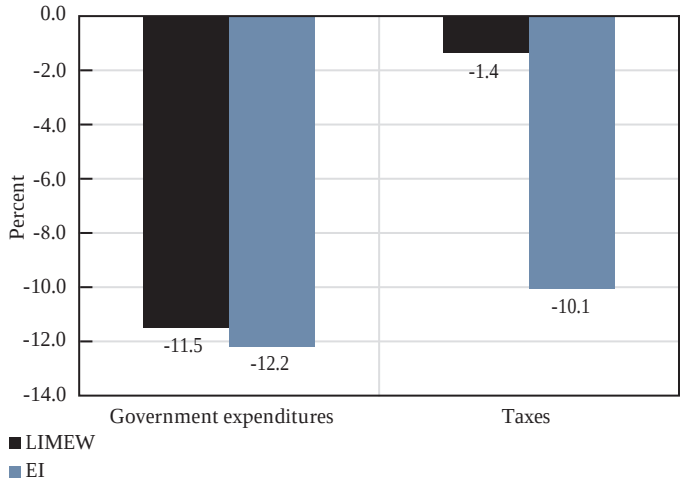
Figure 9 Incremental Effects of the Components of Income on Inequality in the LIMEW and EI, 2001



See the note to Table 4 for the formulas used to calculate the incremental effects.

Source: Authors' calculations

Figure 10 Incremental Effects of Government Expenditures and Taxes on Inequality in the LIMEW and EI, 2001



See the note to Table 4 for the formulas used to calculate the incremental effects.

Source: Authors' calculations

economic inequality as shaped, basically, by earnings inequality may be misleading. Wealth inequality also plays an important role.

Net government expenditures considerably reduce the overall level of inequality in the LIMEW and EI. The share of net government expenditures is negative and large (*see* Table 4). However, the effect of net government expenditures is much larger (-35.8 percent in 2001) in EI as compared to the LIMEW (-11.9 percent). The same relationship also holds with respect to the incremental effects on inequality that were noted earlier (*see* Figure 9). Thus, the share and the incremental effect of net government expenditures in inequality appear to be overstated in EI, as compared to the LIMEW. Furthermore, the incremental effect of taxes and expenditures on the degree of inequality are different in the LIMEW and EI. The EI suggests that taxes and expenditures have similar incremental effects (*see* Figure 10). In contrast, the LIMEW suggests that expenditures have a markedly higher incremental effect in reducing inequality than do taxes.

The main difference between the two measures with regard to income from wealth is the treatment of nonhome wealth. As shown in Figure 11, the incremental effect of imputed income from housing wealth has a broadly similar effect in both measures—a small inequality-reducing effect (-1.9 percent) in EI and a neutral effect (0.4 percent) in the LIMEW. At the margin, therefore, whether the advantage from homeownership is reckoned in terms of an imputed return on net home equity, as in EI, or as an imputed rental cost, as in the LIMEW, seems to have little bearing on inequality. In contrast, the inequality-enhancing effect of imputed income from nonhome wealth in the LIMEW is twice that in EI (15.6 percent, as compared to 7.5 percent). Thus, whether nonhome wealth is treated as a lifetime annuity on net worth, as in the LIMEW, or as current realized income from assets, as in EI, has a substantial impact on inequality.

Conclusion

Any picture of economic well-being is crucially dependent on the yardstick used to measure it. Admittedly, gross money income (MI), the most widely used official measure, may be suitable for certain purposes. But it is an incomplete measure in several important ways. The elevation of more comprehensive income measures to a status that is on par with MI in the official scorecard of the economic well-being of U.S. households is a

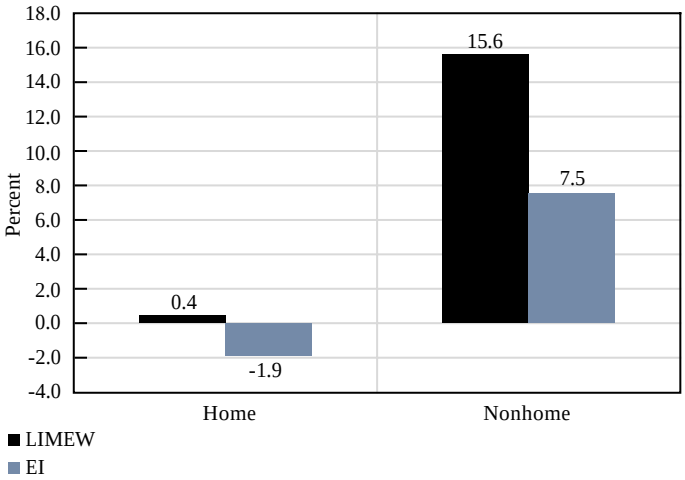
sure indication that academic discussion and policy making will be increasingly informed by such measures.

The LIMEW is different in scope from the official measures. It recognizes that economic well-being depends on public and self provisioning, in addition to the command over commodities. In contrast the official measures are restricted to measuring the command over commodities. There is no unanimity among economists and policy makers as to how to incorporate public consumption and household production into measures of economic well-being. A consensus is unlikely to emerge in the immediate future, given the length of time since these components entered discussions of well-being. Because we believe that these components are important in evaluating economic well-being, we have developed a set of estimates that reflect their effect and significance. Since the production of estimates is contingent on developing an information base, we accomplish two goals simultaneously. One, we calculate a set of estimates that gives a concrete picture of the level, composition, and distribution of public consumption and household production. Two, the information base allows us to perform sensitivity analyses of alternative assumptions. The results of these analyses will be reported in future LIMEW publications of the Levy Institute.

The LIMEW also differs from the official measures in its methods, especially its treatment of income from wealth and noncash transfers (*see* Table 1). These differences are more than formulaic; they are the result of alternative concepts of economic well-being (Wolff, Zacharias, and Caner 2004, 7:9; Wolff and Zacharias 2002).

The differences in scope and method lead to substantially different findings regarding economic well-being. The median U.S. household appears to be much better off in 2001 than in 1989, according to the LIMEW. However, the increase in well-being was accompanied by a considerable increase in the total annual hours worked by the median household—the rate of increase between 1989 and 2001, according to one estimate, exceeded MI figures and was close to EI figures. While mean values of the LIMEW and official measures display similar rates of change, the median values of the LIMEW show a much faster growth rate than the comparable values of the official measures. This discrepancy, between rates of change in mean and median values, most likely reflects the fact that the LIMEW includes public consumption and household production. These two components are large and relatively equally distributed, compared to other components of the LIMEW and the official measures.

Figure 11 Incremental Effects of Home and Nonhome Wealth on Inequality in the LIMEW and EI, 2001



See the note to Table 4 for the formulas used to calculate the incremental effects.

Source: Authors' calculations

Disparities among population subgroups are generally lower according to the LIMEW as compared to other measures. For example, the racial gap in well-being in 2001 appears to be much smaller in the LIMEW assessments. The narrowing of the racial gap also appears to occur at a higher rate according to the LIMEW. The lower racial gap, relative to EI measures, is traceable, mainly, to the higher degree of public consumption by nonwhites and to the near parity in household production. Disparities are generally lower among age groups and households grouped by income in the LIMEW than in either MI or EI. The elderly, in particular, are much better off, according to the LIMEW, because of greater income from wealth. Our results suggest that the relevant action, both analytically and in terms of public policy, would be to investigate the forces behind the disparities. We plan to address this in future research.

Differences with respect to which components are selected and how they are included in the measure of well-being also play a crucial role in the analysis of overall economic inequality. While two income measures might show the same degree of inequality (e.g., the LIMEW and EI in 2001), the structure of the inequality may be radically different. Our analysis of the incremental effects of individual components on inequality suggests that base income (primarily earnings), has a large

inequality-enhancing effect on EI and a small inequality-reducing effect on the LIMEW. In sharp contrast, the incremental effect of income from wealth on increasing inequality is much higher in the LIMEW than in EI. Similarly, while net government expenditures have an inequality-reducing effect for both measures, EI overstates the effect, as compared to the LIMEW. A more important observation, from a policy standpoint, is the asymmetric incremental effect of taxes on inequality when the two measures are compared. Taxes have a large negative effect that is similar to government spending in EI, while, in the LIMEW, government spending appears to have a much larger inequality-reducing effect than do taxes.

Several issues related to economic well-being require further research and evaluation. We hope that our analysis will lead to further academic and policy research and will stimulate a rethinking of public policies that affect well-being.

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Notes

1. In order to be consistent with our estimates of weekly hours of housework, we have chosen to report the annual hours of paid work based on our imputed weekly hours of paid work in Table 2 and Figure 2. Because the time-use surveys do not have estimates of weeks worked per year, we calculated the annual hours of paid work by multiplying the imputed weekly hours of paid work by the weeks worked per year, as reported in the ASEC. If we were to use the weekly hours of paid work reported by the ASEC, along with the imputed weekly hours of housework, we might end up with improbable values for weekly hours of total work.
2. "Whites" refers to non-Hispanic whites only. "Nonwhites" refers to everyone else.
3. The ratios of median values are, in general, close to the ratios of mean values. In 2001, the ratios are 0.88 for the LIMEW, 0.77 for EI, and 0.75 for MI. We prefer to use the ratio of means because it allows us to decompose the overall disparities into disparities in individual components.
4. The ratios of median values are similar. In 2001 they are 0.68 for the LIMEW, 0.55 for EI, and 0.46 for MI.
5. It is interesting to note that, while disadvantage in well-being faced by single female householder families was the same in 2001 and 1989, single male householder families fell further behind married couples in 2001, as compared to 1989, by all three income measures.
6. The ratios of median values in 2001 are 0.84, 0.77, and 0.55, according to the LIMEW, EI, and MI, respectively.
7. Since households are classified into groups according to MI, disparities will be lower in measures other than MI. The surprising finding, however, is how much the discrepancies are reduced by using the LIMEW.
8. The ratios of median values are in general higher than the ratios of mean values. In 2001, they are 1.50, 1.73, and 2.02, according to the LIMEW, EI, and MI, respectively.
9. The Gini coefficient is an index that ranges from zero (perfect equality) to one (maximal inequality). To facilitate exposition, we use values that are 100 times the Gini coefficient. We also estimate the Atkinson measures of inequality, but they are not reported here, because our arguments about the level of and changes in inequality seem to be valid with either measure.
10. The concentration coefficient is similar to the Gini coefficient. The Gini coefficient is the area between the Lorenz curve and the 45-degree line multiplied by 2, while the concentration coefficient is the area between the concentration curve and the 45-degree line multiplied by 2. The Lorenz curve plots the cumulative proportion of income on the vertical axis and the cumulative proportion of households on the horizontal axis, with the cumulative proportions calculated after households are ordered according to income (starting from the lowest and ending with the highest). If we were to plot the cumulative proportion of a component of income (e.g., wages), keeping the same ordering of households on the horizontal axis, the curve connecting all points plotted would be the concentration curve for that component.

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