

The Levy Economics Institute of Bard College



Levy Institute Measure of Economic Well-Being

New Estimates of Economic Inequality in America,
1959–2004

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Preface

In the two previous LIMEW reports, the authors describe a picture of postwar trends in economic well-being in the United States that is very different from the official measures. They also examine long-term trends in economic well-being within various population subgroups based on such household characteristics as race/ethnicity, age, education, and marital status.

In this report, the authors present new evidence on the pattern of economic inequality in the 1959–2004 period. They find that the LIMEW and two official measures of inequality indicate higher inequality in 2004 than in 1959. According to the LIMEW, the surge in inequality between 1989 and 2000 reflected the large increase in income from wealth for the top rungs of the economic ladder. The principal factor behind the official measures was base income (consisting mainly of labor income). The authors' findings suggest a rather bleak picture for the lower and middle classes in terms of sharing the economic pie.

The authors used decomposition analysis to shed light on the differences between alternative measures in the level of, and changes in, inequality. According to all measures, base income and income from wealth contributed positively to the increase in inequality, while government expenditures and taxes moderated the increase in inequality. According to the LIMEW, however, the effectiveness of government expenditures and taxes in restraining the growth in inequality was less than the conventional measures suggest.

The principal reason for the decline in inequality during the latest subperiod (2000–04) was the fall in income from nonhome wealth in response to the bust of the financial markets rather than a reduction in earnings inequality or changes in government redistributive policies (e.g., effective tax rates in 2000 and 2004 were lower for the top decile than for the ninth decile). The authors find that the factors determining the level of inequality at a given moment or changes in inequality over time are sensitive to the income measure. Therefore, their key motivation in creating the LIMEW is that economic inequality is broader than earnings inequality, which is the leading factor behind the inequality trends related to the conventional measures of income.

As always, I welcome your comments and suggestions.

Dimitri B. Papadimitriou, *President*

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Introduction

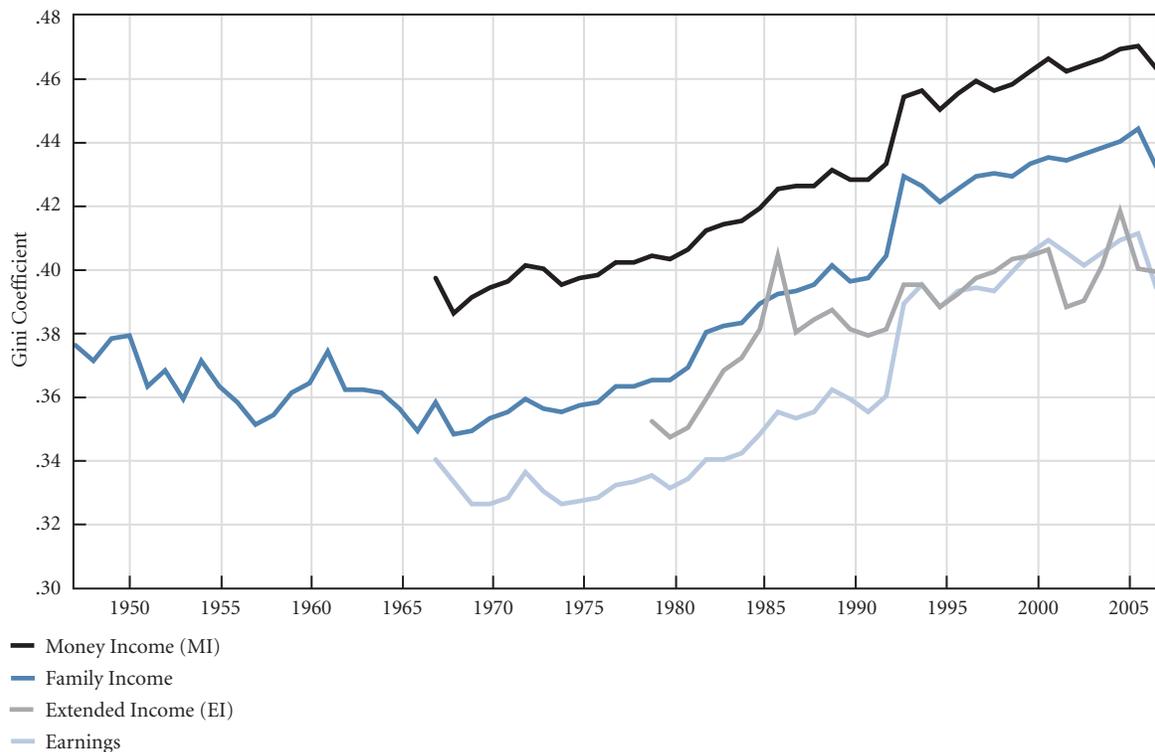
Official statistics on income inequality are based on the March Current Population Survey conducted by the U.S. Census Bureau. According to the official statistics, the current level of income inequality in America is considerably higher than that in the 1947–80 period. Much of the increase in inequality has taken place since the early 1980s.

The Gini coefficient of family money income is the longest-running series that is published by the Bureau (Figure 1). It shows some rather short-lived directional movements, but no discernible trend in income inequality among families from 1947 until the late 1970s. The Gini coefficient of household money income (MI) and earnings of full-year, full-time workers are the next-longest-running series (both series beginning in 1967) and also show a steady but fluctuating level of inequality throughout the 1970s. Thereafter, inequality trended upward according to all three series. This upward trend in inequality from the early 1980s can also be observed for the series labeled “extended income” (EI), which is our name for the Bureau’s most comprehensive household income definition (DeNavas-Walt, Cleveland, and Webster 2003).

Another striking feature displayed in Figure 1 is the sensitivity of the series to the income measure. EI displays a substantially lower level of inequality among households than MI. The average gap between the two series of Gini coefficients over the 1979–2004 period was 0.054. The large size of the gap can be appreciated, perhaps, by the fact that the Gini coefficient for MI also increased, by 0.057, between 1979 and 2007. As outlined later in this report, the main reason why EI displays a lower level of measured inequality is that it is an after-tax income measure. We also provide estimates showing that the factors driving changes in inequality over time are sensitive to the income measure.

The main purpose of this report is to present new evidence on the pattern of economic inequality in the United States using a set of benchmark years: 1959, 1972, 1982, 1989, 2000, and 2004. The Levy Institute Measure of Economic Well-Being (LIMEW)—our preferred measure of economic well-being—is compared with the conventional MI measure and the EI measure, which is an “experimental” or “alternative” broad income measure. Since the Census Bureau does not have EI estimates for 1959 and 1972, we created our own estimates by following the methodology adopted by the Bureau. The major components of the LIMEW and EI are shown

Figure 1 Trends in Inequality, 1947–2007 (in Gini coefficients)



Notes: Earnings refer to earnings of full-time year-round workers. For the definition of EI, see Table 1.

Source: U.S. Census Bureau

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

LIMEW		EI	
Money income (MI)		Money income (MI)	
<i>Less</i>	Property income and government cash transfers	<i>Less</i>	Property income and government cash transfers
<i>Equals</i>	Base income	<i>Equals</i>	Base income
<i>Plus</i>	Income from wealth	<i>Plus</i>	Income from wealth
	Annuity from nonhome wealth		Property income and realized capital gains (losses)
	Imputed rent on owner-occupied housing		Imputed return on home equity
<i>Less</i>	Taxes	<i>Less</i>	Taxes
	Income taxes ¹		Income taxes
	Payroll taxes ¹		Payroll taxes
	Property taxes ¹		Property taxes
<i>Plus</i>	Cash transfers ¹	<i>Plus</i>	Cash transfers
<i>Plus</i>	Noncash transfers ^{1,2}	<i>Plus</i>	Noncash transfers
<i>Plus</i>	Public consumption		
<i>Plus</i>	Household production		
<i>Equals</i>	LIMEW	<i>Equals</i>	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. In 1959, neither the Medicare nor the Medicaid program existed. However, there were means-tested medical assistance programs in a large number of states. The imputed value of medical assistance received by households was valued at government cost in the LIMEW, and the same value was also used in the EI estimated for 1959.

in Table 1. Details regarding our sources and methods can be found in Wolff, Zacharias, and Masterson (2009a).¹

A key motivation for creating the LIMEW is that economic inequality is broader than earnings inequality, which is the main focus of most academic research and the driving force in the dynamics of inequality in money income. Household production and public consumption are distributed much more equally among households compared to earnings. Therefore, an income measure that includes household production and public consumption will likely display relatively lower inequality. In contrast, wealth among households is distributed even more unequally than earnings, so income measures that include the advantage from wealth holdings will display relatively higher inequality. Evidence indicating the contributions of the different components to the level and change in overall economic inequality is presented below.

Economic Inequality

Income Shares: Who Gained and Who Lost?

We begin with an overview of each quintile's share in aggregate income (Table 2). The quintiles are defined by ranking households according to each individual income measure, so comparable quintiles may not consist of the same households in different measures. Nevertheless, the income shares of the middle three quintiles were lower in 2004 than in 1959 according to all three measures. The change in the division of the economic pie favored the top quintile in the LIMEW and MI distributions more than in the EI distribution. The top quintile's share of aggregate LIMEW and MI increased by 5.3 and 6.0 percentage points, respectively, compared to 2.2 percentage points for EI. The bottom quintile's share of aggregate LIMEW and MI showed no change, while that for EI showed a small gain of 0.2 percentage points. The decline in the income share of the middle class (the third quintile) was much larger according to LIMEW and MI (2.1 and 2.6 percentage points, respectively) than EI (1.2 percentage points). Similarly, the losses suffered by the second and

Table 2 Shares in Aggregate Income by Income Measure and Quintile,¹ 1959–2004 (in percent)

	Quintiles				
	1	2	3	4	5
1959					
LIMEW	5.6	12.0	17.5	23.3	41.5
EI	4.4	11.6	17.5	23.9	42.5
MI	3.4	10.9	17.3	24.3	44.0
1972					
LIMEW	5.8	11.7	17.2	23.6	41.8
EI	4.7	11.5	17.6	24.6	41.6
MI	3.7	9.7	17.4	25.2	43.9
1982					
LIMEW	6.3	11.4	16.3	22.5	43.5
EI	5.5	12.0	17.6	24.5	40.4
MI	4.0	10.1	16.6	24.7	44.6
1989					
LIMEW	6.2	11.4	16.3	22.6	43.5
EI	5.3	11.5	17.1	24.2	42.0
MI	3.9	9.7	16.2	24.5	45.6
2000					
LIMEW	5.5	10.3	15.0	21.1	48.2
EI	4.8	10.6	15.9	22.8	45.8
MI	3.6	8.9	14.8	23.1	49.7
2004					
LIMEW	5.6	10.5	15.4	21.8	46.8
EI	4.6	10.7	16.3	23.6	44.7
MI	3.4	8.7	14.7	23.2	50.0

1. Quintiles are defined with respect to each income measure.

Source: Authors' calculations

fourth quintiles were also higher in terms of LIMEW and MI than EI. The second quintile's share fell by approximately 1.5 and 2.2 percentage points for LIMEW and MI, respectively, compared to 0.9 percentage points for EI. Moreover, the fourth quintile's share fell by 1.5 and 1.1 percentage points for LIMEW and MI, respectively, compared to 0.3 percentage points for EI.

A closer look at the change in income shares by subperiod reveals some interesting patterns (Figure 2). Between 1959 and 1972, the bottom (lowest) quintile and the top two quintiles improved their shares in LIMEW (the top two quintiles gained much more than the bottom quintile), while the second and third

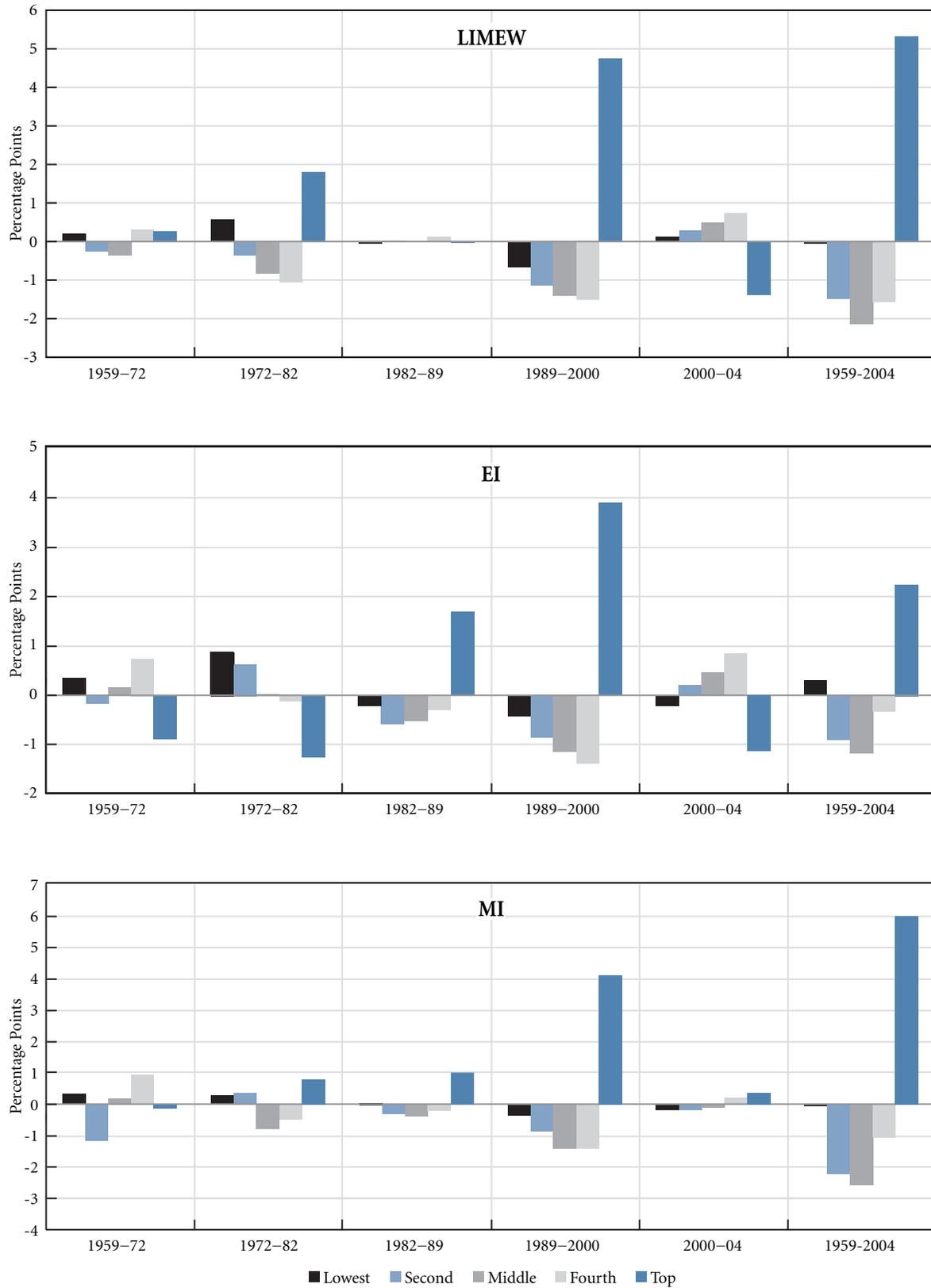
(middle) quintiles' shares fell by a small amount. Between 1972 and 1982, the bottom and top quintiles continued to improve their shares (the top gaining much more than the bottom), while the other quintiles' shares declined. Between 1982 and 1989, there was almost no change in the income shares of the various quintiles. A major realignment took place between 1989 and 2000, however, with steep gains in favor of the top quintile as all other quintile shares declined. This pattern reversed between 2000 and 2004, when there was a modest setback for the top quintile and gains for the middle quintiles (with the fourth quintile appropriating a larger gain than the second and third quintiles). These findings suggest a rather bleak picture for the lower and middle classes in terms of sharing the economic pie.

The official measures show somewhat different patterns than the LIMEW. Between 1959 and 1972, the share of the bottom, third, and fourth quintiles gained in EI and MI (the fourth quintile gained the most). Between 1972 and 1982, the lower class (including the second quintile) continued to gain. The main difference between EI and MI is that the top quintile's share fell in EI but rose in MI. Between 1982 and 2000, both measures show that only the top quintile increased its share of the economic pie. Similar to the LIMEW measure, the official measures show that the largest gains accrued to the top quintile between 1989 and 2000. The official measures display different patterns of change between 2000 and 2004. The change in the income shares in EI is similar to LIMEW, including a modest setback for the top quintile, while MI continues to favor the top quintile.

The key similarity between the LIMEW and the official measures is that most of the increase in the top quintile's share occurred between 1989 and 2000. The main dissimilarity between the measures occurred in the 1959–82 period. According to the LIMEW, the top quintile's share rose by 2.0 percentage points, compared to 0.6 and minus 2.1 percentage points according to MI and EI, respectively.

There was greater congruence between the measures in terms of the bottom quintile. All three measures show the bottom quintile's share increasing between 1959 and 1982, followed by stagnation or outright decline. The bottom quintile experienced a notable setback between 1989 and 2000, when there was a steep gain in the share of the top quintile. The measures are also consistent in suggesting that the middle quintile did not suffer any severe losses between 1959 and 1972 but that there was a large decline between 1989 and 2000. A similar conclusion also applies to the income shares of the second and fourth quintiles.

Figure 2 Changes in Income Shares by Income Measure and Quintile, 1959–2004 (in percentage points)



Source: Authors' calculations

Gini Coefficients

Table 3 shows Gini coefficients by measure for the set of benchmark years in terms of all households (panel A) and family households (panel B). In 2004, MI had the highest Gini coefficient for all households (46.5), followed by LIMEW (41.0) and EI (40.1). MI shows greater inequality because it is a pretax measure and does not account for government noncash transfers. Moreover, public consumption and household production are relatively equally distributed, so their inclusion in the LIMEW lowers inequality relative to MI.

All three measures indicate higher inequality in 2004 than in 1959. MI recorded the largest increase (6.2 Gini points) followed by LIMEW (5.1) and EI (2.1). According to all of the measures, there was no significant change in inequality between 1959 and 1972. Most of the increase in MI inequality occurred from 1989

to 2000. In contrast, LIMEW showed an increase in inequality of 1.1 Gini points from 1972 to 1982, no change from 1982 to 1989, and a large spurt of 5.0 points from 1989 to 2000, followed by a decline of 1.2 points between 2000 and 2004. EI showed a sharp drop in inequality between 1972 and 1982, a small increase from 1982 to 1989, and then a large increase of 4.0 points from 1989 to 2000, followed by a slight decline between 2000 and 2004.

We also show the Gini coefficients for two related LIMEW measures: post-fiscal income (PFI) and comprehensive disposable income (CDI). PFI is equal to LIMEW minus household production. Its Gini coefficient is approximately 2 to 3 points greater than LIMEW (reflecting the equalizing effects of household production). CDI is equal to PFI minus public consumption. The elimination of public consumption increases measured inequality, since public consumption is distributed very progressively. The Gini

Table 3 Economic Inequality by Measure, 1959–2004 (Gini coefficient x 100)

	1959	1972	1982	1989	2000	2004	Change 1959–2004
A. All households							
Levy measures							
LIMEW	35.9	36.1	37.2	37.2	42.2	41.0	5.1
Post-fiscal income (PFI) ¹	38.5	37.7	38.3	39.0	44.6	43.8	5.3
Comprehensive disposable income (CDI) ²	40.8	40.4	41.2	41.8	47.7	47.0	6.2
Official measures							
Extended income (EI)	38.0	37.1	34.9	36.8	40.8	40.1	2.1
Money income (MI)	40.3	40.7	40.9	41.8	46.0	46.5	6.2
Equivalence scale–adjusted measures							
Equivalent LIMEW	32.5	31.3	32.1	32.9	38.1	36.5	4.0
Equivalent EI	37.1	34.9	33.0	34.9	38.8	37.9	0.8
Equivalent MI	40.1	38.9	39.1	40.0	44.1	44.5	4.4
B. Family households							
Levy measures							
LIMEW	32.4	32.0	33.0	32.4	37.1	36.5	4.1
PFI	35.6	33.9	34.9	35.1	40.3	40.3	4.7
CDI	38.2	37.3	38.9	39.1	44.6	44.8	6.7
Official Measures							
EI	35.0	33.8	31.6	33.5	37.6	36.4	1.3
MI	37.3	37.2	37.6	38.5	42.8	43.2	5.9

1. PFI equals LIMEW less the value of household production.

2. CDI equals LIMEW less the value of household production and public consumption.

Source: Authors' calculations

coefficient for CDI is about 5 to 6 points greater than that for LIMEW, reflecting the equalizing effects of both public consumption and household production. The time trends of the two measures are quite similar to that of the LIMEW, although the amount of increase in inequality between 1959 and 2004 is considerably higher for CDI. Over the period, the Gini coefficient for PFI and CDI increased by 5.3 and 6.2 Gini points, respectively.

Table 3, panel A, also shows equivalence-scale adjusted measures for LIMEW, EI, and MI. The adjustment lowers measured inequality. This is not surprising in light of the well-known correlation between household size and income in the data. The bottom rungs of the income distribution tend to have more single-person households and smaller families than the higher rungs. Additionally, public consumption and household production in the LIMEW display a strong positive correlation with household size. Consider, for example, households with school-age children. The single largest component of public consumption is public education (we have imputed per-pupil expenditures as part of the LIMEW). Households with more school-age children would generally be allocated more public consumption. Similarly, time spent on household production tends to increase with the number of children, and produces a positive correlation between household size and the value of household production.²

The time trends in the equivalence-scale adjusted measures are similar to the unadjusted measures, except during the 1959–72 period for MI and LIMEW (unadjusted measures showed no considerable change, while the adjusted measures declined somewhat). The overall increase in measured inequalities between 1959 and 2004 is smaller than the corresponding unadjusted measures.

Table 3, panel B, shows economic inequality in terms of family households.³ As expected, measured inequality is lower relative to all households, since single individuals are excluded. The time trend of the measures is similar to that for all households, but the overall increase in inequality is relatively smaller (with the exception of CDI), reflecting the growth in the number of smaller families that have lower incomes than larger families.

Sources of Inequality

A standard technique to assess the amount of inequality contributed by individual components (or income sources) to the total amount of inequality is decomposition analysis. The results do not suggest causality. Yet, by virtue of quantifying the contribution of individual components, they can shed light on the differences between alternative measures in the level of, and changes

in, inequality. Following this approach, we began by decomposing the Gini coefficient of each measure into the amount of inequality accounted for by each major component. The amount of inequality contributed by a component is the product of that component's concentration coefficient and its income share (Table 4, panel A; Yao 1999, pp. 1252–53).⁴ Each component's contribution to the change in the Gini coefficient is calculated as the difference between the amount of inequality accounted for by that component in each of two years (Table 4, panel B).

We outline the results for changes in inequality between 1959 and 2004 before discussing the subperiod fluctuations in inequality in the LIMEW.

A. Changes in Inequality between 1959 and 2004

The contribution of base income to the level of inequality is markedly lower in the LIMEW than EI and MI (Table 4, panel A). This is more the result of the relatively smaller share of base income rather than differences in the distribution of base income across the LIMEW distribution. The average value of the concentration coefficient for base income for the set of benchmark years was 0.37 in LIMEW, compared to 0.44 in EI and 0.47 in MI (estimates not shown in the table). The discrepancy in the share of base income in overall income was, however, much larger: 55 percent in LIMEW, compared to 97 percent in EI and 87 percent in MI. The contribution of base income to inequality in LIMEW changed little over the period, resulting in a negligible contribution to the growth in inequality between 1959 and 2004 (Table 4, panel B; Figure 3). In contrast, the contribution of base income to inequality in MI and EI grew between 1959 and 2004 because of an increase in the concentration coefficient (from 0.42 to 0.51 in MI and from 0.41 to 0.48 in EI), while the share of base income decreased from 92 to 88 percent in MI and from 102 to 98 percent in EI (estimates not shown).

The contribution of income from wealth to the level of inequality in 2004 was substantially higher in LIMEW than in EI and MI (Table 4, panel A), with most of the difference attributed to income from nonhome wealth. (Note: Income from nonhome wealth is reckoned as annuities in the LIMEW, property income plus realized net capital gains in EI, and property income in MI.) The concentration coefficient for income from nonhome wealth was 0.79 in LIMEW, 0.69 in EI, and 0.62 in MI, while the income share was 16 percent in LIMEW but only 7 percent in EI and 5 percent in MI (estimates not shown in the table). The amount of inequality contributed by income from nonhome wealth was 8.1

Table 4 Decomposition of Inequality by Income Source and Income Measure (Gini coefficient x 100)

Panel A	Contribution to Inequality					
	1959	1972	1982	1989	2000	2004
LIMEW						
Base income	19.9	22.5	21.8	20.0	21.0	20.8
Income from wealth	5.9	8.5	12.2	12.5	17.0	14.4
Imputed rent	1.2	1.3	1.9	2.0	1.7	1.7
Annuities	4.7	7.2	10.3	10.5	15.2	12.8
Net government expenditures	-1.4	-3.5	-4.4	-3.7	-3.9	-2.1
Transfers	0.8	-0.6	0.1	0.3	1.0	1.3
Public consumption	1.8	2.9	2.4	2.3	2.4	2.6
Taxes	-3.9	-5.9	-7.0	-6.3	-7.3	-6.0
Household production	11.5	8.7	7.6	8.3	8.2	7.9
Total	35.9	36.1	37.2	37.2	42.2	41.0
EI						
Base income	41.8	41.8	38.2	40.6	45.7	46.6
Income from wealth	4.1	6.6	9.4	10.3	10.3	6.3
Return on home equity	1.1	1.7	4.3	3.2	1.8	1.3
Property income plus realized capital gains	3.1	4.9	5.1	7.1	8.5	5.0
Net government expenditures	-7.9	-11.3	-12.7	-14.2	-15.1	-12.8
Transfers	0.6	-1.2	-0.3	-0.4	0.2	0.9
Taxes	-8.4	-10.1	-12.4	-13.8	-15.4	-13.8
Total	38.1	37.1	34.9	36.8	40.8	40.1
MI						
Base income	38.6	40.2	38.9	39.5	43.6	44.7
Property income	1.5	2.0	3.5	3.7	3.4	2.8
Transfers	0.2	-1.5	-1.5	-1.4	-1.0	-1.0
Total	40.3	40.7	40.9	41.8	46.0	46.5

Source: Authors' calculations

Gini points higher in 2004 than in 1959, mainly because its share of LIMEW more than doubled over the period, to 16 percent. In contrast, income from nonhome wealth contributed only 1.9 and 1.4 points to the increase of inequality in EI and MI, respectively. The lower contribution was largely a reflection of the trend in the share of income from nonhome wealth: the share was only about 1 percentage point higher in 2004 than in 1959 (the share was 7 and 5 percent, respectively, for EI and MI in 2004).

According to all of the measures, base income and income from wealth contributed positively to the increase in inequality between 1959 and 2004. In contrast, net government expenditures moderated the increase in inequality (Table 4, panel B; Figure 3). However, the effectiveness of net government expenditures in restraining the increase in inequality appears to be

much less important in the LIMEW than in the official measures: a reduction of approximately 0.7 Gini points, compared to 1.2 points in MI and a notable 5.0 points in EI (as a result of differences in the redistributive effect of taxes).

In both 1959 and 2004, taxes play a larger role in reducing inequality in EI than in LIMEW. The reduction amounted to 8.4 and 13.8 points, respectively, for EI, compared to 3.9 and 6.0 points for LIMEW (Table 4, panel A). One reason is that taxes consist of a larger percentage of EI than LIMEW (17 versus 10 percent in 1959, and 25 versus 13 percent in 2004). This result is expected because the LIMEW includes components such as public consumption and household production that are excluded in EI, and there are differences in the treatment of some components that are common to the two measures.⁵ Moreover, taxes

Contribution to the Change in Inequality						
Panel B	1959–72	1972–82	1982–89	1989–2000	2000–04	1959–2004
LIMEW						
Base income	2.6	-0.7	-1.8	1.0	-0.2	0.9
Income from wealth	2.6	3.7	0.3	4.4	-2.5	8.6
Imputed rent	0.1	0.6	0.1	-0.3	-0.1	0.5
Annuities	2.5	3.1	0.3	4.7	-2.5	8.1
Net government expenditures	-2.1	-0.9	0.7	-0.2	1.8	-0.7
Transfers	-1.4	0.7	0.1	0.7	0.4	0.6
Public consumption	1.2	-0.5	-0.1	0.1	0.2	0.8
Taxes	-1.9	-1.1	0.7	-1.1	1.3	-2.1
Household production	-2.8	-1.0	0.7	-0.1	-0.3	-3.6
Total ¹	0.2	1.1	0.0	5.0	-1.2	5.1
EI						
Base income	0.0	-3.6	2.4	5.1	0.9	4.8
Income from wealth	2.4	2.8	0.9	-0.1	-4.0	2.2
Return on home equity	0.6	2.6	-1.1	-1.5	-0.4	0.3
Property income plus realized capital gains	1.8	0.2	2.0	1.4	-3.6	1.9
Net government expenditures	-3.4	-1.4	-1.5	-0.9	2.3	-5.0
Transfers	-1.8	0.9	-0.2	0.6	0.7	0.3
Taxes	-1.7	-2.3	-1.4	-1.6	1.6	-5.3
Total ¹	-1.0	-2.2	1.8	4.1	-0.8	2.0
MI						
Base income	1.6	-1.3	0.6	4.1	1.0	6.0
Property income	0.6	1.5	0.2	-0.3	-0.6	1.4
Transfers	-1.8	0.0	0.1	0.4	0.1	-1.2
Total ¹	0.4	0.2	0.9	4.2	0.5	6.2

1. These numbers refer to the change in the Gini ratio of the income measure.

Source: Authors' calculations

are more progressive in EI than in LIMEW. Effective tax rates tend to rise in EI because households on the higher rungs of the distribution have, on average, taxable incomes as their main source of income. In contrast, households on the higher rungs of LIMEW tend to have a substantial portion of imputed income from wealth, which is not subject to taxation, so effective tax rates rise less sharply than those in EI.

Household production was the largest single component of the LIMEW that contributed to the decline in inequality between 1959 and 2004 (Table 4, panel B; Figure 3). The decline was almost entirely due to its reduced share in the LIMEW (from 33 to 22 percent); there was only a minimal change in its concentration coefficient (from 0.35 to 0.36).

B. The early rise in inequality: 1959–82

As discussed above, the inequality in LIMEW rose from 35.9 Gini points in 1959 to 37.2 points in 1982, and most of the increase occurred between 1972 and 1982. This contrasts with the change in inequality over the period according to EI (minus 3.2 points) and MI (0.6 points) (Table 4). What accounts for the disparate trend in the LIMEW relative to the official measures?

The main contributors to the increase in inequality in LIMEW were income from wealth (6.3 points) and base income (1.9 points) (Figure 4). Net government expenditures and household production strongly reduced inequality, but they did not offset the overall increase in inequality. Most of the positive contribution of income from wealth came from annuities (5.6

points) (Table 4, panel B). This reflected a remarkable increase in the relative importance of annuities in the LIMEW (from 7.1 to 13 percent), combined with a substantial increase in its concentration coefficient (from 0.65 to 0.79) (estimates not shown).⁶ The increase in the share of annuities between 1972 and 1982 is comparable to the increase between 1989 and 2000 (from 13.6 to 19 percent), which drove greater inequality during the 1990s. The concentration coefficient of annuities has hardly changed since 1982.

The official measures of income from wealth also contributed to an increase in inequality between 1959 and 1982, and this contribution far exceeded that in subsequent periods (Figures 3 and 4). According to EI, however, the negative contributions from net government expenditures and base income overwhelmed the positive contribution from income from wealth. According to MI, the negative contribution from net government expenditures (i.e., cash transfers, because MI is a pretax income measure) almost completely offset income from wealth (i.e., property income).

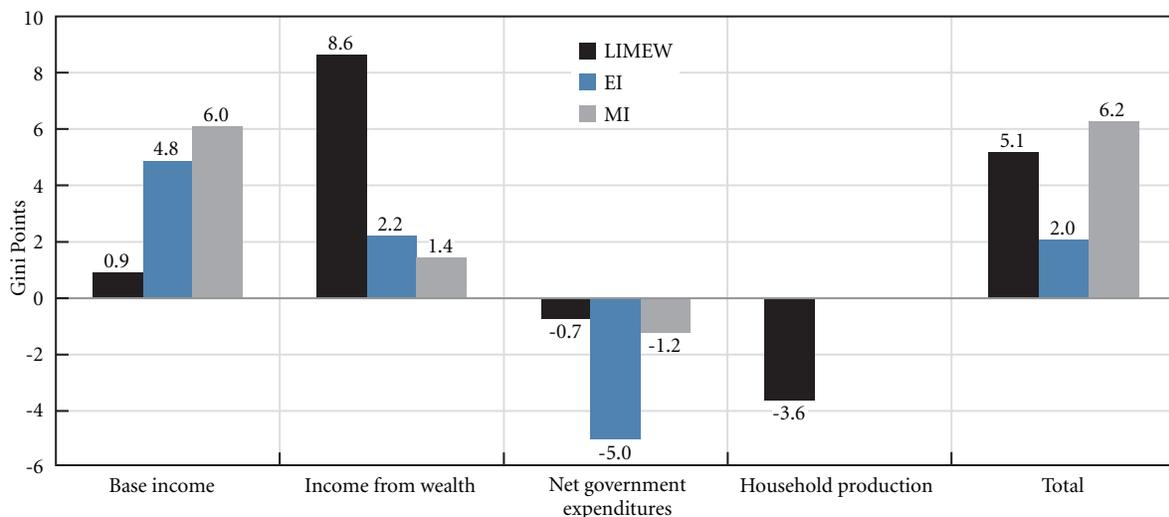
C. The recent decline in inequality: 2000–04

During the latest subperiod (2000–04), both EI and LIMEW showed declines in inequality, while MI showed a slight increase. Our decomposition analysis of EI and LIMEW sheds some light on the factors contributing to the decline in inequality (Table 4,

panel B). The main factor was the sizable decline in the income from nonhome wealth component, which was driven almost entirely by its declining share of total income (from 12 to 7 percent in EI and from 19 to 16 percent in LIMEW). There was an absolute decline in income from wealth for both measures between 2000 and 2004. Property income and realized capital gains fell by 43 percent in EI, while annuities fell by 15 percent in LIMEW. The deflated state of financial markets in 2004 relative to the “irrational exuberance” of 2000 may explain the stark decline in income from nonhome wealth.

The rise in the share of transfers and the fall in the share of taxes do not appear to have enhanced the inequality-reducing effect of net government expenditures. In 2000, net government expenditures reduced LIMEW inequality by 3.9 Gini points, compared to only 2.1 points in 2004 (Table 4, panel A). Similarly, these expenditures reduced EI inequality by 15.1 points in 2000, compared to 12.8 points in 2004. The lower contribution reflects a decline in the share of taxes in total income for both measures. Because taxes are entered into the income measures with a minus sign, a fall in the share of taxes can only reduce inequality if the concentration coefficient of taxes increases; that is, the tax burden shifts more toward households on the higher rungs of the income distribution. The absence of such a shift might help explain why the inequality-reducing effect of net government expenditure was lower in 2004 than in 2000.

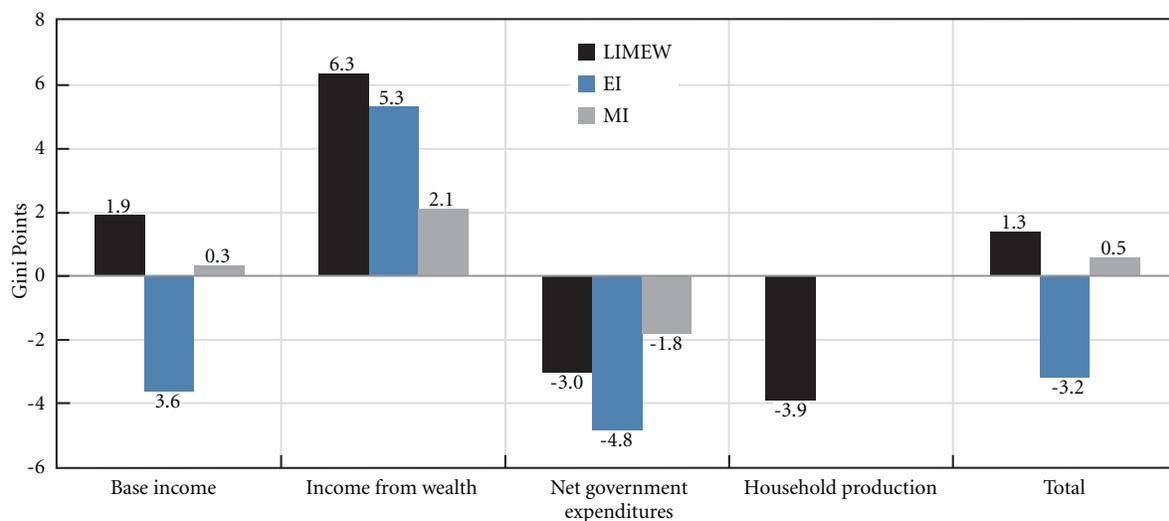
Figure 3 Changes in Inequality by Income Measure, 1959–2004 (in Gini points)



Notes: Income from wealth in MI consists of property income (sum of dividends, interest, and rent). Net government expenditures in MI consist only of cash transfers. For definitions of components in LIMEW and EI, see Table 1.

Source: Authors' calculations

Figure 4 Changes in Inequality by Income Measure, 1959–82 (in Gini points)



Notes: Income from wealth in MI consists of property income (sum of dividends, interest, and rent). Net government expenditures in MI consist only of cash transfers. For definitions of components in LIMEW and EI, see Table 1.

Source: Authors' calculations

Given that several changes were made to the federal income tax system between 2000 and 2004, it is interesting to take a closer look at the distribution of the tax burden. We do not attempt to disentangle the effects of the business cycle or changes in the tax code but report only ex post outcomes, as reflected in the distribution of effective tax rates. For this purpose, we express taxes as a percentage of “pretax income,” which is defined as CDI plus taxes.⁷ Estimates of pretax income, total taxes, and federal income taxes are shown in Table 5. The effective tax rates are shown in Figure 5.

The total tax schedule appears to turn regressive between the ninth and tenth deciles, as shown in the pronounced decline in the effective total tax rate (from 25 to 21 percent in 2000 and from 19 to 17 percent in 2004). The tax schedule as a whole has shifted down dramatically over the period, and its gradient has remained largely unchanged between the second and ninth deciles. This confirms our earlier finding (based on our decomposition analysis) that the total tax burden did not shift toward households in the higher portions of the income distribution between 2000 and 2004. The principal reason why the effective tax rate declined between the ninth and tenth deciles is due to the much higher share of income from nonhome wealth in pretax income for the tenth decile. Since income from nonhome wealth is reckoned as an imputed lifetime annuity that is not taxable, tax rates do not rise between the ninth and tenth deciles.

In contrast to the regressive total tax schedule between the ninth and tenth deciles, the federal income tax schedule was more progressive between the same deciles in 2004. The effective federal income tax rate fell from 15 to 14 percent in 2000 but rose from 10 to 11 percent in 2004. The degree of progressivity between successive deciles from the bottom to the ninth decile, however, appears to have narrowed: the slope of the 2004 federal income tax schedule is flatter than the 2000 schedule (Figure 5).

Conclusion

According to MI and LIMEW, inequality grew substantially between 1959 and 2004, while the increase in the inequality of EI was much smaller. Equivalence-scale adjustments of the measures show lower levels of inequality because households on the bottom rungs of the income distribution tend to have more single persons and smaller families relative to the higher rungs. The adjustments show slightly smaller proportionate increases than the corresponding unadjusted measures, reflecting the reduction in the household size of rich relative to poor households.

Time trends are different for the three principal measures with the exception of the 1959–72 period, where all of the measures showed little change in inequality. LIMEW showed an increase in inequality from 1972 to 1982, no change from 1982 to

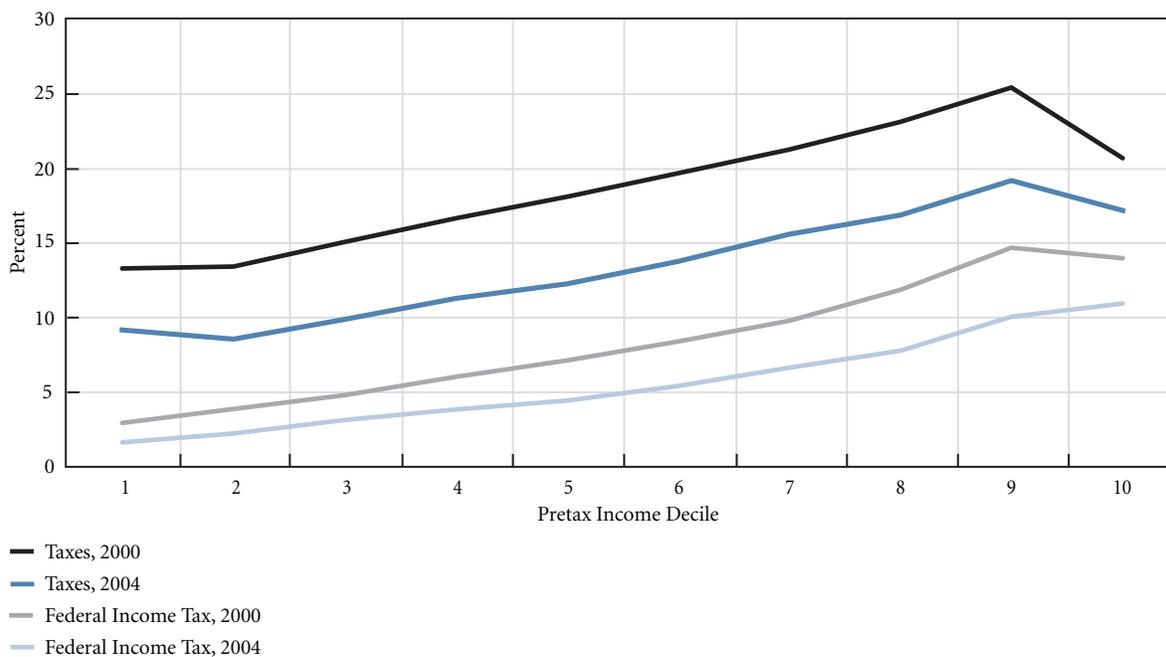
1989, and a surge from 1989 to 2000, reflecting the large increase in income from wealth for the top rungs of the economic ladder. This was followed by a notable decline in inequality between 2000 and 2004 due to the decline in the value of financial assets. In contrast, EI showed a sizable drop in inequality from 1972 to 1982, a slight increase from 1982 to 1989, and a spurt from 1989 to 2000, followed by a slight decline in 2004. MI showed little change in inequality from 1972 to 1989, followed by a large spike from 1989 to 2004. All three measures indicate that the largest increase in inequality occurred during the 1989–2000 period.

Decomposition analysis of the three measures shows that base income (mainly earnings) and income from wealth contributed positively to the increase in inequality between 1959 and 2004, although the roles of the components were reversed between the LIMEW and the official measures. The principal factor behind the increase in inequality was the rising contribution of income from nonhome wealth for LIMEW, and base income for MI and EI. This was particularly true for the inequality surge of the 1990s. Net government expenditures helped to moderate the increase in inequality for all the measures. The effectiveness of these expenditures in lowering the increase in inequality, however, was much

less in LIMEW than in the official measures. The main reason behind the lower effect of net government expenditures in restraining the growth of inequality in LIMEW relative to EI is the more progressive distribution of taxes in EI compared to LIMEW.

In the most recent period examined here, 2000–04, the inequality in LIMEW and EI declined, while the inequality in MI increased mildly. The main factor reducing inequality was the large decline in income from nonhome wealth. An increase in net government expenditures helped to increase well-being among the middle class,⁸ but the contribution of these expenditures to reducing inequality was lower in 2004 than in 2000 (the tax burden did not shift toward households on the upper rungs of the income distribution). Thus, the reduction in measured inequality between 2000 and 2004 appears to be a result of the boom and bust of financial markets rather than a reduction in earnings inequality or changes in government redistributive policies. Most notably, the distribution of the tax burden did not shift toward the most well-off households: effective tax rates in 2000 and 2004 were lower for the top decile than for the ninth decile.

Figure 5 Total Tax Rates and Federal Income Tax Rates by Pretax Income Decile, 2000 and 2004 (in percent)



Notes: Pretax income is equal to LIMEW minus the value of household production and public consumption, plus total taxes. Total taxes include federal income taxes, state income taxes, property taxes on owner-occupied homes, and payroll taxes (employee portion).

Source: Authors' calculations

Table 5 Pretax Income, Total Taxes, and Federal Income Taxes by Decile, 2000 and 2004 (mean values in 2007 dollars)

Pretax Income Deciles	2000			2004		
	Pretax Income ¹	Total Taxes ²	Federal Income Taxes	Pretax Income	Total Taxes	Federal Income Taxes
1	14,830	1,963	424	13,583	1,235	212
2	28,242	3,772	1,073	27,296	2,316	589
3	37,934	5,690	1,791	37,352	3,665	1,139
4	47,735	7,922	2,846	47,433	5,324	1,784
5	58,590	10,571	4,136	58,485	7,134	2,551
6	71,534	14,030	5,948	71,495	9,793	3,822
7	87,096	18,471	8,462	87,537	13,591	5,745
8	108,386	25,012	12,780	108,961	18,307	8,400
9	146,286	37,113	21,397	146,602	28,034	14,637
10	375,757	77,509	52,311	353,499	60,515	38,455
All	97,642	20,206	11,117	95,226	14,992	7,734

1. Pretax income is equal to LIMEW *minus* the value of household production and public consumption, *plus* total taxes.

2. Includes federal income taxes, state income taxes, property taxes on owner-occupied homes, and payroll taxes (employee portion).

Source: Authors' calculations

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Notes

- For an overview of trends in the LIMEW, see Wolff, Zacharias, and Masterson (2009b). Intergroup disparities are discussed in Masterson, Wolff, and Zacharias (2009).
- A separate issue concerns the applicability of standard equivalence scales to income measures that include nonmarket components such as public consumption and household production. This is an area that requires further research.
- A family household is a household with at least one family. The Census Bureau defines “family” as a group of two or more persons living in the same household and related to each other by blood, marriage, or adoption.
- 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 ordering households according to income (starting from the lowest income). If we plot the cumulative proportion of a component of income (e.g., wages) and keep the same ordering of households on the horizontal axis, the curve connecting all points is the concentration curve for wages.
- LIMEW is also larger than EI because annuities and imputed rent in LIMEW are larger than their counterparts in EI (i.e., property income plus realized capital gains and the return on home equity). Transfers in the LIMEW are also larger than EI because the LIMEW measure includes a National Income and Product Account alignment for transfers.
- The increase in the concentration coefficient of annuities between 1959 and 1982 is probably a reflection of the higher concentration of financial wealth in the early 1980s relative to the early 1960s. Wolff (1987) reports that according to Federal Reserve Board surveys, the Gini coefficient for financial wealth increased from 0.79 in the 1962 Survey of Financial Characteristics of Consumers to 0.87 in the 1983 Survey of Consumer Finances.
- This measure is close to the definition used by the Congressional Budget Office (CBO) in calculating effective tax rates. The main differences are CBO’s definition of

income from nonhome wealth (the CBO uses the EI definition whereas we include the imputed lifetime annuity), its inclusion of certain forms of pretax income (e.g., supplementary retirement contributions to private defined-contribution pension plans), and its valuation of government medical insurance in terms of fungible value.

8. Median LIMEW rose at an annual rate of 0.97 percent between 2000 and 2004 (Wolff, Zacharias, and Masterson 2009b).

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