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Levy Institute Measure of Economic Well-Being

Postwar Trends in Economic Well-Being in the United States, 1959–2004

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Preface

The Levy Institute Measure of Economic Well-Being (LIMEW) is a more comprehensive measure than either gross money income or extended income because it includes estimates of public consumption and household production, as well as the long-run benefits from the ownership of wealth. As a result, it provides a very different picture of economic well-being in the United States from the official measures.

The authors compare the three measures over the 1959–2004 period and find that they show different rates of change in median well-being by subperiod. The official measures show a higher rate of improvement (or, a slower rate of decline) than the LIMEW during the 1960s and '70s, while the pattern is reversed during the 1980s and '90s. The authors attribute most of the difference to changes in household production and income from wealth.

The transformation in the structure of well-being played out differently for households in the lowest and highest quintiles. According to the LIMEW, households at the bottom of the distribution relied more heavily on components such as base income (mainly labor income) and net government expenditures, while households at the top of the distribution gained more from the income from wealth component. Meanwhile, the well-being of the third quintile, or the "middle class," improved, due mainly to the public sector. Although hours of housework declined over the period, the unit value of household work increased, and women nearly doubled their hours of market work.

The authors find that median household well-being grew rather sluggishly over the 1959–2004 period compared to the annual growth rate of per capita GDP. They note the crucial role of net government expenditures, and therefore call for the Obama administration's fiscal stimulus package to improve the broader economic well-being of the poor and the middle class, while also creating jobs.

As always, I welcome your comments and suggestions.

Dimitri B. Papadimitriou, *President*
February 2009

Introduction

One important aspect of human progress is the economic well-being of all members of society. Gross money income, perhaps the most widely used official measure of the level and distribution of household economic well-being, is increasingly recognized as an incomplete measure. To help fill this lacuna, The Levy Economics Institute is conducting a research project to construct a more adequate measure of economic well-being. To date, we have completed estimates of the Levy Institute Measure of Economic Well-Being (LIMEW) for the years 1959, 1972, 1982, 1989, 1995, 2000, 2001, 2002, and 2004.

Economic well-being refers to the household's command over, and access to, the goods and services produced in a modern market economy during a given period of time. The magnitude of the command or access that can be exercised is approximated by an income measure, since household income should, in principle, reflect the resources available to the household for facilitating current consumption or acquiring assets. Traditionally, *money income* is used as a measure that reflects such command.

The conventional gauge of household well-being—the U.S. Census Bureau's money income figures—shows robust growth in both mean and median values from 1947 to 1973. Then, from 1973 to 2004, there is a marked slowdown in income growth. Median and mean values approximately doubled over the first period, with the median growing slightly faster than the mean. In contrast, between 1973 and 2004 the percent change in mean income was twice as much as the change in median income (44 versus 22 percent). The key question is whether our broader LIMEW measure shows similar or different time trends in the level and distribution of well-being. Since the LIMEW is more comprehensive than the standard income measure, it would be a more reliable guide to actual changes in living standards over the post–World War II period.

The landmark 2001 report by the Canberra Group—international experts on household income statistics—recommended that estimates of in-kind social benefits need to be added and the tax burden subtracted from *gross money income* (MI) to arrive at a better measure of household economic well-being. In fact, the Census Bureau has played a pioneering role in the development of alternative income measures. Since the early 1980s, the agency has examined various "experimental measures of income" in its published reports. Its most comprehensive measure, which we call *extended income* (EI), is a better approximation of a household's command over commodities than MI. EI is an aftertax measure of income; it expands the definitions of income from work and income from wealth and provides a better accounting of the government's role in household economic well-being.[1]

Although of critical importance, commodities 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), such as public education and highways ("public consumption"). Nonmarket household work, such as child care, cooking, and cleaning, also provides the necessaries and conveniences of life ("household production").

The LIMEW is a more comprehensive measure than the two official measures. We include estimates of public consumption and household production, components that are excluded in most measures of economic well-being. We also include estimates of long-run benefits from the ownership of wealth (other than homes) in the form of an imputed lifetime annuity, a procedure that, in our view, is superior to considering only current income from assets.

The next section briefly describes the methodology for the LIMEW. Detailed discussion of our sources and methods can be found in Wolff, Zacharias, and Masterson (2009). In the subsequent section, we report on time trends from 1959 to 2004 in the LIMEW, EI, and MI, prior to our concluding remarks.

Components of the LIMEW

The LIMEW is constructed as the sum of the following components: base money income, income from wealth, net government expenditures (transfers and public consumption, net of taxes), and household production (see Table 1).

Base Money Income

Base money income is defined as gross money income *less* the sum of property income (interest, dividends, and rents) and government cash transfers (e.g., Social Security benefits). Earnings make up the overwhelming portion of base money income. The remainder consists of pensions, interpersonal transfers, workers' compensation paid by the private sector, and other small items.

Income from Wealth

The second component is imputed income from the household's wealth holdings. MI includes interest, dividends, and rent. From our perspective, property income is an incomplete measure

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	Income from wealth	*Plus*	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
Less	Taxes	*Less*	Taxes
	Income taxes[1]		Income taxes
	Payroll taxes[1]		Payroll taxes
	Property taxes[1]		Property taxes
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. 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 govenment cost in the LIMEW, and the same value was also used in the EI estimated for 1959.

of economic well-being derived from the ownership of assets. Owner-occupied housing yields services to their owners over many years, thereby freeing up resources otherwise spent on housing. Financial assets can, under normal conditions, be a source of economic security in addition to property-type income.

We distinguish between home wealth and other types of wealth. Housing is a universal need, and home ownership frees the owner from the obligation of paying rent, leaving an equivalent amount of resources for consumption and asset accumulation. Hence, the benefits derived from owner-occupied housing are reckoned in terms of their replacement cost (i.e., a rental equivalent).[2] The benefits derived from nonhome wealth are estimated using a lifetime annuity method.[3] We calculate an annuity based on a given amount of wealth, an interest rate, and life expectancy. The annuity remains the same throughout the life of the wealth holder, and the terminal wealth is assumed to be zero. (In the case of households with multiple adults, we use the maximum life expectancy of the head of household and spouse in the annuity formula.) Moreover, in our method we account for differences in portfolio composition across households. Instead of using a single interest rate for all assets, we use a weighted average of asset-specific and historic real rates of return,[4] where the weights are the proportions of the different assets comprising a household's total wealth.

Net Government Expenditures

The third component is net government expenditures—the difference between government expenditures incurred on behalf of households and taxes paid by households. Our approach to determining expenditures and taxes is based on the social accounting method (Hicks 1946; Lakin 2002, pp. 43–46). Government expenditures included in the LIMEW are cash transfers, noncash transfers, and public consumption. These expenditures, in general, are derived from the National Income and Product Accounts (NIPA Tables 3.12 and 3.15.5). Government cash transfers are treated as part of the money income of recipients. In the case of government noncash transfers, our approach distributes the appropriate actual cost incurred by the government among recipients of the

benefit.[5] In contrast, the Census Bureau includes the fungible value of medical benefits in EI. The fungible value method is based on the argument that the income value for the recipient of a given noncash transfer is, on average, less than the actual cost incurred by the government in providing that benefit (see, for example, Canberra Group 2001, pp. 24, 65). This valuation method involves estimating how much the household could have paid for the medical benefit after meeting its expenditures on basic items such as food and clothing, with the maximum payment for the medical benefit set equal to the average cost incurred by the government.

We do not use the fungible value approach because it implies that recipients with income below the minimum threshold receive no benefit from the service (like health care). This implication is inconsistent with our goal of measuring the household's access to or command over products. Further, unlike the social accounting method, the fungible value method would not yield the actual total government expenditures when aggregated across recipients. Such a feature is incompatible with our goal of estimating net government expenditures using a consistent methodology.

The other type of government expenditure that we include in the LIMEW is public consumption. We begin with a detailed functional classification of government expenditures. We then exclude certain items that fail to satisfy the general criterion of increasing the household's access to goods or services. These items generally form part of the social overhead (e.g., national defense). Other expenditures, such as transportation, are allocated to households only in part, because a portion of the expenditure is also incurred on behalf of the business sector. The household sector's share in such expenditures can be estimated on the basis of information regarding its utilization (e.g., miles driven by households and businesses). The remaining expenditures (such as health care) are allocated fully to households. We then distribute the expenditures for each functional category among households, using procedures that build on earlier studies employing the government-cost approach (e.g., Ruggles and O'Higgins 1981). Some expenditures are distributed on the basis of estimated patterns of utilization or consumption, while others are distributed equally among the relevant population.

The final component of net government expenditures is taxes. Our objective is to determine the actual tax payments made by households; we do not consider tax incidence in our analysis. Consistent with the government-cost approach, we align the aggregate taxes estimated in the microdata with their NIPA counterparts. We include only taxes paid directly by households, including federal and state personal income taxes, property taxes on owner-occupied housing, and payroll taxes (employee portion). Taxes on corporate profits, business-owned property, and other businesses, as well as nontax payments, are not allocated to the household sector because they are paid directly by the business sector.

Household Production

The fourth component of the LIMEW is the imputed value of household production. Three broad categories of unpaid activities are included in the definition of household production: (1) core production activities, such as cooking and cleaning; (2) procurement activities, such as shopping for groceries and clothing; and (3) child care activities, such as caring for babies and reading to children. These activities are considered "production" since they can be assigned, generally, to individuals other than the person who normally performs them, although these other individuals are *not* always a substitute for the person, especially for activities in the third category.[6]

Our strategy for imputing the value of household production is to value the amount of time spent by individuals on the basis of each activity's replacement cost as indicated by the average earnings of domestic servants or household employees (Kuznets, Epstein, and Jenks 1941, pp. 432–33); Landefeld and McCulla 2000). Research suggests that there are significant differences among households in the quality and composition of the "outputs" of household production, as well as the efficiency of housework (National Research Council 2005, chapter 3). The differentials are correlated with household-level characteristics (such as wealth) and characteristics of household members (such as the influence of parental education on child-rearing practices; see, for example, Yeung and Stafford 2003). Therefore, we modify the replacement-cost procedure and apply a discount or premium to the average replacement cost that depends on how the individual (whose time is being valued) ranks in terms of a performance index. Ideally, the performance index should account for all the relevant factors in determining differentials in household production, and the weights of the factors should be derived from a full-fledged multivariate analysis. Given the absence of such research findings, we incorporated and attached equal weights to three key factors that affect efficiency and quality differentials: household income, educational attainment, and time availability.

Trends in the Level and Composition of Well-Being

Trends

The picture regarding economic well-being differs substantially between the LIMEW and the two official measures. By construction, MI and EI have average values that are less than our measure. The median value of MI amounted to 59 percent of LIMEW in 1959, 68 percent in 1972, 70 percent in 1982, 65 percent in 1989, 61 percent in 2000, and 57 percent in 2004 (see Table 2). Corresponding ratios of EI to LIMEW are similar. The three measures show somewhat different rates of change over the entire 1959–2004 period. Median EI shows the highest annual rate of growth (0.8 percent), followed by LIMEW (0.7 percent) and MI (0.6 percent). There are also large differences by subperiod. Between 1959 and 1972, both MI and EI grew substantially faster than our measure; indeed, LIMEW increased by *only 4 percent* over the whole period. From 1972 to 1982, both LIMEW and MI fell in absolute terms, while EI grew close to 0.2 percent per year. In contrast, all three indices recorded very high growth rates in the 1982–89 period, but LIMEW grew much faster than MI and EI. Subsequently, from 1989 to 2000, LIMEW again grew faster, at 0.9 percent per year versus 0.7 and 0.4 percent per year for EI and MI, respectively. LIMEW continued to grow, at an even faster pace, between 2000 and 2004 (almost 1.0 percent per year), while both EI and MI declined in absolute terms.

Table 2 also shows two alternative LIMEW indices. If we strip away household production from the LIMEW, we arrive at a measure called *post-fiscal income* (PFI). This measure reflects the effect of net fiscal incidence in an accounting sense; that is, it includes as part of household income all government expenditures incurred on behalf of households (public consumption and transfers), net of tax payments by households. At 1.0 percent per year between 1959 and 2004, the overall growth rate for PFI was the highest compared to all other measures. In comparison, the relatively slow growth of LIMEW was due to the fact that household production grew slowly during this period. There are also notable differences between the growth rates of PFI and the growth rates of MI and EI during the 1980s and 1990s, where the growth rates of PFI, like LIMEW, were higher.

As shown in Table 1 and discussed above, EI is a post-tax, post-transfer measure of economic well-being. For comparison, we also define a similar measure called *comprehensive disposable income* (CDI) that shows the effects of stripping away both household production and public consumption from the LIMEW. Both CDI and EI show very similar rates of increase over the entire 1959–2004 period in spite of subperiod differences. Median CDI declined between 1972 and 1982, while EI showed a positive annual growth rate of 0.2 percent, and EI fell in absolute value between 2000 and 2004, while CDI grew at 0.7 percent per year. In general, EI outpaced CDI during the 1960s and 1970s, while the converse was true thereafter.

Table 2, Addendum A, shows trends in the various measures of well-being in equivalent dollars (i.e., adjusted for differences in family size and composition).[7] All three measures—LIMEW, EI, and MI—show higher rates of growth when an equivalence scale adjustment is applied. This difference reflects the reduction in average household size between 1959 and 2004. Median equivalent EI grew the fastest at 1.2 percent per year, followed by LIMEW and MI in a virtual tie at 1.05 and 1.04 percent per year, respectively. As before, median equivalent LIMEW led the way after 1982, while median equivalent EI and MI grew faster than LIMEW before 1982.

Table 2, Addendum B, shows total hours worked. By our calculations, there was a noticeable drop in median annual hours worked from 1959 to 1982 (0.5 percent per year) that was almost entirely due to a large decline in housework. In contrast, there was a marked rise in total hours worked from 1982 to 1989 (0.7 percent per year) that was entirely due to an increase in market work (i.e., the labor market). While there was little change from 1989 to 2000, total hours fell at an annual rate of 0.4 percent between 2000 and 2004, due mainly to the sharp decline in market work. During the 1959–2004 period, median hours worked fell by 7.9 percent overall, as median market work fell by 3.3 percent and housework fell by 18.9 percent.

Figure 1 provides more detail about the time spent by individuals on work in terms of *mean* annual hours. It is clear that the large reduction in housework between 1959 and 1982 was attributable to a sharp drop in housework by women (521 hours). Men actually increased their hours of housework (319 hours), but this did not compensate for the decline among women. Women further reduced their housework by a modest 40 hours between 1982 and 2004, while men continued to increase their hours of housework by 60 hours.

Women nearly doubled their hours of market work from 1959 to 2004. The increase was fairly uniform between each of four subperiods to 2000, but there was a slight decline between 2000 and 2004. Men, on the other hand, showed a general decline in hours of market work throughout the period. Total hours of work by women declined by 73 hours, or 3 percent, from 1959

Table 2 Economic Well-Being and Work, 1959–2004

	Median Values in 2007 Dollars					
	1959	1972	1982	1989	2000	2004
Levy measures						
LIMEW	62,442	65,182	61,370	74,442	82,277	85,521
Post-fiscal income (PFI)[1]	40,735	49,527	48,135	55,863	62,026	63,786
Comprehensive disposable income (CDI)[2]	35,372	41,316	40,419	46,858	51,453	52,798
Official measures						
Extended income (EI)	33,651	40,371	42,210	45,369	48,954	48,342
Money income (MI)	37,051	44,395	43,003	48,364	50,571	48,531
Addendum A: Equivalence scale adjustment						
Equivalent LIMEW	70,273	79,304	78,754	98,113	108,914	112,649
Equivalent EI	37,991	50,601	55,578	61,476	67,186	65,313
Equivalent MI	41,361	53,508	55,632	64,604	68,747	65,887
Addendum B: Annual hours of work (median values)						
Market work	2,150	2,105	2,080	2,236	2,340	2,080
Housework	2,617	2,065	2,155	2,103	2,063	2,123
Total	5,084	4,600	4,501	4,718	4,749	4,683

	Annual Percentage Change					
	1959–72	1972–82	1982–89	1989–2000	2000–04	1959–2004
Levy measures						
LIMEW	0.33	-0.60	2.80	0.91	0.97	0.69
PFI	1.51	-0.28	2.15	0.96	0.70	0.99
CDI	1.20	-0.22	2.13	0.85	0.65	0.88
Official measures						
EI	1.60	0.20	1.04	0.69	-0.31	0.81
MI	1.40	-0.32	1.69	0.41	-1.02	0.60
Addendum A: Equivalence scale adjustment						
Equivalent LIMEW	0.93	-0.07	3.19	0.95	0.85	1.05
Equivalent EI	2.23	0.94	1.45	0.81	-0.70	1.22
Equivalent MI	2.00	0.39	2.16	0.57	-1.06	1.04
Addendum B: Annual hours of work						
Market work	-0.16	-0.12	1.04	0.41	-2.90	-0.07
Housework	-1.80	0.43	-0.35	-0.18	0.73	-0.46
Total	-0.77	-0.22	0.67	0.06	-0.35	-0.18
Addendum C: Real per capita amounts						
GDP[3]	2.73	1.34	3.39	1.91	1.13	2.18
LIMEW	1.14	0.98	3.36	1.91	0.35	1.56
EI	2.17	1.33	2.04	1.54	-0.95	1.52
MI	2.04	1.18	2.59	1.48	-0.79	1.54

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

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

3. Change in per capita GDP in 2000 chained dollars (NIPA Table 7.1).

Source: Authors' calculations

to 2004 because of the reduction in housework, while that by men rose by 167 hours, or 7 percent, due to more time spent on housework.

In Table 2, Addendum C, we also compare trends in real per capita GDP, LIMEW, EI, and MI over the 1959–2004 period (see also, Figure 2). GDP grew at an annual rate of 2.2 percent—more than half a percentage point faster than the three indicators of well-being—and it grew faster in each subperiod, with the exception of a slightly faster per capita LIMEW growth rate during 1982–2000. This result holds even when we compare the growth in the median value of equivalence scale–adjusted measures of household well-being and per capita GDP. Mean LIMEW also grew slower than GDP per capita between 1959 and 2004 (1.6 versus 2.2 percent annually). When we adjust for the fact that total hours worked was stable over the period,[8] we still find that the LIMEW value increased much more slowly than GDP per capita. In sum, the growth in household well-being was much slower during the 1959–2004 period than the growth in total output per capita.

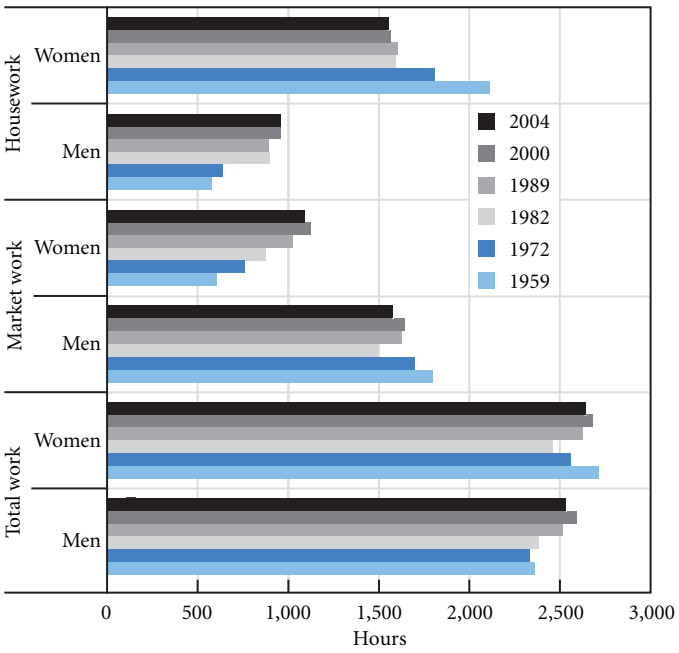
Changes in well-being are sensitive to the business cycle. This is most evident for 1982, when there was a deep recession and the unemployment rate was 9.7 percent (Figure 2). Both median LIMEW and median MI recorded negative growth between 1972 and 1982 (although median EI showed a small, positive gain over the period). On the other hand, both LIMEW and MI showed their most rapid gains from 1982 to 1989 (and EI recorded its second largest gain over the period). When the unemployment rate rose from 4.0 to 5.5 percent between 2000 and 2004, both median MI and median EI recorded negative growth, while median LIMEW increased 1.0 percent per year, which was above its average for the 1959–2004 period.

Composition of the LIMEW

The composition of the LIMEW by income quintile for various years is shown in Table 3. The most notable change regarding the total population was in the income from wealth component, which jumped from 10.8 percent in 1959 to 13.9 percent in 1972, and to 17.7 percent in 1982 and 1989 before surging to 22.7 percent in 2000 and falling back to 19.2 percent in 2004 (see also, Figure 3). The fluctuation over time largely reflected the growing magnitude of total wealth, as well as the cycles of boom and bust in the financial markets during the late 1990s and early 2000s.

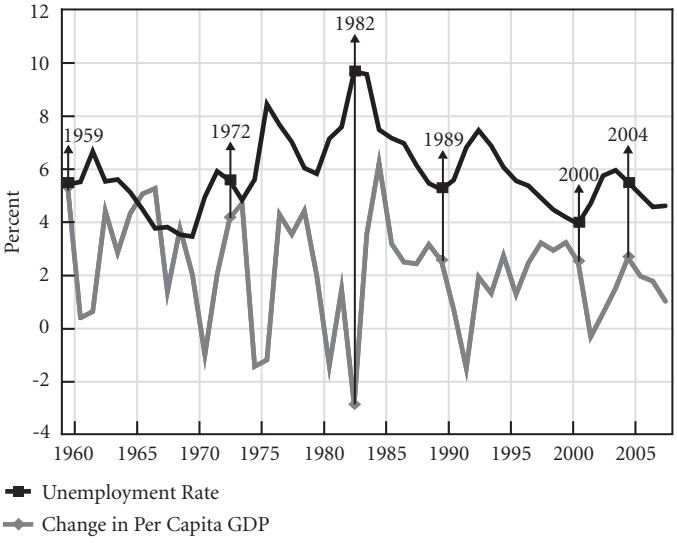
Net government expenditures as a share of LIMEW rose from 1.8 to 4.1 percent between 1959 and 1982 before declining to 1.6 percent by 2000 and then increasing sharply to 6.8 percent

Figure 1 **Annual Hours of Housework, Market Work, and Total Work by Sex, 1959–2004 (mean values, persons 19 years and older)**



Source: Authors' calculations

Figure 2 **Unemployment Rate and the Annual Change in Per Capita Real GDP, 1959–2007 (in percent)**



Source: U.S. Bureau of Economic Analysis, NIPA, Table 7.1; BLS 2009

Table 3 Composition of the LIMEW by Quintile, 1959–2004 (in percent)

Quintiles	Mean LIMEW (in 2007 dollars)	Total	Base Income	Income from Wealth	Net Government Expenditures	Household Production
1959						
Lowest	20,057	100	45.9	10.1	11.4	32.7
Second	42,754	100	53.7	7.4	7.7	31.2
Third	62,442	100	58.0	6.4	3.2	32.4
Fourth	83,163	100	57.5	7.0	1.4	34.1
Highest	148,031	100	53.9	15.8	-1.6	32.0
All	71,289	100	55.0	10.8	1.8	32.5
1972						
Lowest	21,934	100	42.4	7.1	27.8	22.7
Second	44,782	100	52.1	8.5	17.3	22.1
Third	65,448	100	61.9	8.2	7.1	22.8
Fourth	89,914	100	64.6	8.8	2.2	24.4
Highest	159,263	100	58.7	21.7	-4.2	23.8
All	76,270	100	58.9	13.9	3.6	23.5
1982						
Lowest	23,571	100	43.6	7.4	30.7	18.3
Second	42,896	100	55.1	7.7	18.4	18.8
Third	61,555	100	59.3	8.1	11.7	20.9
Fourth	84,908	100	64.6	9.3	3.7	22.4
Highest	163,938	100	56.1	29.9	-6.0	20.0
All	75,375	100	57.7	17.8	4.1	20.5
1989						
Lowest	28,359	100	50.9	6.8	21.6	20.7
Second	52,065	100	54.4	7.4	15.8	22.4
Third	74,670	100	57.7	8.1	10.1	24.2
Fourth	103,231	100	60.7	10.2	4.0	25.2
Highest	198,670	100	53.1	30.6	-5.8	22.1
All	91,401	100	55.6	18.2	3.2	23.1
2000						
Lowest	30,536	100	56.3	6.5	18.0	19.3
Second	56,640	100	57.4	7.5	13.2	21.8
Third	82,488	100	58.1	8.7	9.8	23.5
Fourth	116,306	100	58.0	11.7	5.2	25.0
Highest	265,704	100	50.5	37.0	-6.9	19.3
All	110,338	100	54.3	22.7	1.6	21.4
2004						
Lowest	31,119	100	53.4	4.2	22.2	20.3
Second	58,538	100	52.3	5.8	19.1	22.8
Third	85,772	100	53.0	7.4	15.1	24.5
Fourth	121,293	100	53.0	10.2	11.3	25.4
Highest	260,861	100	51.4	32.1	-2.7	19.1
All	111,519	100	52.2	19.2	6.8	21.8

Source: Authors' calculations

in 2004. The initial increase reflected the sharp growth in transfers and, to a lesser extent, public consumption that outstripped the growth in taxes (Figure 3). The subsequent decline after 1982 reflected the opposite trend, when taxes rose much faster than transfers and public consumption. The sharp increase after 2000 reflects the plunge in average taxes by $3,300 (in 2007 dollars),[9] from 16.6 to 13.4 percent of LIMEW, combined with the growth in transfers and public consumption.

The share of household production in the LIMEW fell sharply, from 32.5 percent in 1959 to 20.5 percent in 1982, before rebounding to 23.1 percent in 1989 and subsequently falling to less than 22 percent thereafter. The composition of the LIMEW in terms of household production clearly exhibits a countercyclical pattern as well as the decline in housework, which was particularly evident between 1959 and 1982 (see Table 2 and Figure 1).

Table 3 shows marked differences in the importance of various components in the LIMEW across quintiles. Income from wealth becomes progressively more important, ranging from 4.2 percent for the lowest quintile to 32.1 percent for the highest quintile in 2004. The opposite is the case for net government expenditures, which ranged from 22.2 percent for the lowest quintile to minus 2.7 percent for the highest quintile. There is much less variation across quintiles in terms of base income and household production. Base income shows almost no variation, although in earlier years its share tended to peak in the third and fourth quintiles. The share of household production tended to rise between the lowest and fourth quintile before falling off for the highest quintile.

It is also interesting to examine how the composition of the LIMEW has changed for households in different parts of the distribution because the relative importance of individual components can vary across quintiles. It appears that the most dramatic changes take place at the bottom and top of the distribution. For the lowest quintile, the share of net government expenditures surged from 11.4 percent in 1959 to 27.8 percent in 1972, and to 30.7 percent in 1982, which was due, most likely, to a deep recession. The share of net government expenditures then fell to 21.6 percent in 1989 and to 18.0 percent in 2000, before returning to its 1989 share of 22.2 percent in 2004. The share of base income for the lowest quintile decreased slightly, from 45.9 percent in 1959 to 43.6 percent in 1982, rose to 50.9 percent in 1989 and to 56.3 percent in 2000, and subsequently fell to 53.4 percent in 2004. In contrast, there was a substantial and almost continuous fall in the share of income from wealth (from 10.1 percent in 1959 to 4.2 percent in 2004), while the share of household production also fell during the period, from 33.6 to 20.3 percent.

Figure 3 Composition of the LIMEW, 1959–2004 (in percent)

	Base Income	Income from wealth	Government transfers	Public consumption	Taxes	Household production
1959	55.0	10.8	4.3	7.2	-9.7	32.5
1972	58.9	13.9	7.8	11.0	-15.2	23.5
1982	57.6	17.7	10.2	10.1	-16.1	20.5
1989	55.6	18.2	9.1	9.5	-15.4	23.1
2000	54.3	22.7	9.2	9.0	-16.6	21.4
2004	52.2	19.2	10.8	9.4	-13.4	21.8

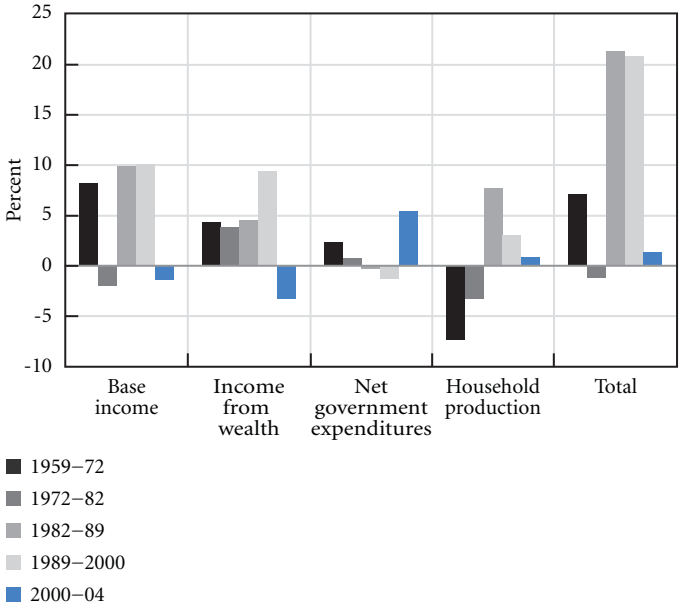
Source: Authors' calculations

There was a sizable increase in the share of income from wealth for the highest quintile, which rose from 15.8 percent in 1959 to 29.9 percent in 1982 and to 37.0 percent in 2000 before declining to 32.1 percent in 2004. This was accompanied by a decline in the relative importance of base income (from 54.0 to 51.4 percent) and household production (from 32.0 to 19.1 percent). The share of net government expenditures also fell, from minus 1.6 percent in 1959 to minus 6.9 percent in 2000 before rising sharply to minus 2.7 percent in 2004. Thus, it appears that the transformation in the structure of well-being over four decades played out differently for households in the lowest and highest quintiles. For households at the bottom of the distribution, the transformation meant a greater reliance on base income (mainly labor income) and net government expenditures. For households at the top of the distribution, however, income from wealth became significantly more important in lieu of base income and household production.

Sources of Growth of the LIMEW

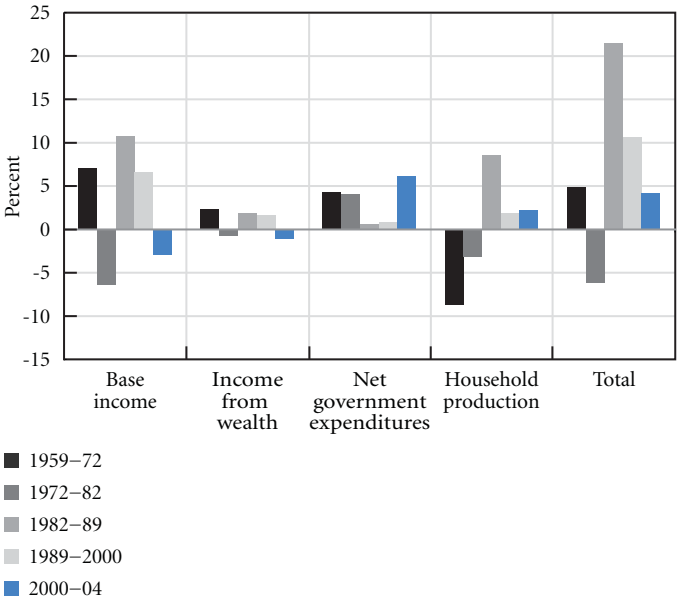
Figure 4 shows the contribution to the overall change in mean LIMEW by component and subperiod. From 1959 to 1972, mean LIMEW grew by 8 percent. The main contributor was the growth in base income, which accounted for 8.1 percentage points. The

Figure 4 Contribution to the Percentage Change in Mean LIMEW (in percent)



Source: Authors' calculations

Figure 5 Contribution to the Percentage Change in Mean LIMEW of the Third Quintile (in percent)



Source: Authors' calculations

growth of income from wealth and net government expenditures accounted for another 5.0 and 2.1 percentage points, respectively. In contrast, household production subtracted 7.4 percentage points from overall growth. Between 1972 and 1982, mean LIMEW fell by 2.4 percentage points. The growth in income from wealth and net government expenditures both made positive contributions, whereas base income and household production declined in absolute terms.

Mean LIMEW surged by 21.3 percent between 1982 and 1989. The main contributors were the growth in base income (9.7 percentage points) and household production (7.5 percentage points), while income from wealth added 4.3 percentage points. Mean LIMEW surged another 20.7 percent between 1989 and 2000, when base income and income from wealth made almost equal contributions (9.9 and 9.3 percentage points, respectively), household production added 2.8 percentage points, and net government expenditures showed negative growth.

Mean LIMEW grew by a meager 1.1 percent between 2000 and 2004 because of declines in base income and income from wealth, a rather small contribution of 0.6 percentage points from household production, and an additional 5.2 percentage points from government expenditures.

Over the entire 1959–2004 period, mean LIMEW registered a 56 percent increase, of which 47 percent (26.7 percentage points) emanated from the growth in base income and 34 percent (19.3 percentage points) from the gains in income from wealth. Net government expenditures contributed 16 percent (8.8 percentage points), whereas household production remained virtually unchanged over the period.

The Middle Class

We now turn to a closer examination of the changes in the third quintile of the LIMEW distribution, because the trends in the mean value of LIMEW for this quintile provide a close approximation to the changes in the median LIMEW for all households. Focusing on the mean LIMEW for the third quintile allows us to assess the roles played by different components of the LIMEW in the well-being of the average household. The third quintile is sometimes considered the "middle class," and we follow that convention here. As noted before, median LIMEW in 1982 was lower than in 1959. The same pattern could be observed also for mean LIMEW for the third quintile. The decline in the latter was partially due to the decline in household production from 32.4 to 20.9 percent or $7,400 (see Tables 3 and 4, and Figure 5). Housework hours and the unit value of housework represented

Table 4 Contribution of Major Components to the Change in Middle-Class[1] Economic Well-Being, by Period and Measure (in percentage points)

	1959–72			1972–82			1982–89			1989–2000			2000–04			1959–2004		
	LIMEW	EI	MI	LIMEW	EI	MI	LIMEW	EI	MI	LIMEW	EI	MI	LIMEW	EI	MI	LIMEW	EI	MI
Base income	6.9	11.0	10.3	-6.2	-6.5	-7.1	10.7	12.4	12.7	6.5	5.6	6.2	-3.0	-1.7	-3.7	14.8	23.6	19.7
Income from wealth	2.2	6.5	2.2	-0.6	8.1	2.2	1.7	-3.3	0.6	1.5	-0.1	-1.9	-1.0	-4.2	-1.4	3.8	6.0	1.1
Home wealth	1.6	4.2		-0.8	7.3		0.5	-4.5		-0.4	0.1		-0.6	-1.9		-0.2	4.9	
Nonhome wealth	0.7	2.2		0.2	0.8		1.2	1.2		2.0	-0.2		-0.4	-2.3		3.9	1.1	
Net government expenditures	4.2	5.2	6.3	3.9	0.8	2.8	0.5	-1.6	-1.2	0.7	2.6	1.1	6.0	4.3	1.1	17.6	14.0	11.0
Transfers	5.3	10.8	6.3	3.9	3.7	2.8	0.6	0.9	-1.2	2.2	3.4	1.1	2.7	2.3	1.1	16.2	24.3	11.0
Public consumption	4.4			-0.5			2.0			1.5			0.6			8.5		
Taxes	-5.6	-5.3		0.5	-3.0		-2.1	-2.5		-3.0	-0.8		2.7	2.1		-7.1	-10.1	
Household production[2]	-8.6			-3.1			8.4			1.8			2.0			1.3		
Total[3]	4.8	22.7	18.8	-5.9	2.3	-2.1	21.3	7.4	12.2	10.5	8.1	5.3	4.0	-1.5	-4.0	37.4	43.6	31.9
Addendum: Decomposition of the change in household production (in percent)																		
Total change	100.0			100.0			100.0			100.0			100.0			100.0		
Contribution to the change from:																		
Change in hours	-45.5			10.8			2.4			-15.1			30.8			-266.7		
Change in unit value	-54.5			-110.8			97.6			115.1			69.2			366.7		

1. *Middle class* refers to the third quintile of the measure.

2. Unit value of household production equals total value of household production divided by total hours of household production.

3. Refers to the percent change in the third quintile's average between the two years.

Source: Authors' calculations

28 and 72 percent of the decline, respectively (numbers not shown). This decline was partially offset by robust growth in net government expenditures, which climbed from 3.2 to 11.7 percent of the LIMEW, or by $5,200. Another reason for sluggish growth of the LIMEW was the drop in base income between 1972 and 1982 (from 61.9 to 59.3 percent, or by $4,800) that wiped out the $4,400 gain in the previous period.

The composition of the LIMEW for the middle quintile remained relatively stable from 1982 to 1989. It appears that the high growth rate of overall median LIMEW (2.8 percent per year) and mean LIMEW of the middle quintile was due to the relatively balanced growth of all four components. In particular, average base income for the middle quintile rose by $6,600, and household production increased by $5,200. Most of the gain (97 percent) in household production was due to a rise in the unit value of housework.

The growth of overall median LIMEW and mean LIMEW for the middle quintile slowed between 1989 and 2000. The composition of the LIMEW for the middle quintile was relatively stable, so the slowdown in overall growth was attributable to all components. Between 2000 and 2004, however, the composition of the LIMEW shifted dramatically in favor of net government expenditures, which rose by $4,900, while base income and income from wealth declined by $2,500 and $800, respectively.

Mean LIMEW of the middle quintile grew by 37 percent (the same as median LIMEW for all households) over the 1959–2004 period. Almost half of the gain (17.6 percentage points) was due to an increase in net government expenditures (see Table 4 and Figure 5) in the form of an increase in transfers (16.2 percentage points) and public consumption (8.5 percentage points), while an increase in the tax burden subtracted 7.1 percentage points. Base income added 14.8 percentage points (or 40 percent) to the growth of the middle class, while income from wealth represented less than 4 percentage points (nonhome wealth accounted for more than 100 percent, since home wealth declined slightly). Household production related to the middle class barely changed, on net, over the period.

Table 4 also presents the major components of the middle quintile for the EI and MI measures. According to EI, the economic well-being of the middle class improved by 43.6 percent between 1959 and 2004. The improvement stemmed from an increase in base income (54 percent, or 23.6 percentage points);

net government expenditures (32 percent); and income from wealth (14 percent). According to MI, the middle class improved by 31.9 percent due to the growth in base income (62 percent, or 19.7 percentage points) and cash transfers (35 percent).

According to the LIMEW measure, the public sector was the leading source of the growth of middle class well-being between 1959 and 2004. Labor income also contributed strongly to well-being, while the gain in income from wealth was relatively minor. According to the EI and MI measures, however, most of the growth of middle class well-being was due to the rise in labor earnings.

Conclusion

We find that, by any measure, median household well-being grew sluggishly over the 1959–2004 period, particularly when compared to the annual growth rate of GDP per capita (2.2 percent). EI showed the highest annual growth rate (0.8 percent), followed by the LIMEW (0.7 percent) and MI (0.6 percent). When we exclude household production from the LIMEW to obtain PFI, however, the annual growth rate is 1.0 percent, because household production for the middle quintile showed almost no change over the period. In fact, median hours of housework fell by 19 percent, but this was offset entirely by an increase in the unit value of household work.

The various measures exhibit different responses over time. MI and EI showed much higher growth than the LIMEW from 1959 to 1972, but the LIMEW grew faster from 1972 to 2004, particularly in the 1982–89 period. It appears that the main factor in the differences in economic well-being is the composition of the measures.

Base income as a share of the LIMEW declined from 1959 to 2004, particularly after 1972, while income from wealth increased, particularly from 1989 to 2000. Both government transfers and public consumption grew substantially from 1959 to 1982 but showed only minor fluctuations in subsequent years. Taxes showed a big increase from 1959 to 1972 before remaining somewhat stable and then registering a marked decline between 2000 and 2004.

The compositional change of the LIMEW differed between the top and bottom quintiles. Between 1959 and 2004, households at the bottom of the distribution became more reliant on base income (mainly labor income) and net government expenditures. On the other hand, income from wealth almost doubled as a share of the LIMEW for households at the top of the distribution. For the middle quintile, net government expenditures accounted for half of the overall increase in the LIMEW (i.e., transfers and public consumption). Base income accounted for another 40 percent, while gains in income from wealth were relatively small.

The period from 2000 to 2004 is particularly interesting. Median LIMEW grew by 1.0 percent annually, while median MI and EI showed net declines. Net government expenditures accounted for *150 percent* of the growth of the LIMEW (due equally to gains in transfers and reductions in taxes) as base income and income from wealth declined in absolute terms. Indeed, as shown in Table 5, this was a period when the total government balance (i.e., all levels of government) underwent an enormous shift—from a surplus of $159 billion to a deficit of $509 billion.

On a final note, it is important to recognize the crucial role of net government expenditures in the economic well-being of the population; particularly, the poor and the middle class. As noted above, the largest source of increase in the LIMEW for the middle class over 1959–2004 was the growth in net government spending (especially in the early 2000s). It is worth noting that the Obama Administration's proposed design for a fiscal stimulus package could improve the broader economic well-being of the poor and the middle class while also creating jobs.

Acknowledgments

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Notes

1. The Bureau described this income measure as "money income plus realized capital gains (losses), less income and payroll taxes, plus [the] value of employer-provided health benefits and all noncash transfers, plus imputed return [on] home equity" (U.S. Census Bureau 2003). From 2006 onward, the Bureau has introduced a measure called "disposable income" (DI) that differs from EI due to the exclusion of imputed values for health insurance (both employer-provided health insurance and government-provided Medicare and Medicaid). DI is also different from EI because it is net of work-related expenses (U.S. Census Bureau 2007).
2. This is consistent with the approach adopted in the U.S. national accounts.

Table 5 Government Receipts and Expenditures, 1959–2004 (in billions of dollars)

	1959	1972	1982	1989	2000	2004
Total receipts[1]	124.8	353.6	948.6	1,638.8	3,161.6	3,284.5
Tax payments in the LIMEW[2]	51.2	161.8	476.4	787.0	1,644.9	1,545.4
Other receipts	73.6	191.8	472.2	851.8	1,516.7	1,739.1
Total expenditures[3]	130.6	369.9	1,106.4	1,815.5	3,002.6	3,793.2
Government expenditures in the LIMEW	60.5	200.1	597.1	949.3	1,803.1	2,322.5
Transfers	22.5	82.9	300.7	464.6	911.3	1,238.3
Public consumption	38.0	117.2	296.4	484.7	891.8	1,084.2
Other expenditures	70.1	169.8	509.3	866.2	1,199.5	1,470.7
Net government expenditures in the LIMEW	9.3	38.3	120.7	162.3	158.2	777.1
Other net government expenditures	-3.5	-22.0	37.1	14.4	-317.2	-268.4
Total net government expenditures[4]	5.8	16.3	157.8	176.7	-159.0	508.7

1. Total receipts (NIPA Table 3.1, line 30) are the sum of current taxes, contributions for government social insurance, income receipts on assets, current transfer receipts, and current surplus of government enterprises.
2. Tax payments in the LIMEW consist of income taxes, payroll taxes, and property taxes on owner-occupied homes.
3. Total expenditures (NIPA Table 3.1, line 33) consist of current transfer payments, interest payments, subsidies, consumption expenditures and gross investment, capital transfer payments, and purchases of nonproduced assets.
4. Net government expenditures are expenditures minus taxes (receipts).
Source: Authors' calculations

3. This method gives a better indication of resource availability on a sustainable basis over the expected lifetime than the standard bond-coupon method. The latter simply applies a uniform interest rate to the value of nonhome wealth. It thereby assumes away differences in overall rates of return for individual households ascribable to differences in household portfolios. It also assumes that the amount of wealth remains unchanged over the expected (conditional) lifetime of the wealth holder.
4. The rate of return used in our procedure is real total return (the sum of the change in capital value and income from the asset, adjusted for inflation). For example, the real total return for stocks would be the inflation-adjusted sum of the change in stock prices plus dividend yields.
5. In the case of Medicare and Medicaid—by far the biggest items in this list—the relevant cost is the "insurance value" differentiated by risk classes.
6. The third-party principle is sometimes ambiguous in the case of personal care activities such as shaving (see OECD 1995, p. 11).
7. The equivalence scale used here is the three-parameter scale employed in the U.S. Census Bureau's (2001) experimental poverty measures. The three parameters attempt to take into account the following features of household consumption: on average, children consume less than adults; consumption rises less than proportionately with household size; and, the increase in household consumption is generally more when a child is added to a single-person family than when a child is added to a two-person family.
8. Mean annual hours for adults increased by 0.04 percent and median hours for households declined by minus 0.18 percent during this period (calculations are not shown in the table).
9. All dollar values for the remainder of this publication are in 2007 dollars, unless otherwise noted.

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