



Levy Economics Institute of Bard College

---

# ***Public Policy Brief***

---

No. 146, 2018

## **STAGNATING ECONOMIC WELL-BEING AND UNRELENTING INEQUALITY: POST-2000 TRENDS IN THE UNITED STATES**

AJIT ZACHARIAS, THOMAS MASTERSON, and FERNANDO RIOS-AVILA

# Contents

---

## 3 Preface

Jan Kregel

## 4 Stagnating Economic Well-Being and Unrelenting Inequality: Post-2000 Trends in the United States

Ajit Zacharias, Thomas Masterson, and Fernando Rios-Avila

## 22 About the Authors

---

The Levy Economics Institute of Bard College, founded in 1986, is an autonomous research organization. It is nonpartisan, open to the examination of diverse points of view, and dedicated to public service.

The Institute is publishing this research with the conviction that it is a constructive and positive contribution to discussions and debates on relevant policy issues. Neither the Institute's Board of Governors nor its advisers necessarily endorse any proposal made by the authors.

The Institute believes in the potential for the study of economics to improve the human condition. Through scholarship and research it generates viable, effective public policy responses to important economic problems that profoundly affect the quality of life in the United States and abroad.

The present research agenda includes such issues as financial instability, poverty, employment, gender, problems associated with the distribution of income and wealth, and international trade and competitiveness. In all its endeavors, the Institute places heavy emphasis on the values of personal freedom and justice.

Editor: Michael Stephens  
Text Editor: Elizabeth Dunn

The Public Policy Brief Series is a publication of the Levy Economics Institute of Bard College, Blithewood, PO Box 5000, Annandale-on-Hudson, NY 12504-5000.

For information about the Levy Institute, call 845-758-7700, e-mail [info@levy.org](mailto:info@levy.org), or visit the Levy Institute website at [www.levyinstitute.org](http://www.levyinstitute.org).

The Public Policy Brief Series is produced by the Bard Publications Office.

Copyright © 2018 by the Levy Economics Institute. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information-retrieval system, without permission in writing from the publisher.

ISSN 1063-5297

ISBN 978-1-936192-62-5

## Preface

---

In this policy brief, Ajit Zacharias, Thomas Masterson, and Fernando Rios-Avila update the latest results of the Levy Institute Measure of Economic Well-Being (LIMEW) for US households. The LIMEW is aimed at capturing a more comprehensive picture of trends in economic well-being. To that end, alongside base income (which consists mainly of money earnings), the LIMEW includes the following: income from wealth (gross imputed rent of owner-occupied homes and imputed income from nonhome wealth); net government expenditures that support household consumption (cash and noncash transfers from all levels of government, plus public consumption, minus taxes paid); and the value of household production (measured by multiplying hours of household work by their replacement cost). Zacharias, Masterson, and Rios-Avila analyze developments in well-being over the period 2000–13 at all levels of the LIMEW distribution, with a particular focus on the significant role played by net government expenditures.

The overall picture for 2000–13 is one of historic stagnation in economic well-being. The entire period registered the slowest LIMEW growth on record for the median household (compared to 1959–72, 1972–89, and 1989–2000). Examining changes in the different components of the LIMEW reveals that significant shifts were taking place behind this headline trend. For the median household, a sharp decline in base income was offset by a slightly larger increase in net government expenditures—chiefly in the form of transfers, and in particular increases in Medicare and Medicaid spending—which made the difference for those households in the middle of the distribution between outright decline (in income alone) and mere stagnation.

The quintiles of the LIMEW distribution above and below the middle also experienced a historic slowdown in improvements in overall well-being. The authors observe that this stagnation in well-being began before the Great Recession and persisted well after it. Moreover, it appears that net government expenditures played a crucial role, not just for the median household, but for all: “it is quite appropriate to characterize

the period since [2000],” the authors explain, “as marked by a growing dependence on the government to sustain economic well-being.” By 2013, the bottom 80 percent of households in the *pre-fiscal* (that is, before the effects of net government expenditures) income distribution were net beneficiaries of government support—up from 70 percent in 2000. And while households in the top quintile of the pre-fiscal distribution are net payers on average, they benefitted the most from changes in net government expenditures over the 2000–13 period: that is, the net payments of the average household in the top quintile declined by more than the increase in the net benefits received by the average household in any of the other quintiles (the key factor being the decrease in taxes paid by the top quintile). In other words, redistributive policy over this period came to be perversely oriented around supporting the economic well-being of the richest households. Nevertheless, inequality in LIMEW ended up in 2013 little different from where it started in 2000. Inequality lessened in the early part of the twenty-first century but then widened again after the Great Recession concluded. Net government expenditures played a key role in stabilizing inequality, as inequality in pre-fiscal income did grow during the Great Recession.

The United States is the only developed nation that does not routinely publish official statistics on the post-tax, post-transfer distribution of income. As such, the LIMEW research program continues to fill an unfortunate gap in our understanding of the changes in economic well-being affecting US households.

As always, I welcome your comments.

Jan Kregel, *Director of Research*  
August 2018

## Introduction<sup>1</sup>

In 2001, we launched a research program on the measurement of economic well-being, which developed into the Levy Institute Measure of Economic Well-Being (LIMEW), with the belief that more comprehensive measures were required for a better understanding of the trends in American living standards (Wolff and Zacharias 2003). Internationally, efforts of this nature received a major endorsement with the 2009 report of the Commission on the Measurement of Economic Performance and Social Progress<sup>2</sup> (CMEPSP), which recommended a shift in the measurement of economic well-being: taking into account nonmarket activities and the multidimensional nature of the concept of well-being (Stiglitz, Sen, and Fitoussi 2009). The measure of economic well-being advocated in the report is described as “full income.” Unlike the LIMEW, the concept of full income is based broadly on the utilitarian tradition in economic analysis, whereas the LIMEW concept is based on a materialist approach. However, the two measures overlap to some extent because of the inclusion of publicly provided services and household production in both.<sup>3</sup>

Three years after the creation of the CMEPSP, the Organisation for Economic Co-operation and Development launched the “How’s Life?” measurement exercise in 2011, partly as a follow-up to the report of the Commission. But this effort does not involve the development of a comprehensive income measure. Instead, it examines progress (or deterioration) using multiple indicators, such as income and wealth, housing, work-life balance, etc.—very much in line with the indicators approach to the measurement of social and economic well-being.<sup>4</sup> On the other hand, the Canberra Group, an international group of experts on household income statistics, advocated for an expanded measure of income that is quite similar to the full-income notion and overlaps with the LIMEW in the same areas (Canberra Group 2011).<sup>5</sup>

Compared to the international push from developed countries toward broader measures of income, the United States seems to be going backwards. The Census Bureau—which publishes the most widely used measure of economic well-being in the United States, money income (MI)—has retreated from the promotion of broader measures of income. From the mid-2000s, the Bureau ceased issuing reports displaying income distributions using broader measures of income than MI, thereby breaking a practice that was begun in the early 1980s.<sup>6</sup> While the Census Bureau continues to provide tools to estimate their

various official definitions of income, they no longer offer these aggregates on their website.<sup>7</sup> It is unfortunate that the United States appears to be the only advanced industrialized nation that does not publish regular, official statistics on the post-tax, post-transfer distribution of household income (Zacharias 2014). We hope that the estimates we present here for the recent years contribute toward filling the lacuna, by providing some insights on the changes and evolution of well-being in the United States after the events of the Great Recession (see, *inter alia*, Armour, Burkhauser, and Larrimore 2013; CBO 2016; Smeeding and Thompson 2011).

Although the Great Recession was clearly a traumatic event for many households’ economic well-being, trends in both the LIMEW and MI suggest that the slowdown in the growth of living standards started prior to the Great Recession and did not end when the recession did. In fact, the growth in economic well-being seen prior to 2000 slowed down to a crawl at all levels of the income distribution. The stagnation of earnings after 2000 is the culprit, and only the growth of net government expenditures sustained economic well-being for all. This is not to say that net government expenditures favored all equally. In terms of both lower taxes and greater benefits received, the richest households received the greatest boost from changes in the structure of net government expenditures since 2000. Inequality as a whole remained stable but high after 2000 compared to earlier periods. Inequality fell slightly during the early 2000s, but the Great Recession did little to reduce inequality; afterwards, inequality rose again to end up roughly where it had started the new century.

The rest of this report is organized as follows. In the next section we outline the components of the LIMEW. We next break down trends in economic well-being for the middle of the distribution of economic well-being. We then compare these trends to those of the bottom and the top of the distribution. We move on to analyze the impact of government support for households and how this has changed over time. Finally, we analyze the high levels of inequality that persist in the United States. The final section summarizes our findings.

## Major Components of the LIMEW

In Table 1, we provide a comparison of the LIMEW and the US Census Bureau’s most comprehensive measure of disposable income, which we call extended income (EI) (Wolff and Zacharias 2007a). As would be evident from a perusal of the

**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>Plus:</i> In-kind compensation from work	<i>Plus:</i> In-kind compensation from work
Employer contributions for health insurance*	Employer contributions for health insurance*
<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 <sup>1</sup>	Income taxes
Payroll taxes <sup>1</sup>	Payroll taxes
Property taxes <sup>1</sup>	Property taxes
Consumption taxes*	
<i>Plus:</i> Cash transfers <sup>1</sup>	<i>Plus:</i> Cash transfers
<i>Plus:</i> Noncash transfers <sup>1,2</sup>	<i>Plus:</i> Noncash transfers
<i>Plus:</i> Public consumption	
<i>Plus:</i> Household production	
<i>Equals</i> LIMEW	<i>Equals</i> EI

Note: \*Estimates are not available for 1959 and 1972. For the purpose of achieving as much consistency as possible over time, we have omitted these items from the estimates of LIMEW and EI presented in this report. (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.

items in the table, information required to estimate the LIMEW has to be assembled from a variety of sources. Our basic strategy is to take the (arguably) best representative sample of households containing detailed income and demographic information and successively add on the information required to construct the LIMEW for each individual and household in the sample. A detailed description of the empirical methodology is provided in Zacharias, Masterson, and Rios-Avila (forthcoming). Here, we provide a conceptual description of the major components of the LIMEW.

The LIMEW is composed of four major components: base income, income from wealth, net government expenditures, and the value of household production (Wolff, Zacharias, and Masterson 2012). Base income is the largest component of the

LIMEW and consists mostly of earnings. It is essentially what is left from MI after property income and cash transfers are removed. We remove these components for different reasons. Property income is removed because we treat the economic benefit of wealth more comprehensively than just the sum of the rent, interest, and dividends received. It is replaced by our measure of income from wealth. This comprises gross imputed rent and income from nonhome wealth. Imputed rent represents the value of housing services from owner-occupied homes. Income from nonhome wealth is an annuity calculated from a household's net worth (excluding the value of primary residence) using the household's expected lifespan and historical rates of return that are differentiated between five major types of nonfinancial assets and debt. By assuming that a household's net worth is spent over the period of the household's remaining life,<sup>8</sup> we arrive at a measure of the impact of a household's net worth on its economic well-being that is a more accurate reflection than property income (Wolff and Zacharias 2009).<sup>9</sup>

As noted above, cash transfers are removed from MI as a first step, but they are added back in when we get to net government expenditures. To arrive at a measure of net government expenditures, we add cash *and noncash* transfers from federal, state, and local governments to households, subtract the taxes paid by households, and add what we call "public consumption": all expenditures by government that directly augment the potential or actual consumption of households, but are not accounted for in the official income statistics (such as spending on education, infrastructure, and public health). We refer to the sum of these three components as net government expenditures because it nets out the amount that households pay in taxes from the amount that government spends directly for households (Wolff and Zacharias 2007b). Finally, we add the value of household production, which is calculated by multiplying the annual hours of household production work (cooking, cleaning, shopping, caring, etc.) by a measure of replacement costs (domestic workers' average wages multiplied by an index based on household income, education, and time available). These four components together make up the LIMEW.

## Changing Fortunes of the Middle-Income American Household

Since we have analyzed the trends over the pre-2000 period in detail elsewhere (e.g., Wolff, Zacharias, and Masterson 2012), we focus here on placing recent developments in light of the historical record. We begin by looking at the households in the middle of the distribution of economic well-being.

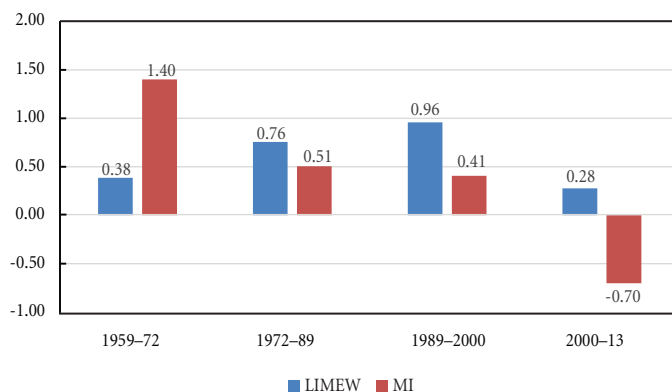
The most striking finding is that the average household has fared quite poorly in the present century (at least until 2013), compared to earlier periods. This observation is qualitatively valid irrespective of whether the LIMEW or MI is used as the yardstick. The annual rate of change in the median LIMEW and MI is lower during the 2000–13 period than during the periods 1989–2000, 1972–89, and 1959–72 (Figure 1). MI has actually shrunk for the median household since 2000.

Because the LIMEW includes the value of household production and public consumption, it is worthwhile to examine if our finding regarding the dramatic slowdown in the increase in economic well-being is robust to their exclusion. Excluding the value of household production results in a measure that we describe as “post-fiscal income” (PFI). Excluding the value of household production and public consumption leads to “comprehensive disposable income” (CDI). Our estimates show that both measures displayed considerable deceleration in the 2000s relative to the earlier periods (Figure 2).<sup>10</sup> We also considered the trajectory of the broad definition of disposable income that the US Census Bureau has used in the past. The estimates of this measure—described by us as “extended income” (EI)—are also shown in Figure 2 and indicate stagnation in the economic well-being of the “average” household during the 2000s.

The average household did change over the period under consideration in terms of its size and composition. Households tended to become smaller and contain fewer children. Hence, it is important to consider if our finding of stagnant or slowly growing living standards during the 2000s withstands the adjustment required to reflect the changes in the structure of the household. We made the adjustment via the standard device of an equivalence scale.<sup>11</sup> Our key finding emerged qualitatively unscathed in terms of the changes in equivalent LIMEW, MI, and EI (Figure 3).

The absolute levels of the median values of LIMEW and MI (in 2013 dollars) over the 2000s are shown in Figure 4 to depict the changes across the benchmark years. It can be seen that the median LIMEW showed a moderate improvement of about

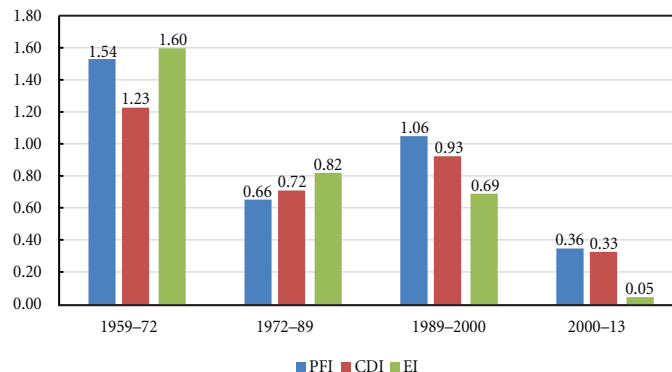
**Figure 1 Annual Percent Change in Median LIMEW and MI (adjusted for inflation), 1959–2013**



*Note:* The estimates of the median values of all the measures in this figure for all the benchmark years can be found in the online Supplemental Tables (1a) at [http://www.levyinstitute.org/pubs/LIMEW\\_supplemental\\_tables.xlsx](http://www.levyinstitute.org/pubs/LIMEW_supplemental_tables.xlsx)

*Source:* Authors’ calculations

**Figure 2 Annual Percent Change in Median PFI, CDI, and EI (adjusted for inflation), 1959–2013**



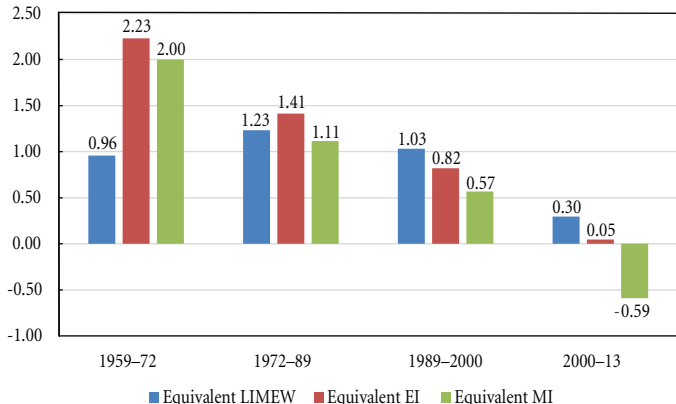
*Notes:* PFI (post-fiscal income) equals LIMEW minus the value of household production. CDI (comprehensive disposable income) equals LIMEW minus the value of household production and public consumption. EI (extended income) is our term for the broad definition of disposable income that the US Census Bureau used to publish (see Introduction).

The estimates of the median values of all the measures in this figure for all the benchmark years can be found in the online Supplemental Tables 1a.

*Source:* Authors’ calculations

\$5,000, or 5 percent, between 2000 and 2004 to reach a level of around \$100,000; it stagnated around that level in 2007 and 2010 before declining by approximately \$3,000, or 3 percent, between 2010 and 2013. In terms of MI, the picture is bleaker, as the median value of MI declined from roughly \$57,000 in 2000 to somewhat lower levels in 2004 and 2007 before falling sharply in 2010 and 2013. In fact, the median MI in 2013 was

**Figure 3 Annual Percent Change in Median Equivalent LIMEW, EI, and MI (adjusted for inflation), 1959–2013**



Notes: See note 11 for the description of the equivalence scale. EI (extended income) is our term for the broad definition of disposable income that the US Census Bureau used to publish (see Introduction).

The estimates of the median values of all the measures in this figure for all the benchmark years can be found in the online Supplemental Tables 1a.

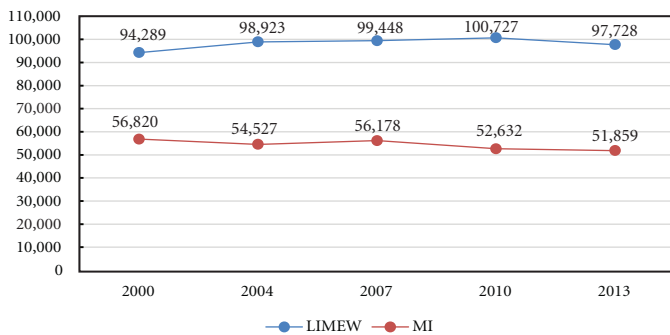
Source: Authors' calculations

about \$5,000 lower than in 2000. Both indicators suggest that the slowdown in the growth of living standards started *prior* to the Great Recession and did not display any recovery four years after the “official” end of the recession in June 2009.

The dismal trend in median MI during the 2000–13 period is a reflection of a stagnation in pay, since MI is made up mostly of earnings. This raises a question about why the trend in median LIMEW was less bleak than in median MI. Since the median value of LIMEW cannot be decomposed into its components, we focus on the average values of LIMEW and its components for the third quintile of the LIMEW distribution in order to address this question. The average value of LIMEW for its third quintile tracks its median value very closely.

We found that the average base income of the middle quintile showed a sharp decline between 2000 and 2013 (Figure 5, right axis). As it turned out, the decline was roughly equivalent to the decline in median MI (about \$5,000). However, this was more than offset by the dramatic increase of about \$8,000 in average net government expenditures between 2000 and 2013 (Figure 5, left axis). By construction, MI does not capture net government expenditures, as it includes only cash transfers and excludes noncash transfers and public consumption; it is also gross of taxes. The reason that the trend in median LIMEW

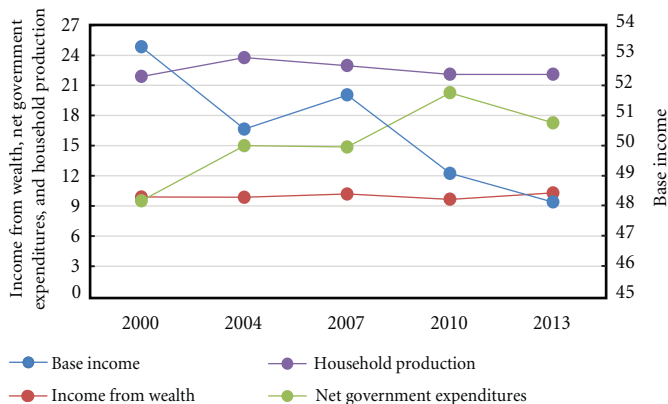
**Figure 4 Median Values of LIMEW and MI (2013 dollars), 2000–13**



Note: The estimates of the median values of all the measures in this figure for all the benchmark years can be found in the online Supplemental Tables 1a.

Source: Authors' calculations

**Figure 5 Average Values of Base Income (right axis), Income from Wealth, Net Government Expenditures, and Value of Household Production (left axis) of Households in the Third Quintile of LIMEW (thousands of 2013 dollars), 2000–13**



Note: The estimates of the average values of LIMEW and its major components that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 2b.

Source: Authors' calculations

appears to be less bad than median MI is therefore due to the former being a more accurate reflection of the forces impinging on living standards.

The rise in average net government expenditures between 2000 and 2013 for households in the middle-income group was driven almost entirely by the increase in average transfers. Reductions in the average taxes paid by this group and increases in the average public consumption expenditures for this group

made only minor contributions to the change in net government expenditures (Figure 6). Our estimates show that of the roughly \$8,000 increase in net government expenditures, the increase in transfers accounted for about \$7,000 (about 52 percent higher than its level in 2000). The remainder of the approximately \$1,000 increase was split between a slight increase in public consumption (\$700) and a slight decline in taxes (\$300).

It is important to note that the increase in transfers was *not* simply a consequence of the Great Recession and its aftermath. Indeed, as shown in Figure 6, transfers rose quite sharply also between 2000 and 2007. Much of this increase was due to the expansion of government medical expenditures, especially Medicare and Medicaid. With the onset of the recession and attendant rapid rise in unemployment, a large expansion of unemployment insurance benefits ensued (Farber and Valletta 2015). This, in combination with increases in Social Security (particularly disability payments), contributed to the additional rise in government transfers between 2007 and 2010. The modest improvement in the employment situation between 2010 and 2013 led to reduction in unemployment benefits; nevertheless, transfers due to Social Security and Medicare continued to grow.

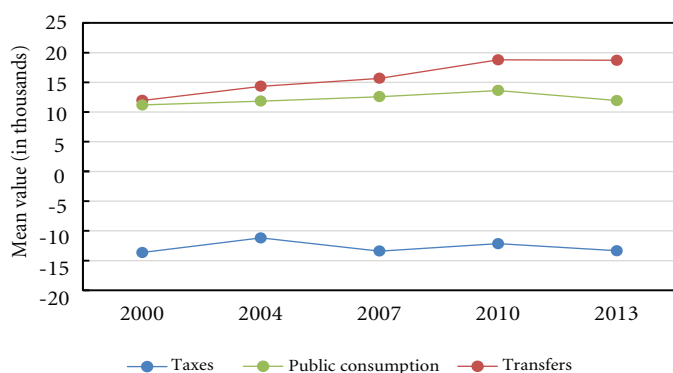
As for taxes, income and payroll taxes are positively correlated with base income; hence, a decline in base income should also generally bring about a decline in taxes. An additional factor at play here was the package of tax cuts adopted during the

period.<sup>12</sup> However, a notable change in taxes for the middle quintile is observable only between 2000 and 2004, which is consistent with the sharp decline in base income during the same period. Since 2007, base income declined further for the middle-income households, but their average taxes seem to have hardly budged. Finally, public consumption did show a slight increase between 2000 and 2010 before declining by about \$2,000 between 2010 and 2013, thus offsetting almost all the gains that took place in the first decade of the twenty-first century.

### Middle-Income Households Compared to Those Above and Those Below

We now place our observations regarding middle-income households in the context of the changing fortunes of households at other levels of economic well-being. We do so by focusing on the average values of LIMEW for each quintile of the LIMEW distribution. In particular, we would like to know whether the dramatic slowdown in the growth in median economic well-being was also shared by households in other quintiles. Further, how did the major components of the LIMEW—base income, income from wealth, net government expenditures, and value of household production—change in the post-2000 period for households above and below the middle quintile? We saw that for those in the middle, there was a drastic decline in base

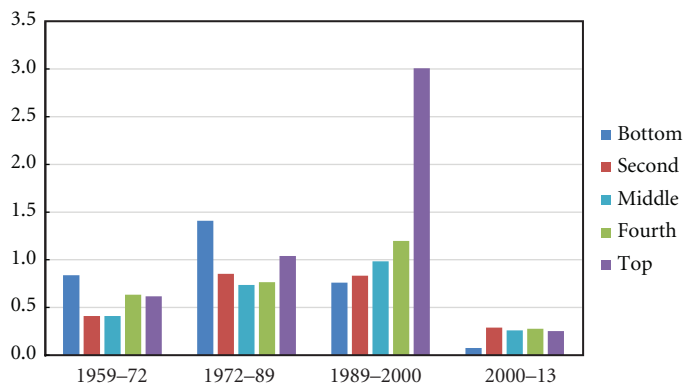
**Figure 6 Average Values of Taxes, Transfers, and Public Consumption of Households in the Third Quintile of LIMEW (thousands of 2013 dollars), 2000–13**



Note: The estimates of the average values of LIMEW and its major components that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 2b.

Source: Authors' calculations

**Figure 7 Annual Percent Change in Average LIMEW in Each LIMEW Quintile (adjusted for inflation), 1959–2013**



Note: The estimates of the average values of LIMEW and its major components that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 2b.

Source: Authors' calculations



income accompanied by an equally drastic increase in net government expenditures. In an accounting sense, the latter prevented the median value of LIMEW from sharply deteriorating.

The answer to the first question is, unfortunately, in the affirmative. That is, in the other quintiles the growth in economic well-being between 2000 and 2013 also slowed down to a crawl relative to the historical record (Figure 7). Serious economic distress for the worst off is indicated by the steep fall in the annual rate of growth in the average LIMEW. The growth rate at the bottom quintile during the 2000–13 period was a mere 0.07 percent, compared to 0.76 percent—*more than ten times as much*—during the 1990s (1989 to 2000). As for the other quintiles, the growth in economic well-being between 2000 and 2013 was quite similar to that observed for the middle quintile and notably higher than the bottom quintile. However, the fall in the growth rate relative to the 1990s was especially striking for the top quintile: from 3.1 percent per annum during the 1990s to 0.25 percent between 2000 and 2013. These trends have implications for the trajectory of overall inequality, which we shall discuss later.

Turning next to the question regarding the major components of the LIMEW, it may be recalled that we found that the average base income of the middle quintile showed a sharp decline between 2000 and 2013. It appears that there were comparable declines for all other quintiles too, except the first (bottom) quintile (Figure 8). For the top quintile, average base income (in 2013 dollars) fell from \$152,000 to \$143,000; for the fourth quintile, from \$76,000 to \$69,000; for the second quintile, from \$36,000 to \$33,000; and for the first quintile, it was approximately \$19,000 in both years. The widespread absolute decline in average base income reflects the bleak earnings situation experienced by the vast majority of the American workforce, largely reflecting the long-standing fundamental weakness in labor’s bargaining power vis-à-vis capital.<sup>13</sup>

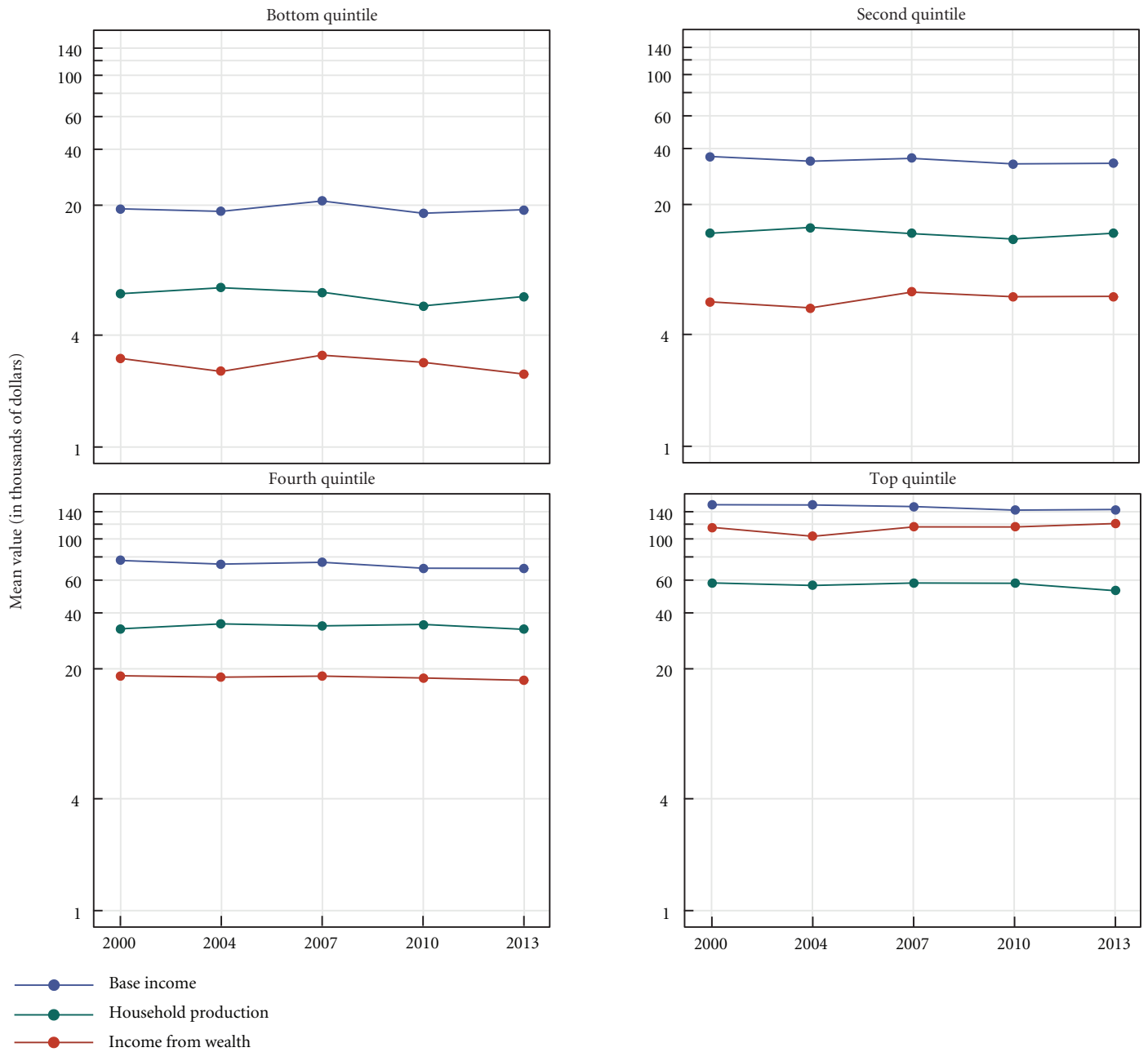
Were there changes in income from wealth and the value of household production that were powerful enough to retard the negative impact of falling base income for the top 80 percent and stagnant base income for the bottom quintile? In fact, for the bottom and fourth quintiles, both income from wealth and household production were somewhat lower in 2013 than 2000; for the second and third quintiles, there was only a meager change in both these components compared to the decline in base income. So, the answer is no for the bottom 80 percent of households. The story is a little bit more complex for the

top quintile: the gain in income from wealth between the two years amounted to about two-thirds of the loss in base income (+\$6,000 versus -\$9,000); however, the value of household production in 2013 was about \$5,000 lower than in 2000, reflecting a decline in the hours of household production. In fact, between 2007 and 2013, the average household in the top quintile experienced a reduction in annual time allocated to household production of almost 12 percent (480 hours). Consequently, the net change in the sum of the three components, or what may be described in an accounting sense as “private” or “pre-fiscal” income (LIMEW without net government expenditures), was negative for the top quintile also.<sup>14</sup> In sum, these considerations suggest that net government expenditures played a crucial role between 2000 and 2013 in sustaining average economic well-being not just for the middle-income group (as we saw before) but for *all*. The role of net government expenditures deserves, therefore, closer scrutiny, to which we turn next.

### **Government Support in Times of Distress: To Whom and How Much?**

The most direct way to assess the role of net government expenditures is in terms of its contribution to LIMEW, as we did for the middle quintile. As a percentage of LIMEW for all households, net government expenditures between 2004 and 2013 were at levels that were generally much higher than in the previous six benchmark years (Figure 9, Panel A). Importantly, the relatively high percentage values of the recent years is not simply due to the tepid growth of other components of the LIMEW; the absolute levels of net government expenditures were themselves substantially higher (Figure 9, Panel B). (In both panels, the orange line with the black markers shows the estimates for all households.) The same observation applies to all quintiles except the bottom quintile. Because the year 2000 marks the lowest point for net government expenditures among the set of benchmark years, it is quite appropriate to characterize the period since as marked by a growing dependence on the government to sustain economic well-being. With the exception of 2007, the contribution of net government expenditures declines as we move from the lowest to the highest quintile, although this is not true if the contribution is considered in dollars. The increasing share of net government expenditures in LIMEW has implications for understanding the trends in inequality in the recent past, as we discuss in the next section.

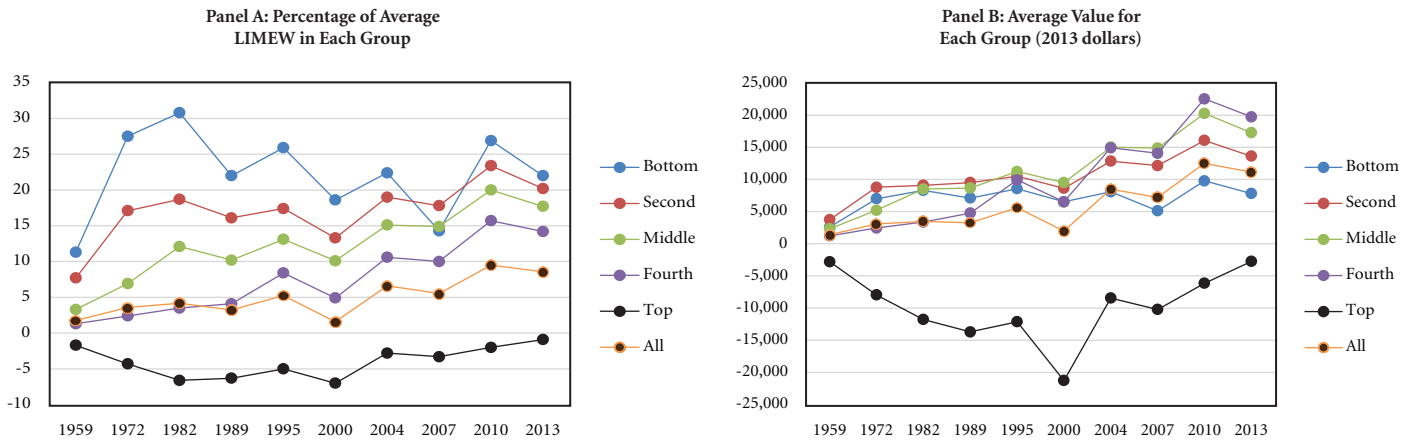
**Figure 8 Average Values of Base Income, Income from Wealth, and Value of Household Production of Households in the Quintiles (except middle) of LIMEW (thousands of 2013 dollars), 2000–13**



*Note:* See Figure 5 for the estimates for the middle quintile. The vertical axis depicting the mean values is scaled in natural logarithms to facilitate visual comparisons of the trends in notably disparate average values (e.g., base income of the top vs. bottom quintile), although the tick marks indicate the actual dollar amounts. The estimates of the average values of LIMEW and its major components that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 2b.

*Source:* Authors' calculations

**Figure 9 Net Government Expenditures by Quintiles of LIMEW, 1959–2013**



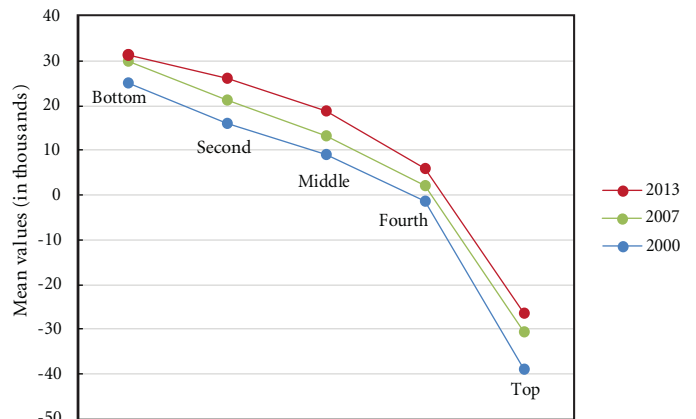
Note: The estimates of the average values of LIMEW and its major components that are shown in Panel B of this figure for all the benchmark years can be found in the online Supplemental Tables 2b. The percentage shares shown in Panel A of this figure are also available in the online Supplemental Tables 3.

Source: Authors' calculations

Considering the distribution of net government expenditures across the quintiles of LIMEW is not the best way to judge the equity or progressiveness of government expenditures and taxation. The reason is the same as the logic behind why, when we consider the progressive nature of an income tax, we reckon the amount of income tax to be paid by a person against their pre-tax rather than post-tax income. The LIMEW represents the net effect of taxes, transfers, and public consumption; therefore, the position of a household in the LIMEW distribution can be very different from the same household's position in the pre-fiscal income (i.e., LIMEW without net government expenditures) distribution. Economists describe this phenomenon as “re-ranking” and have attempted to develop methods to account for this in quantitative assessments of the progressiveness of government expenditures and taxes (Feldstein 1976; Kakwani 1984; Lambert 1993).<sup>15</sup> We therefore examined the distribution of net government expenditures across the quintiles of pre-fiscal income.

Not surprisingly, our estimates showed that average net government expenditures were the highest for the bottom quintile (Figure 10). Net government expenditures decline as we move from the lower toward the higher quintiles, with a very sharp decline from the fourth to the top quintile, where households, on the average, are net payers. Our finding stands in sharp contrast to the biased picture that often paints the beneficiaries of the “welfare state” as the poor and racial/ethnic minorities.

**Figure 10 Net Government Expenditures by Quintiles of Pre-Fiscal Income (mean values in thousands of 2013 dollars), 2000, 2007, and 2013**



Note: Pre-fiscal income is defined as LIMEW minus net government expenditures. Estimates of the average values of net government expenditures that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 4.

Source: Authors' calculations

In fact, the numerical majority—the bottom four (three) quintiles of the households in the pre-fiscal distribution in 2013 (2000)—are net beneficiaries. Often, the biased conclusions are drawn from an incomplete accounting of government services that are provided to households (e.g., counting the expenditures for income assistance received by the needy but not counting

the expenditures for providing educational services to poor *and* nonpoor children).<sup>16</sup>

Average net government expenditures became higher throughout the pre-fiscal income distribution over time, as indicated by the fact that the curve for 2013 lies above the curve for 2000, with the curve for 2007 falling between those two curves. This raises the question as to which portions of the pre-fiscal distribution benefitted more from the increase in net government expenditures. The answer: the richest quintile. As can be seen in Figure 11, the difference between net government expenditures in 2013 and 2000 is the largest for the top quintile. Since the top quintile was a net payer in both years, the increase between the years represents a reduction in average net payments of approximately \$12,600. In contrast, the poorest quintile received an average increase of roughly \$6,300 in net expenditures. Supporting the economic well-being of the richest households, by reducing their net payments over time, seems to have become the top priority of redistributive policy via government expenditures and taxation.

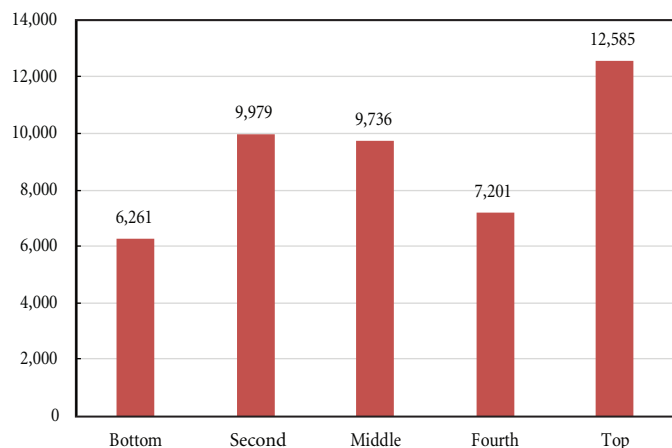
As we saw before, the main factor behind the increase in net government expenditures between 2000 and 2013 for the middle quintile was the growth in transfers. It appears that a similar assertion could be made for all quintiles except the top

quintile (Figure 12). The share of transfers in the increase in net government expenditures ranged from 86 percent for the bottom quintile to 70 percent for the fourth quintile. For the top quintile, however, transfers amounted to only 33 percent. The bulk of the increase in net government expenditures, 60 percent, came via a reduction in average taxes. Public consumption was the smallest contributor to the change in net government expenditures.

Similar to the findings described before for the middle quintile, half of the increase in government transfers for the bottom 80 percent of the population are explained by the growth in government medical expenditures (Medicaid and Medicare). Social Security (including disability payments), however, accounted for almost 40 percent of the growth in government transfers. For the top 20 percent, we found that while they paid on average \$1,000 more in payroll taxes in 2013 compared to 2000, they experienced a considerable drop in federal taxes, paying almost \$7,500 less in 2013 than in 2000. It should be noted that households at the top of the distribution also experienced an increase in government transfers from Social Security and Medicare.

Was the increase in average net government expenditures mainly by design? Or was it largely due to the operation of the

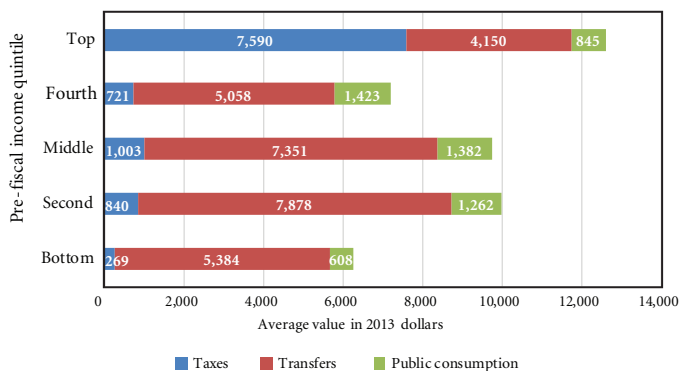
**Figure 11 Increase in Net Government Expenditures between 2000 and 2013 by Quintiles of Pre-Fiscal Income (average values in 2013 dollars)**



*Note:* Pre-fiscal income is defined as LIMEW minus net government expenditures. Estimates of the average values of net government expenditures that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 4.

*Source:* Authors' calculations

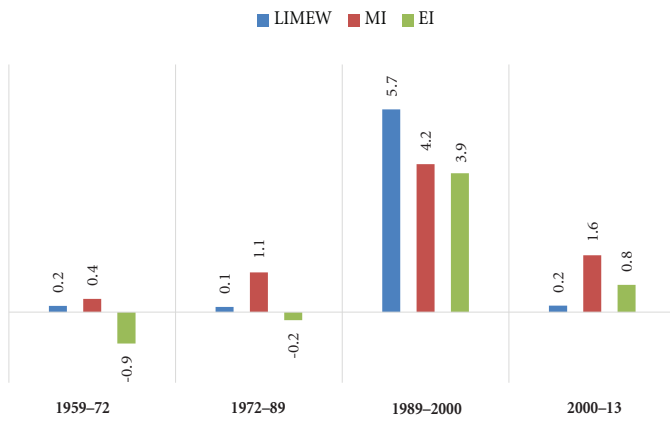
**Figure 12 Breakdown of the Increase in Net Government Expenditures between 2000 and 2013 into Reductions in Taxes and Increases in Expenditures by Quintiles of Pre-Fiscal Income (average values in 2013 dollars)**



*Note:* Pre-fiscal income is defined as LIMEW minus net government expenditures. Estimates of the average values of net government expenditures, taxes, transfers, and public consumption that are shown in this figure for all the benchmark years can be found in the online Supplemental Tables 4.

*Source:* Authors' calculations

**Figure 13 Change in the Gini Coefficient (x100) of LIMEW, MI, and EI, 1959–2013**

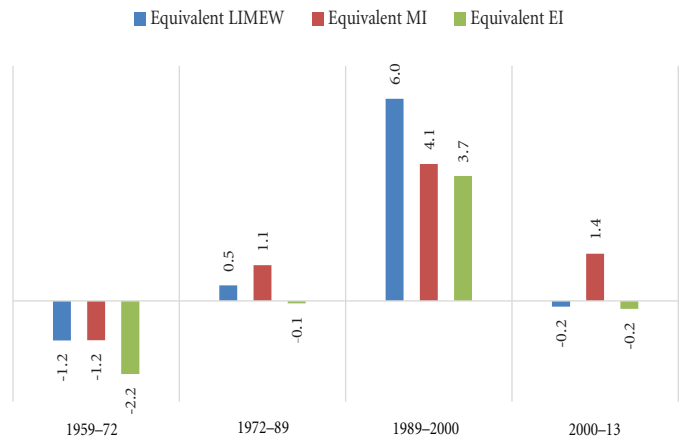


Note: The Gini coefficient is a number that ranges between zero (perfect equality) and one (perfect inequality, i.e., all income goes to a single household). We have multiplied the change in the Gini by 100 to make the numbers more readable. Estimates of the Gini coefficient of the measures of economic well-being shown in this figure for all the benchmark years can be found in the online Supplemental Tables 6.

Source: Authors' calculations

automatic expansion of certain welfare programs and reductions in tax revenues that characterize economic downturns? Although we cannot enter into a full discussion of these issues here, the following points are worth noting to place the findings reported here in context. On the expenditure side, the major impetus to growth in average net government expenditures has come from transfers rather than public consumption. As is well known, the largest driving force behind the growth in transfers are the Medicare and Medicaid programs. Expenditures on Medicare grew rapidly between 2000 and 2013 as compared to the 1990s due to a variety of factors: introduction of coverage for prescription drugs, faster growth in enrollment due to population ageing, steady increase in average costs per beneficiary, etc.<sup>17</sup> Overall expenditures on Medicaid (including the Children's Health Insurance Program) also increased substantially during the period between 2000 and 2013 as a result of increased coverage of children, greater prevalence of low-wage work without adequate health insurance, the Great Recession and its aftermath, etc.<sup>18</sup> Needless to say, both programs were also affected by the faster growth in the relative prices of medical services and pharmaceuticals (see Lassman et al. [2017] for a recent discussion). Apart from medical benefits, growth in disability benefits covered under the Social Security (Old-Age, Survivors,

**Figure 14 Change in the Gini Coefficient (x100) of Equivalent LIMEW, MI, and EI, 1959–2013**



Note: The Gini coefficient is a number that ranges between zero (perfect equality) and one (perfect inequality, i.e., all income goes to a single household). We have multiplied the change in the Gini by 100 to make the numbers more readable. Estimates of the Gini coefficient of the measures of economic well-being shown in this figure for all the benchmark years can be found in the online Supplemental Tables 6.

Source: Authors' calculations

and Disability Insurance) program and unemployment compensation was also higher between 2000 and 2013 than between 1989 and 2000 (see, e.g., Autor and Duggan [2006] for a discussion of the growth in disability benefits and Mueller, Rothstein, and von Wachter [2016] for a recent discussion of the effects of these benefit programs on labor supply).

On the side of taxation, it stands to reason that some of the reduction in taxes must have been due to the lackluster behavior of earnings over the period. But there were also major changes in federal taxation policy between 2000 and 2013 that were initiated by the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) under President George W. Bush. The key provisions were extended until 2013 by the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 under President Obama. Both acts included several key provisions to reduce the federal income tax burden faced by the vast majority of taxpayers. However, special care seems to have been taken to reduce the taxes of the richest. Tax rates on capital gains and dividends that accrue disproportionately to the richest and tax rates on the ordinary incomes of high earners fell in the 2000s. Statutory rates on long-term capital gains were cut in 1997, 2003, and 2008.<sup>19</sup> Historically, dividends were taxed as ordinary income, unlike long-term capital gains that enjoyed

lower top marginal rates than ordinary income, but from 2003, dividends began to be taxed at lower rates (identical to long-term capital gains).<sup>20</sup> In addition, the top marginal rates on ordinary income itself were lowered in 2001, 2002, and 2003.<sup>21</sup> The distributional picture of net government expenditures in Figure 12 perhaps renders some of the effects of these policy changes. However, while examining distributional changes at the level of quintiles can be revealing, it is incomplete without scrutiny of changes in the overall distribution, a task to which we turn next.

### Persistence of High Inequality

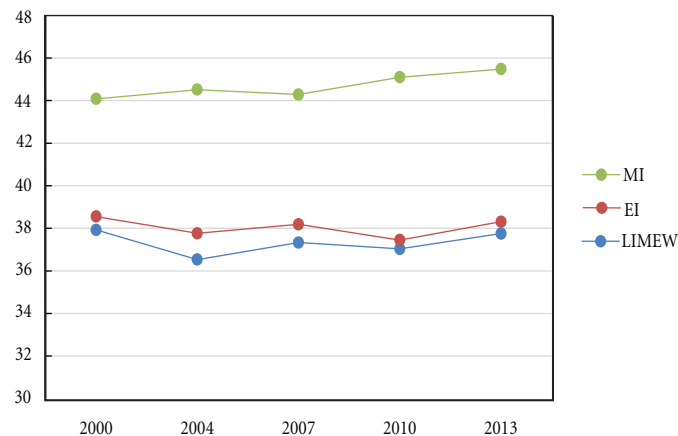
Our principal finding regarding recent trends in inequality is the absence of any trend: the rising level of inequality during the 1990s, especially its latter half, hit a plateau by 2000 and has remained stubbornly high. As measured by the Gini coefficient, inequality in LIMEW, MI, and EI did not show any notable change between 2000 and 2013 (Figure 13). Most of the increase in inequality in all three measures occurred during the 1990s. As we showed before (Figure 7), the growth in average LIMEW for the top quintile far exceeded that experienced by the rest of the population during the 1990s, which is consistent with the strong increase in the Gini coefficient of LIMEW. The narrowest of the

three measures, namely MI, shows a mild increase in inequality since 2000, but that change is dwarfed by the increase that took place during the 1990s. Furthermore, since this measure completely ignores taxes and takes only partial account of government expenditures, it is less appropriate than EI or the LIMEW to assess trends in inequality. The above observations regarding the recent trends apply with equal force to measures adjusted by an equivalence scale (Figure 14).<sup>22</sup>

A closer look at the trends since 2000 in LIMEW, MI, and EI inequality is provided in Figure 15. Of special interest here is the change between 2007 and 2010, since these two years bracket the Great Recession. No discernible change in the Gini took place during the period. Subsequently, between 2010 and 2013, the Gini coefficient of all three measures edged up to reach levels that are comparable to those of 2000.

Why did overall inequality remain roughly constant between 2000 and 2013? In order to answer this question, we focus on the LIMEW. The key to the answer lies in the changing composition of LIMEW. As suggested by our discussion in the previous section, average net government expenditures rose much faster than base income for all quintiles. Hence, it is quite natural that we observe, for all households taken together, a decline in the share of base income and a concomitant increase in the share of net government expenditures between 2000 and

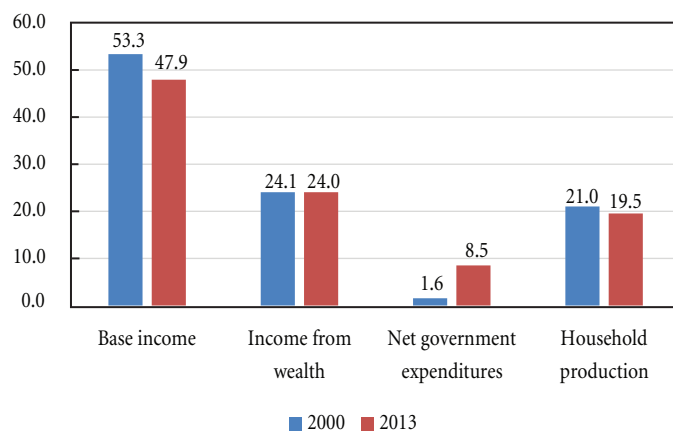
**Figure 15** Inequality in LIMEW, MI, and EI (Gini coefficient x100), 2000–13



Note: The Gini coefficient is a number that ranges between zero (perfect equality) and one (perfect inequality, i.e., all income goes to a single household). We have multiplied the change in the Gini by 100 to make the numbers more readable. Estimates of the Gini coefficient of the measures of economic well-being shown in this figure for all the benchmark years can be found in the online Supplemental Tables 6.

Source: Authors' calculations

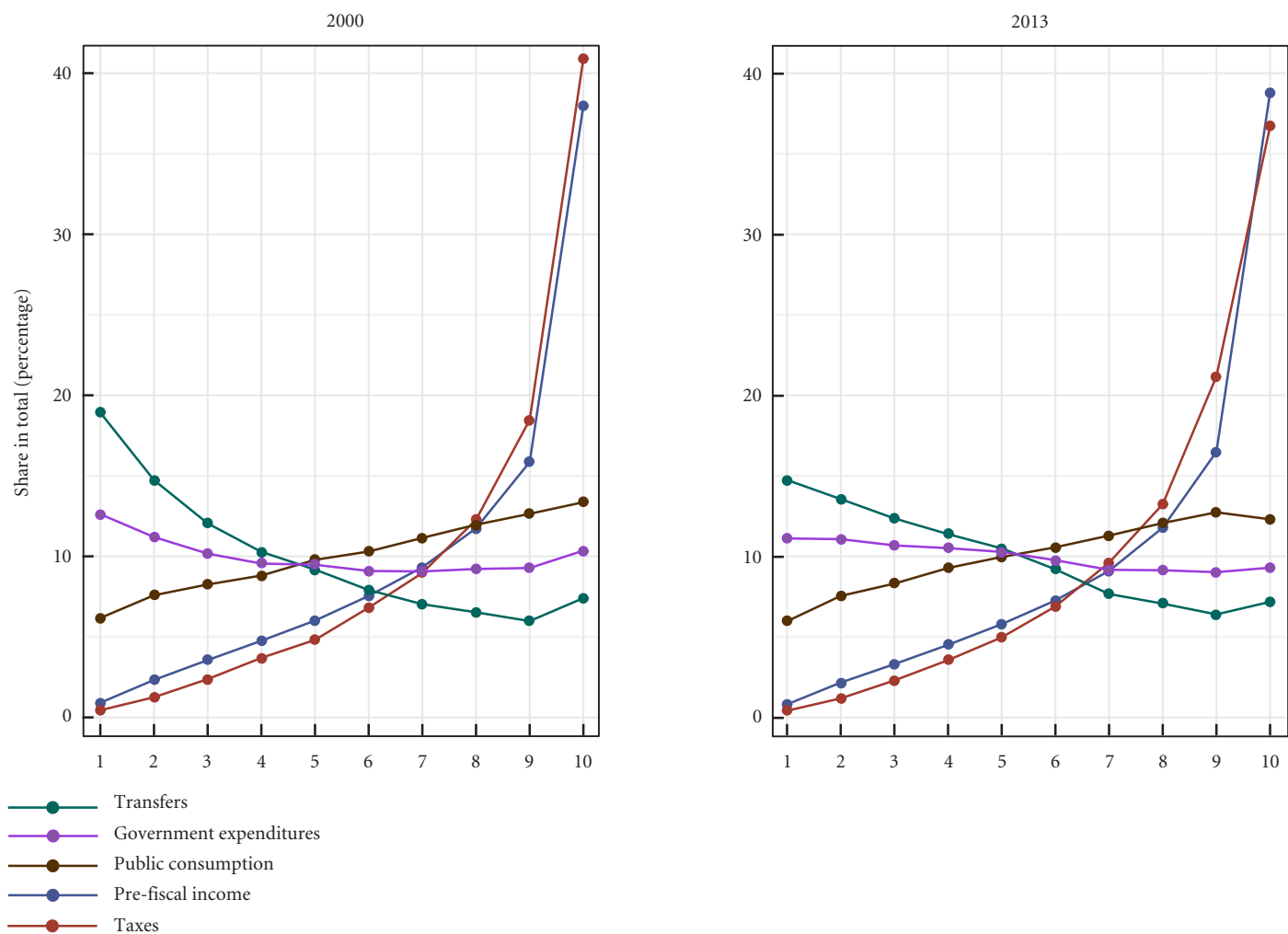
**Figure 16** Composition of LIMEW (percentage share of each major component in average LIMEW), 2000 and 2013



Note: The percentage shares shown in this figure for all benchmark years are available in the online Supplemental Tables 3b.

Source: Authors' calculations

**Figure 17** Shares in Aggregate Pre-Fiscal Income, Taxes, Transfers, and Public Consumption by Decile of Pre-Fiscal Income (percent), 2000 and 2013



Note: Estimates of the shares of deciles shown in this figure for all the benchmark years can be found in the online Supplemental Tables 7.  
 Source: Authors' calculations

2013 (Figure 16). Of the other two components of LIMEW, income from wealth changed roughly by the same proportion as LIMEW while the proportionate change in the value of household production was slightly higher. This is reflected in the stable share of income from wealth and the slight increase in the share of household production in LIMEW.

The change in the mix of LIMEW has implications for measured inequality because different components are concentrated among some groups of households compared to other groups. In other words, total inequality will depend on how important each component is compared to all sources of well-being, and how each component is distributed across

households.<sup>23</sup> Pre-fiscal income on its own is very unequally distributed across households. The bottom 10 percent of households (bottom decile) in the pre-fiscal income distribution had less than 1 percent of aggregate pre-fiscal income, while the richest 10 percent (top decile) had a share of nearly 40 percent in 2013 (Figure 17). On the other hand, those in the higher portions of the pre-fiscal income distribution receive lower levels of government transfers: the top and bottom deciles had shares of 7 percent and 15 percent, respectively, in 2013. We can also observe that the share of transfers that goes to different portions of the pre-fiscal distribution shows far less dispersion than the share of pre-fiscal income. In contrast to transfers, the richer

households do command greater shares of public consumption expenditures than the poorer households (in 2013, the top and bottom deciles had shares of 12 percent and 6 percent, respectively, of the total public consumption expenditures), but the dispersion in shares across the distribution tends to be moderate, just as with transfers. Thus, when we combine transfers and public consumption, the resulting schedule for government expenditures tends to display a relatively equal distribution across the deciles of pre-fiscal distribution (see the curves labeled “Government expenditures” in Figure 17).

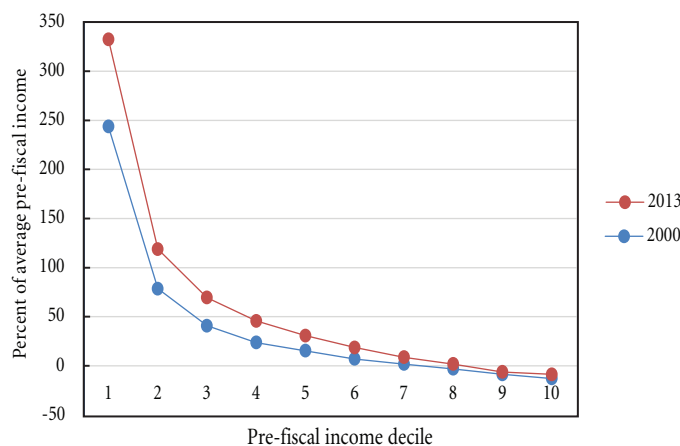
On the other hand, as we would expect in a progressive tax system, taxes tend to be distributed very much in favor of those with lower levels of pre-fiscal income. For example, the bottom decile in the pre-fiscal income distribution paid less than 0.5 percent of aggregate taxes while the top decile had a share of nearly 37 percent in 2013. These shares in taxes are less than their corresponding shares in aggregate pre-fiscal income that we noted above. This type of discrepancy between the share in taxes and pre-fiscal income was prevalent in both the years described here for the bottom 60 percent. The seventh and tenth deciles show a notable change in the balance between the shares in 2013 versus 2000: the seventh decile’s share in taxes exceeds while that of the top decile falls short of their respective shares in pre-fiscal income. In spite of these changes between the two

years, shares in aggregate taxes closely track the shares in aggregate pre-fiscal income.

When we combine the tax distribution that favors the poorer households in the pre-fiscal distribution and the expenditure distribution that is, relatively speaking, fairly equal, we end up with a distribution of net government expenditures that favors the poorer households substantially more (Figure 18).<sup>24</sup> As we observed before and confirmed in Figure 17, the majority of households, about 70 percent in 2000 and 80 percent in 2013, were net beneficiaries, i.e., they have positive net government expenditures. The remainder, a sizeable minority of households, have negative net government expenditures, i.e., they are net payers. The shape of the distribution is defined by its rather high positive values at the bottom of the distribution, rapid decline in the second through fourth deciles, followed by a gradual decline that ends for the upper two or three deciles in the territory of relatively small negative values.

Therefore, the addition of net government expenditures to pre-fiscal income results in a *higher* measured income, i.e., LIMEW, for the majority of households, with the proportionate increase being inversely related to the level of pre-fiscal income. On the other hand, for the minority of households with negative net expenditures, adding net government expenditures will result in a *lower* measured income. But given the relatively

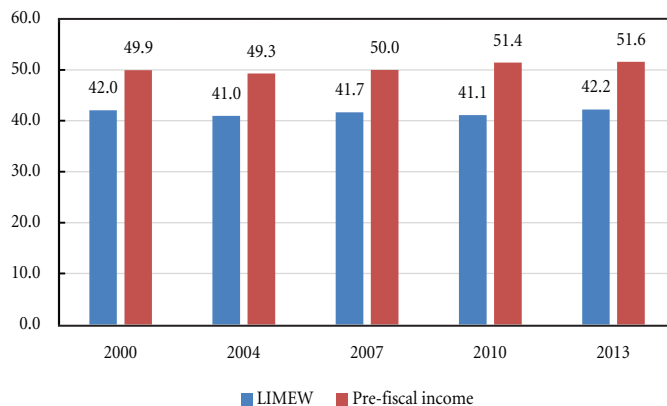
**Figure 18 Average Net Government Expenditures by Decile of Pre-Fiscal Income (percent of average pre-fiscal income in each decile), 2000 and 2013**



Note: Estimates of net government expenditures as a percent of pre-fiscal income by deciles shown in this figure for all the benchmark years can be found in the online Supplemental Tables 8.

Source: Authors’ calculations

**Figure 19 Gini Coefficients of LIMEW and Pre-Fiscal Income, 2000–13**



Note: The Gini coefficient is a number that ranges between zero (perfect equality) and one (perfect inequality, i.e., all income goes to a single household). We have multiplied the Gini by 100 to make the numbers more readable. Estimates of the Gini coefficient of the measures of economic well-being shown in this figure for all the benchmark years can be found in the online Supplemental Tables 6.

Source: Authors’ calculations



low values of net government expenditure, it should be noted that the proportionate decline (i.e., the percentage difference between pre-fiscal income and LIMEW) for these households is, in general, not drastic.<sup>25</sup> In sum, the income share of the richest households in the LIMEW distribution will tend to be lower than the income share of the richest households in the pre-fiscal distribution, and the reverse would hold for the income shares of the poorest households.

Net government expenditures—a component of the LIMEW with strong equalizing features, as we just described—rose substantially as a percentage of LIMEW and thereby acted as a restraining force on LIMEW inequality between 2000 and 2013. Nevertheless, if the growth in pre-fiscal inequality was large enough, it might have still resulted in a substantial increase in LIMEW inequality. Our estimates of Gini coefficients showed that pre-fiscal inequality generally rose between 2000 and 2013, implying that the contraction in pre-fiscal income experienced by the vast majority of households between 2000 and 2013 was borne unequally (Figure 19). However, the increase in inequality was muted to a large extent by the equalizing effect of net government expenditures, resulting in only a minor change in the Gini coefficient of LIMEW.

## Conclusion

In the twenty-first century, there has so far been little improvement in economic well-being for most US households. This is true for the middle of the distribution as well as for the bottom and, to a lesser extent, the top of the distribution. In addition, the high levels of inequality seen at the end of the last century have not diminished at all, with minor improvements in the early 2000s wiped out since the end of the Great Recession.

Perhaps our most striking finding is that the typical US household has gained very little ground since 2000. Trends in both LIMEW and MI show that the slowdown in the growth of living standards started *prior* to the Great Recession and had yet to show any signs of recovery four years after the recession officially ended. For those in the middle of the LIMEW distribution, there was a drastic decline in base income (mainly made up of earnings) accompanied by an equally drastic increase in net government expenditures. The ameliorating effects of the change in net government expenditures kept well-being from dropping sharply for the median household. For those in other parts of the distribution, growth in economic well-being

between 2000 and 2013 was also quite low relative to the historical record. The absolute decline in average base income for the bottom and top two quintiles reflects the weak earnings growth experienced by the vast majority of the American workforce. This weak earnings growth is a direct reflection of the decades-long, continuous deterioration in labor's bargaining power vis-à-vis capital.

Balancing those weak earnings, net government expenditures played a crucial role in sustaining average economic well-being after 2000, not just for the median household but for *all households*. This narrative seems to undermine critiques of neo-liberal austerity. However, policy changes such as the Medicare prescription drug program and the Bush tax cuts (made permanent under Obama) are large-ticket items and clearly have an impact. Moreover, these increases in welfare spending and decreases in taxes have often greatly benefitted those least in need of assistance. As noted, the assumption common to some political rhetoric that the beneficiaries of the welfare state are predominantly poor and/or racial/ethnic minorities is belied by the evidence: by 2013 the bottom 80 percent of households in the pre-fiscal distribution were beneficiaries of net government expenditures. Nevertheless, the portion of the pre-fiscal distribution that benefitted the most in absolute terms from the increase in net government expenditures was the richest quintile. The logic of redistribution via government expenditures and taxation has been turned on its head: by reducing the net payments that the richest households made over time, those households now appear to be deemed the most “deserving” of government support.

Nevertheless, the impact of this shift in the fiscal structure has had little impact on the overall inequality of economic well-being. In the early 2000s, there was a slight decrease in inequality, which had reached a peak at the end of the 1990s. As we have discussed elsewhere, the drastic increase in inequality during the 1990s was driven mainly by the growth in income from wealth (Wolff and Zacharias 2007a). But during the Great Recession, there was no discernible change in the Gini coefficient of the LIMEW (or MI and EI, for that matter). By 2013, the Gini coefficient of all three measures edged up to reach levels comparable to those of 2000. This implies that changes in net government expenditures not only balanced the impact of stagnant earnings on the overall growth of economic well-being, but also on the distribution of economic well-being. Inequality in pre-fiscal income did grow somewhat since the Great Recession, but the

equalizing impact of growing net government expenditures prevented an increase in post-fiscal or LIMEW inequality. So far, the events of the twenty-first century have stranded US households on a becalmed sea of stagnant economic well-being that has masked a massive restructuring of the composition of economic well-being churning underneath the surface.

## Notes

1. We are grateful to the contributions made to the LIMEW project by Edward Wolff, Asena Caner, Hyunsub Kum, Melissa Mahoney, and Selçuk Eren.
2. The commission was assembled at the behest of the then French President Nicolas Sarkozy. It was chaired by Joseph Stiglitz, with Amartya Sen serving as advisor and Jean-Paul Fitoussi as the coordinator.
3. The list of publicly provided services included in the full-income measure is narrower than LIMEW. While the report emphasizes the crucial role of wealth in household economic well-being, no attempt was made to integrate it with the rest of full income as we do in the construction of the LIMEW (see the next section). On the other hand, the report argues for the inclusion in full income of the value of leisure time available to the working-age population. We do not include leisure because our notion of economic well-being seeks to approximate the command over *products*. Leisure activities do not result in products, at least not in the normal sense of the term “product” (as used for example in the United Nations System of National Accounts).
4. More information is available at <http://www.oecdbetter-lifeindex.org/>. A discussion of the history of this approach and various strands within it can be found in Land, Michalos, and Sirgy (2011).
5. The most important difference between the two measures seems to be the inclusion of the value of leisure time in Stiglitz, Sen, and Fitoussi (2009) and its omission in the Canberra report. It is worth noting that, unlike the first edition, the 2011 edition of the Canberra report includes the value of household production in the conceptual definition of income (Canberra Group 2011, 11). In the LIMEW, as discussed in the next section, we include it in concept and estimation.
6. The most broad measure developed by the Bureau subtracted taxes (income, property, and payroll) from MI and added the (imputed) values of employer-provided health benefits, government noncash benefits (e.g., Medicare), realized capital gains (net of losses), and return on home equity (Cleveland 2005).
7. See <https://www.census.gov/cps/data/howtoincomepov.html> for directions on how to obtain information regarding the alternative measures of income.
8. We set the household’s lifespan equal to the lifespan of the head of the household, if the head is not married; if the head is married, the lifespan is set equal to the larger of the two values: remaining years of life of the head or spouse. The life expectancy data that we use is differentiated by age, sex, and race/ethnicity.
9. There appears to be growing recognition that better accounting of wealth is required in measures of household economic well-being. In a recent study, Smeeding and Thompson (2011) constructed a measure of income that included imputed income from wealth rather than actual income from assets. Their measure of income from wealth differs from ours in that they include an imputed return on nonhome wealth rather than an annuity as we do. Armour, Burkhauser, and Larrimore (2013) attempt to construct a measure of imputed income from wealth along the lines of Smeeding and Thompson (2011) but succeed only partially because they take only assets—not debts—into account.
10. A comparison of the LIMEW and PFI (Figures 1 and 2) indicates that once the value of household production is excluded from the LIMEW, the period 1959–72 appears to be the one that showed the most rapid gains for the average household. In other words, the slower growth in LIMEW during this period is a reflection of the substantial decline that took place in the value of household production relative to the other major components of the LIMEW during the 1960s.
11. The equivalence scale used here is the three-parameter scale employed in the US Census Bureau’s experimental poverty measures (Short 2001; Short et al. 1999), proposed originally by David Betson (1996). The scale equals  $(A+0.8+0.5*(C-I))^{0.7}$  for single-parent households and  $(A+0.5*C)^{0.7}$  for all other households, with  $A$  and  $C$  representing, respectively, the number of adults and children. If we compare this scale to the widely used alternative scale of “square root of household size,” we can see that the Betson scale allows fewer economies of scale among households with only adults, but differentiates the spending needs

- required by an additional child compared to that of an additional adult.
12. We will be analyzing the distributional aspects of taxes during the 2000s in a forthcoming publication. Also, see section 5 (“Persistence of High Inequality”) of this policy brief.
  13. According to the national income estimates, the share of compensation of employees in gross domestic income fell from 56.5 percent to 52.6 percent between 2000 and 2013. The falling share of labor income has led to a large amount of research in recent years. See, e.g., Autor et al. (2017) and Taylor (2014).
  14. It should be emphasized that “pre-fiscal” income is purely a concept of social *accounting* and does not in any way suggest that the level and distribution of pre-fiscal income is *causally* independent of government expenditures and taxation.
  15. Consider an economy with only three households, labelled 1, 2, and 3. Their pre-fiscal incomes are, in the same order as they are numbered, \$100, \$1,000, and \$10,000. Now, suppose that the net government expenditures for household 1 are \$800. For households 2 and 3, net government expenditures amount to -\$300 and -\$500, respectively. The post-fiscal incomes (pre-fiscal income plus net government expenditures) of households 1, 2, and 3 are now \$900, \$700, and \$9,500, respectively. If we were to order the households according to post-fiscal incomes, we would end up with the following order of household incomes and net government expenditures: (\$700, -\$300), (\$900, \$800), (\$9,500, -\$500). Alternatively, if we ranked the households according to their pre-fiscal incomes, we would obtain the following sequence: (\$100, \$800), (\$1,000, -\$300), (\$10,000, -\$500). Households 1 and 2 have exchanged their positions of being the lowest- and middle-income household in the distribution. The ranking by pre-fiscal incomes suggests that the government is most generous to the lowest-income household while the ranking by post-fiscal incomes suggests that the government is most generous to the middle-income household. Most people would tend to think that for judging the generosity (or lack thereof) of government expenditures and taxation, the ranking by pre-fiscal incomes is more appropriate. This, of course, does not diminish the appropriateness of post-fiscal income (LIMEW) in assessing the level and distribution of economic well-being, because that measure reflects more accurately the household’s access/command over the goods and services produced in the economy.
  16. It is interesting to note here that most studies of the “costs” of “illegal” immigration do take into account the public expenditures on education, fire and police protection, etc., when it comes to undocumented immigrants and their children (Rector and Richwine 2013).
  17. The enrollment in Medicare rose by 32.3 percent between 2000 and 2013, compared to an increase of only 22.5 percent in the previous 13-year period, i.e., 1987 to 2000. Costs per enrollee (adjusted for inflation) rose by 45.6 percent and 46.9 percent, respectively, during the 1987–2000 and 2000–13 periods. (Calculations are from the data provided in the Medicare Trustees Report 2017.)
  18. Between 2000 and 2013, average monthly enrollment increased by 73 percent, compared to an increase of 64 percent between 1987 and 2000. Unlike the Medicare program, average costs per enrollee were actually 5 percent lower in 2013 than in 2000; in contrast, the average costs in 2000 were 65 percent higher than in 1987. (Calculations are based on the data from MACStats table “EXHIBIT 10. Medicaid Enrollment and Total Spending Levels and Annual Growth, FYs 1966—2016,” <https://www.macpac.gov/publication/medicaid-enrollment-and-total-spending-levels-and-annual-growth/>.)
  19. Capital gains rates have a two-tier structure, with each tier reflecting the tax bracket for ordinary income into which the taxpayer falls. In 1997, the rates were lowered to 10 percent and 20 percent, respectively, from 15 percent and 28 percent. They were lowered to 5 percent and 15 percent in 2003, and in 2008, the rates were changed to 0 percent and 15 percent.
  20. Please see the previous note for the tax rate on capital gains that also applied to dividends from 2003 to 2010.
  21. The top marginal rate on ordinary income was lowered from 39.6 percent to 39.1 percent, 38.6 percent, and 35 percent in, respectively, 2001, 2002, and 2003.
  22. We also considered an alternative measure of inequality known as the Atkinson index (Atkinson 1970), which uses the concept of social welfare to quantify the degree of inequality in a given population. Our findings regarding the recent trend in inequality are also confirmed by the Atkinson index. We report the estimates in the Supplemental Tables accompanying this policy brief, at [http://www.levyinstitute.org/pubs/LIMEW\\_supplemental\\_tables.xlsx](http://www.levyinstitute.org/pubs/LIMEW_supplemental_tables.xlsx).

23. The mechanism at work here can be illustrated by means of a simple example. Suppose that the economy consists of three persons. The aggregate income for the economy is \$100 and that is split equally between labor and capital income. There are two persons that receive labor income in equal amounts (\$25 each) and a single person that receives capital income (\$50). The distribution of income is obviously unequal because one-third of the population receives half of total income. Now suppose that aggregate income increases by \$50 and the entire increase is appropriated as capital income. Capital income and labor income now stands in the proportion 2:1. The distribution of individual incomes has become even more unequal now as one-third of the population has two-thirds of total income. Alternatively, suppose that the entire increase went to labor, implying a split of 1:2 between capital and labor income, and the increase in labor income was split equally between the two households that receive only labor income. The resulting distribution of individual incomes will be perfectly equal because each household now receives \$50. In real economies, things are not as simple as in the example because of multiple sources of income, changes in the number of households, etc.; yet, most of the distributional effect of a change in the mix of income works through the same mechanism.
24. It may be noted here that if public consumption were to be excluded, the distribution of government expenditure would seem to favor those on the lower rungs of the pre-fiscal income distribution even more. That is, the equalizing effect of net government expenditures will appear much larger if public consumption is excluded from the definition of government expenditures for households, because public consumption is more equally distributed across households than transfers.
25. For example, our estimates (not shown here) indicate that four out of five households in the top quintile of pre-fiscal incomes were also found in the top quintile of the LIMEW distribution in 2013.

## References

- Armour, P., R. V. Burkhauser, and J. Larrimore. 2013. "Deconstructing Income and Income Inequality Measures: A Crosswalk from Market Income to Comprehensive Income." *American Economic Review* 103 (3): 173–77. <https://doi.org/10.1257/aer.103.3.173>
- Atkinson, A. B. 1970. "On the Measurement of Inequality." *Journal of Economic Theory* 2 (1970): 244–63.
- Autor, D. H., D. Dorn, L. F. Katz, C. Patterson, and J. Van Reenen. 2017. "Concentrating on the Fall of the Labor Share." *American Economic Review* 107 (5): 180–85.
- Autor, D. H., and M. G. Duggan. 2006. "The Growth in the Social Security Disability Rolls: A Fiscal Crisis Unfolding." *Journal of Economic Perspectives* 20 (3): 71–96.
- Betson, D. 1996. "Is Everything Relative? The Role of Equivalence Scales in Poverty Measurement." Unpublished manuscript. Notre Dame, IN: University of Notre Dame.
- Canberra Group. 2011. *Handbook on Household Income Statistics*, Second Edition. Geneva: United Nations Economic Commission for Europe. <http://www.unece.org/index.php?id=28894>
- CBO (Congressional Budget Office). 2016. "The Distribution of Household Income and Federal Taxes, 2013." Washington, DC: US Government Printing Office.
- Cleveland, R. 2005. "Alternative Income Estimates in the United States: 2003." P60-228, June. Washington, DC: US Census Bureau. <https://www.census.gov/prod/2005pubs/p60-228.pdf>
- Farber, H. S., and R. G. Valletta. 2015. "Do Extended Unemployment Benefits Lengthen Unemployment Spells? Evidence from Recent Cycles in the U.S. Labor Market." *Journal of Human Resources* 50 (4): 873–909.
- Feldstein, M. 1976. "On the Theory of Tax Reform." *Journal of Public Economics* 6 (1): 77–104.
- Kakwani, N. C. 1984. "On the Measurement of Tax Progressivity and Redistributive Effect of Taxes with Applications to Horizontal and Vertical Equity." *Advances in Econometrics* 3: 149–68.
- Lambert, P. J. 1993. *The Distribution and Redistribution of Income: A Mathematical Analysis*, second edition. Manchester, UK: Manchester University Press.
- Land, K. C., A. C. Michalos, and M. J. Sirgy. 2011. *Handbook of Social Indicators and Quality of Life Research*. Dordrecht, Netherlands: Springer Science & Business Media.

- Lassman, D., A. M. Sisko, A. Catlin, M. C. Barron, J. Benson, G. A. Cuckler, M. Hartman, A. B. Martin, and L. Whittle. 2017. "Health Spending By State 1991–2014: Measuring Per Capita Spending By Payers and Programs." *Health Affairs* 36 (7): 1318–27.
- Mueller, A. I., J. Rothstein, and T. M. von Wachter. 2016. "Unemployment Insurance and Disability Insurance in the Great Recession." *Journal of Labor Economics* 34 (S1): S445–75.
- Rector, R., and J. Richwine. 2013. "The Fiscal Cost of Unlawful Immigrants and Amnesty to the U.S. Taxpayer." Heritage Foundation Special Report from the Domestic Policy Studies Department. No. 133, May. Washington, DC: Heritage Foundation.
- Short, K. 2001. "Experimental Poverty Measures: 1999." US Census Bureau, Current Population Report, Consumer Income, P60-216. Washington, DC: US Government Printing Office.
- Short, K., T. Garner, D. Johnson, and P. Doyle. 1999. "Experimental Poverty Measures: 1990 to 1997." US Census Bureau, Current Population Report, Consumer Income, P60-205. Washington, DC: US Government Printing Office.
- Smeeding, T., and J. Thompson. 2011. "Recent Trends in Income Inequality: Labor, Wealth and More Complete Measures of Income." In H. Immervoll, A. Peichl, and K. Tatsiramos (eds.), *Who Loses in the Downturn? Economic Crisis, Employment and Income Distribution*. Bingley, UK: Emerald Group Publishing.
- Stiglitz, J., A. Sen, and J.-P. Fitoussi. 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Commission on the Measurement of Economic Performance and Social Progress. [https://www.economie.gouv.fr/files/finances/presse/dossiers\\_de\\_presse/090914mesure\\_perf\\_eco\\_progres\\_social/synthese\\_ang.pdf](https://www.economie.gouv.fr/files/finances/presse/dossiers_de_presse/090914mesure_perf_eco_progres_social/synthese_ang.pdf)
- Taylor, L. 2014. "The Triumph of the Rentier? Thomas Piketty Versus Luigi Pasinetti and John Maynard Keynes." *International Journal of Political Economy* 43 (3): 4–17.
- Wolff, E. N., and A. Zacharias. 2003. "The Levy Institute Measure of Economic Well-Being." Working Paper No. 372. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
- . 2007a. "The Levy Institute Measure of Economic Well-Being: United States, 1989–2001." *Eastern Economic Journal* 33 (4): 443–70.
- . 2007b. "The Distributional Consequences of Government Expenditures and Taxation in the U.S., 1989 and 2000." *Review of Income and Wealth* 53 (4): 692–715.
- . 2009. "Household Wealth and the Measurement of Economic Well-Being in the United States." *Journal of Economic Inequality* 7 (2): 83–115.
- Wolff, E. N., A. Zacharias, and T. Masterson. 2012. "Trends in American Living Standards and Inequality, 1959–2007." *Review of Income and Wealth* 58 (2): 197–232.
- Zacharias, A. 2014. "The Emergence and Development of Official Measurements of Economic Well-Being." In Steven Payson (ed.), *Public Economics in the United States*, Volume 3. Santa Barbara, CA: Praeger.
- Zacharias, A., T. Masterson, and F. Rios-Avila. Forthcoming. "The Sources and Methods Used in the Creation of the Levy Institute Measure of Economic Well-Being for the United States, 1959–2013." Working Paper. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.

## About the Authors

---

AJIT ZACHARIAS is a senior scholar and director of the Institute's Distribution of Income and Wealth program. His research primarily focuses on the theory, measurement, and analysis of economic well-being and deprivation. Along with other Levy scholars, Zacharias has developed alternative measures of economic welfare and deprivation. The Levy Institute Measure of Economic Well-Being (LIMEW) offers a framework that accounts for how changes in labor markets, wealth accumulation, government spending and taxes, and household production shape the economic determinants of standard of living. Levy scholars have utilized the LIMEW to track trends in economic inequality and well-being in the United States. The Levy Institute Measure of Time and Income Poverty is aimed at revealing the nexus between income poverty and unpaid work. This measure has been applied to the study of poverty in several Latin American countries, Turkey, South Korea, Tanzania, and Ghana. His recent publications include: "Time and Income Poverty in the City of Buenos Aires" (with R. Antonopoulos, V. Esquivel, and T. Masterson), in Rachel Connelly and Ebru Kongar, eds., *Gender and Time Use in a Global Context: The Economics of Employment and Unpaid Labor* (Palgrave Macmillan, 2017); "The Measurement of Time and Income Poverty," in I. Hirway, ed., *Mainstreaming Unpaid Work: Time-use Data in Developing Policies* (Oxford University Press, 2017); "A Comparison of Inequality and Living Standards in Canada and the United States Using an Extended Income Measure" (with E. N. Wolff, T. Masterson, S. Eren, and A. Sharpe), *Eastern Economic Journal*, Vol. 42, no. 2 (Spring 2016); "The Emergence and Development of Official Measurements of Economic Well-Being," in S. Payson, ed., *Public Economics in the United States: How the Federal Government Analyzes and Influences the Economy* (Praeger, 2014); and "Class Structure and Economic Inequality" (with E. N. Wolff), *Cambridge Journal of Economics*, Vol. 37, No. 6 (November 2013).

Zacharias holds an MA from the University of Bombay and a Ph.D. from The New School for Social Research.

THOMAS MASTERSON is director of applied micromodeling and a research scholar in the Levy Economics Institute's Distribution of Income and Wealth program. He has worked extensively on the Levy Institute Measure of Well-being (LIMEW), an alternative, household-based measure that reflects the resources the household can command for facilitating current consumption or acquiring physical or financial assets. With other Levy scholars, Masterson was also involved in developing the Levy Institute Measure of Time and Income Poverty (LIMTIP), and has contributed to estimating the LIMTIP for countries in Latin America, Asia, and Africa. He has also taken a lead role in developing the Levy Institute Microsimulation Model, which he is currently extending in order to assess the inequality impacts of carbon regulation.

*continued on page 23*

Masterson's specific research interests include the distribution of land, income, and wealth. He has published articles in the *Eastern Economic Journal*, *The Review of Income and Wealth*, and *World Development*, and is the co-editor of *Solidarity Economy I: Building Alternatives for People and Planet—Papers and Reports from the 2009 U.S. Forum on the Solidarity Economy*, 2010.

He holds a Ph.D. in economics from the University of Massachusetts, Amherst.

FERNANDO RIOS-AVILA is a research scholar working on the Levy Institute Measure of Economic Well-Being under the Distribution of Income and Wealth program. His research interests include labor economics, applied microeconomics, development economics, and poverty and inequality.

As a doctoral candidate at Georgia State University, Rios-Avila worked as a graduate research assistant to Felix Rioja, and interned in the research department at the Federal Reserve Bank of Atlanta, working under the supervision of Julie L. Hotchkiss. He formerly served as a researcher at the Social and Economic Policy Unit (UDAPE)—a government advisory unit and public policy think tank in La Paz, Bolivia—on issues of development, impact evaluation, and social expenditure, with an emphasis on children's welfare. His research has been published in *The Review of Income and Wealth*, *Industrial Relations*, *Southern Economic Journal*, *Applied Economics Letters*, *Stata Journal*, and *Business and Economics Research*.

Rios-Avila holds a Licenciatura in economics from the Universidad Católica Boliviana, La Paz; an advanced studies program certificate in international economics and policy research from Kiel University; and a Ph.D. in economics from the Andrew Young School of Policy Studies at Georgia State University.