The 1 percent is literally rich beyond measure, depriving nations of billions in tax revenue and obscuring shifts in global inequality.

Research conducted separately by European Central Bank economist Philip Vermeulen and London School of Economics' Gabriel Zucman show the wealth of the super-affluent — hidden by tax shelters and nonresponse to questionnaires — is undercounted. Correcting for similar lapses in income data almost erases progress made from 1988 to 2008 in narrowing the gap between the world's rich and poor, World Bank research found.

"We always suspected there was some low-balling of the top 1 percent," said Joseph Stiglitz, a Nobel-prize winning economist and author of "The Price of Inequality. ''There's a growing sense that our system is rigged and unfair.''

Failure to get a better handle on the actual amount of wealth and income means economists and policy makers don't have a proper understanding of the degree of disparity, which represents a hurdle in addressing it. For instance, knowing that earnings and assets are more concentrated could spur support for changing the tax structure, Zucman said.

''If you don't have a good idea of what the world looks like, it's hard to determine what the effects of policies will be," said Carter Price, senior mathematician at the Center for Equitable Growth in Washington, which focuses on issues of economic inequality. "Looking retrospectively, it's hard to assess what the effects of a policy were."

Richest Rich

The richest of America's rich — the top 0.1 percent with at least $20 million in net wealth — held 23.5 percent of all U.S. wealth in 2012 after adding in estimates of how much was hidden in offshore tax havens, said Zucman, a visiting scholar at the University of California at Berkeley. That compares with his previous estimate of 21.5 percent.

He collaborates with Thomas Piketty, author of the bestseller "Capital in the Twenty-First Century," and University of California at Berkeley professor Emmanuel Saez in trying to come up with more accurate tax-record figures.

Survey data on all the ultra-rich also undershoot, foiled in part by small sample sizes, ECB researcher Vermeulen writes in a July paper. The 1 percent held 35 percent to 37 percent of wealth in 2010, exceeding the 34 percent indicated in the Federal Reserve's Survey of Consumer Finances, Vermeulen found in his paper.

While the Fed already oversamples the rich to try to make its numbers more accurate, Vermeulen readjusted the data and supplemented it with Forbes World's Billionaires lists.

Greater Concentration

A greater concentration of income and wealth at the top could help explain why consumer spending has been slow to rebound from the recession that ended in June 2009, according to Stiglitz.

“Some of the problems in the performance of the economic system are related to the true degree of inequality, not the measured degree of inequality,” he said.

Since the 18-month slump ended, the Bloomberg Industries Mass Merchant Index, which includes Wal-Mart Stores Inc. and Dollar General, is up 80 percent, less than the 109 percent gain in the Standard & Poor’s 500 Index. Luxury retailers have flourished, as evidenced by the 254 percent surge in the Bloomberg Industries Global Luxury Goods Index, which includes companies such as Coach Inc., Hermes International and Prada Spa.

Jeffrey Hollender, who is among the wealthiest 1 percent in the U.S., isn’t surprised the world’s richest have even more than currently estimated.

“The more money that you have, the easier it becomes to hide that and avoid taxes,” said Hollender, 59, co-founder of cleaning and personal-care products company Seventh Generation Inc. He is a member of Responsible Wealth, a Boston-based network that advocates for economic fairness.

The measurement of assets for Europe’s super rich could be even faultier, according to Zucman. About 10 percent of their wealth is in offshore accounts compared with 4 percent in the U.S., he estimates in a May paper. Very rich people also have wealth in foundations and holding companies that make calculations difficult, he said.

It is possible that some European countries, “like the U.K. in particular,” are “almost — or even more — unequal than the U.S.,” Zucman said, a contrast with current data that show they are more wealth-equal.

Sampling Bias

European surveys do less than U.S. surveys to counter sampling bias and many miss the mark more, Vermeulen found. For example, Austria’s top 1 percent held as much as 36 percent of that country’s wealth in 2013, if adjusted with Forbes’ data. That’s 13 percentage points more than one survey estimate suggests, which would make Austria almost as unequal as the U.S.

Not understanding how much income and wealth the world’s richest hold means they’re paying less in taxes. Financial wealth held offshore costs the U.S. government $36 billion in annual revenue from nonpayment of income, investment, inheritance and estate taxes, according to Zucman’s paper. That’s enough to buy lunch for every student in New York City public schools for more than a century. Europe is losing about $75 billion.

“There are potential implications for tax policy,” Zucman said. “If inequalities are higher than we thought, then maybe it can change views on the extent to which marginal tax rates should be increased on top incomes or the extent to which we should use other tools, like a wealth tax.”

Homeless Veteran

Governments could use the additional revenue to help address imbalances. Carl Robits, 34, sleeps on London Wall, one of the main streets through the City, London’s financial district. He’s been homeless for about 18 months after a medical discharge from the Royal Anglian Regiment Second Battalion.

He was part of the Occupy London movement when it took over Finsbury Square in 2011-2012. Since then, “the system’s not any better,” said Robits, who was back at Finsbury Square last week. “There’s too much bureaucracy. Unless you have a drug or alcohol problem, you’re not a high priority. I’m not being helped. I’m not getting any form of advice or direction.”

The worldwide economy made some of the biggest strides in globalization between the fall of the Berlin Wall and the start of the past recession, causing living standards to improve for millions of poor people, including in China and India. The World Bank took a look at this period and found there actually was very little progress in reducing global inequality once adjustments were made for possibly undercounting the wealthy.

Gini Coefficient

In contrast with unadjusted figures that show a drop in disparity, the World Bank’s Gini coefficient measuring the extent of income inequality barely budged during those decades, according to preliminary adjustments by economists Christoph Lakner and Branko Milanovic.

“With a ‘top heavy’ adjustment, the decrease in inequality — present when we use all other adjustments — almost entirely dissipates,” they wrote in a December paper.

That’s surprising for a period when poverty was falling sharply: The number of people living on less than $1.25 a day dropped to 1.22 billion in 2010 from 1.91 billion in 1990 after adjusting for inflation, World Bank data show.

If earning gaps haven’t narrowed around the world even as the impoverished population declined, that could “really change the way economists think about the last 30 years,” said Lawrence Mishel, president of the Economic Policy Institute in Washington, which advocates for workers’ rights.

Economic Policies

“We really need to have a good sense on who is holding income and wealth, and how that’s changed over time, to get a better sense of how economic policies are playing out,” said Heidi Shierholz, an economist at the institute.

Tyler Cowen, an economics professor at George Mason University in Fairfax, Virginia, and co-author of the economics blog Marginal Revolution, thinks focusing on the top 1 percent when looking at income distribution is misguided. It may matter little if people such as Microsoft co-founder Bill Gates are taking home a greater share of income, as long as the poor are becoming better off in the process, he said.

“People worry about the top 1 percent too much; the real question is whether there is opportunity for everyone else,” Cowen said. “Inequality in a meaningful sense has gone down.”

Plus, the way income is measured skews perceptions of inequality. Tax data on earnings don’t count transfer payments made by the federal government through programs such as Social Security. Those even out the distribution by shifting funds toward poorer people, said Richard Burkhauser, a Cornell University economist whose research focuses on how public policies affect the economic behavior of vulnerable populations.

Concentration at the top and a poor grasp on inequality’s scope do worry Dal LaMagna, chief executive officer at Brooklyn, New-York-based manufacturer IceStone LLC and a member Responsible Wealth.

“It’s not good for the wealthy people sitting on Central Park West or 5th Avenue to have so much money that everyone else is hating them,” said LaMagna, 68, citing preferred addresses of New York City’s rich. “Ignorance allows it to persist.”