

Methodology

The U.S. Commerce Department’s Economic and Statistics Administration, under then-Undersecretary and current University of Wisconsin Chancellor Rebecca Blank, released its “Middle Class in America” report in 2010. The report showed how families of various incomes and structures “might achieve a middle class lifestyle.”¹ Instead of focusing on the definition of the middle class that is based on a family’s place in the national income distribution, the report calculated the cost of middle-class aspirations—such as paying for children’s college education and paying for a mortgage—and how various types of families could afford them.

In “Middle-Class Squeeze,” the authors calculate the cost of middle-class security—housing, college savings, health care, child care, and retirement. Using the median income for a married couple with two children—one of the family types featured in “Middle Class in America”—the authors show that it is more difficult for the median married family to afford middle-class security in 2012 than it was for that same family type in 2000, as its income stayed essentially the same—with only a \$650 increase—while the cost of middle-class security rose by \$10,600.

This report relies on the methodology of “Middle Class in America” as much as possible: It uses similar approaches to calculate families’ incomes, as well as the costs of college savings, health care, cars, and taxes. It uses a different approach to calculate the costs of housing and retirement and includes child care—an expense that “Middle Class in America” did not include. Finally, after subtracting the value of all calculated expenditures, this report calculates a residual called “everything else”—a category that covers everything not explicitly listed above, such as groceries, clothing, telephones, and emergency savings. In contrast, “Middle Class in America” calculated a value for “non-aspirational expenditures,” such as food and clothes, and then allocated the residual income left after subtracting all calculated housing expenses.

All numbers are in 2012 dollars using the Consumer Price Index Research Series Using Current Methods, or CPI-U-RS.² The following sections detail the methodology of how each category’s numbers were calculated.

Child care

These numbers are based on U.S. Census Bureau child care data in “Who’s Minding the Kids.”³ The report is issued in odd years; the authors used the 1999 and 2011 reports. They also used the number for a family making more than \$4,500 per month—or \$60,000 per year.

“Middle Class in America” does not include child care as an expense but shows that 84 percent of married couples with two children in this income group have two earners, which makes child care a required expense for many families to achieve this income at some point. While not every family has child care costs, the other pillars of middle-class security cost \$8,200 more in 2012 than they did in 2000. This creates a squeeze even if families are assumed to have no child care costs.

Additionally, the Census Bureau’s calculation of child care expenditures includes a variety of child care arrangements, including variation by the number of hours in care, the type of setting, and the quality of the program.⁴ This amount likely does not represent the cost of a high-quality program, which many parents need in order to be able to work. The average cost for full-time center-based child care is much higher, ranging from \$15,000 to \$22,000 per year depending on the region of the country, according to a parent survey conducted by Child Care Aware of America.⁵ This report’s 2012 estimate of child care costs—\$8,700—is significantly lower. Unfortunately, Child Care Aware of America does not provide an estimate for 2000 or a proximate year.

College savings

The authors’ analysis is based on the methodology from “Middle Class in America.” Assumptions include that the rate of return on college savings outpaces college inflation by 1 percent and that both of the family’s children attend four-year public universities, live at home for one year, and borrow to pay for one year of expenses. Based on the authors’ analysis, 18 years of saving were assumed.

A ratio of grants to tuition was taken from the U.S. Department of Education 2000 and 2012 National Postsecondary Student Aid Studies.⁶

The authors used a \$10,000 band around the 2000 and 2012 incomes of the median married couple with two children for the dependent students’ family incomes to

calculate the appropriate grant amount. They then multiplied these ratios by the full tuition price of a four-year public university to calculate a net tuition appropriate for the family's income. The net tuition, books, transportation, and "other expenses" were multiplied by six—as two children attend school for four years but borrow for one year—and the room and board number was multiplied by four—as both children live at home for one year and borrow room and board costs for another year. The authors then added these costs together to create a required college savings for the family. Finally, they calculated the annual savings necessary to achieve this required college savings based on a real rate of return of 1 percent—which was based on the assumption that the rate of return on college savings outpaces college inflation by 1 percent.

These data come from the College Board's "Trends in College Pricing" from 2000 and 2012.⁷

Health care

The authors used the sum of employee-side premiums and out-of-pocket costs for the average family of four in an employer-sponsored PPO plan from the National Institute for Health Care Management report, "Spending for Private Health Insurance in the United States."⁸ They used the 2002 number for 2000, since reliable and consistent data on out-of-pocket costs and employee-side premiums for a family of four were unavailable before 2002. Critically, this understates the amount by which health care costs have risen; it only covers 10 years of health care cost growth, rather than 12.

Housing

The authors' calculations are based on "Median monthly costs including all mortgages plus maintenance costs for owner occupied" in the Census Bureau's American Housing Survey for 1999 and 2011,⁹ as the survey is only available in odd years. This number includes mortgage, maintenance, utilities, and property tax expenses.

"Middle Class in America" calculates housing costs as a residual—the money left over after all other expenses—so its number differs a good deal conceptually from the number in this report.

Retirement

The authors assumed that families are saving 10 percent of pretax income for retirement. The 10 percent figure is an approximation of the standard recommendations of financial industry professionals. No single definitive recommendation exists for what percentage of income an individual should set aside for retirement. However, industry professionals usually place the total recommended contribution percentage between 10 percent and 15 percent of income—including both employee and employer contributions to retirement funds—with some favoring a slightly narrower range of 12 percent to 15 percent and with others suggesting much higher savings rates for workers who have postponed beginning to save until their 30s and 40s. Thus, while the total savings rate that should likely be recommended based on these suggestions would be closer to 12 percent or 13 percent, these totals would include employer contributions that do not come directly out of a worker's own take-home income. Consequently, the authors settled on 10 percent—at the lower end of the suggested savings-rate range—to account for potential employer contributions while still ensuring that all workers save at a rate within the adequate range.

Similarly, some academic research has recommended rates that fall in the 10 percent to 15 percent range for individuals who begin saving in their mid-20s and who are earning medium incomes, although the exact rate will vary significantly depending on the rate of return they receive on their investments and at what age they wish to retire. Vanguard, Fidelity, Charles Schwab, and the Center for Retirement Research at Boston College all offer recommendations and research.¹⁰

Taxes

This figure is based on the authors' calculation of the combination of federal and state and local tax rates multiplied by the family's income.

Federal tax rates come from the Tax Policy Center's calculation of the average tax rate of the median family of four.¹¹

State and local tax rates are based on the methodology from "Middle Class in America." Data come from the D.C. Office of Revenue Analysis' report "Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison."¹² Only income taxes were used, as property taxes are already counted as part of the housing number.

The 2000 tax rate comes from the 2006 D.C. Office report—which covers 2005—in order to ensure comparability and consistency, since the 2012 report uses a family of three and reports prior to 2005 used a family of four. “Middle Class in America” also used the family-of-three number for its calculation for a family of four. The tax rate was calculated with interpolated values of the tax rates that face different income brackets—\$50,000, \$75,000, and \$100,000—and families’ nominal incomes.

Cars

The authors calculated the cost of two cars driven 10,000 miles each using the national average from The American Automobile Association’s “Your Driving Costs” reports from 2002 and 2012.¹³

‘Everything else’

This is the median income of a married couple with two children minus the cost of the other items listed above. This category includes groceries, clothing, telephones, emergency savings, and everything else not listed above. Income data come from the authors’ analysis of Center for Economic and Policy Research Current Population Survey Annual Social and Economic Supplement extracts from 2001 and 2013.¹⁴

Endnotes

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- 11 Tax Policy Center, "Historical Combined Income and Employee Tax Rates for a Family of Four, 1955-2013," available at <http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=228> (last accessed August 2014).
- 12 D.C. Office of Revenue Analysis "Table 3: Income Tax Burden as Percent of Income in The Largest Cities By Type of Income Tax for a Family of Three, Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison" (2006 and 2013), available at <http://cfo.dc.gov/page/tax-burdens-comparison>.
- 13 The American Automobile Association, "Your Driving Costs" (2002 and 2012), available at <http://www.aaapa.org/drivingcosts2002.pdf> and <http://exchange.aaa.com/wp-content/uploads/2012/04/Your-Driving-Costs-20122.pdf>.
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