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Research Summary

Income Polarization in the United States

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The U.S. middle class is shrinking. Since 2000, more middle-income households have fallen into lower rather than higher income bracket. Combined with real income stagnation, this polarization has had a negative impact on the macroeconomy, hampering the main engine of U.S. growth: consumption. It is estimated that over 1998–2013, the U.S. economy has lost the equivalent of more than one year of consumption growth due to increased polarization.

The U.S. middle class—those households with 50–150 percent of median disposable income—has been shrinking. Middle-income households declined by 11 percentage points (from 58 to 47 percent) of the total U.S. household population between 1970 and 2014. In other words, the U.S. income distribution has been polarizing, or hollowing out, as middle-income households became richer or poorer (see Figure 1).

From 1970 to 2000, this polarization was mainly good news because more households moved into upper income ranks (with disposable incomes higher than 150 percent of the median) than slipped down (with disposable incomes lower than 50 percent of the median). Since 2000, however, the story has reversed. More middle-income households have fallen into lower-income than higher-income brackets.

Falling into a lower income bracket takes a toll on households, especially at a time when average real (after-inflation) incomes have been broadly stagnating. At the aggregate level, the hollowing out has damaged the economy in recent years by hampering consumption—the main engine of U.S. growth. Lower consumption in the world's largest economy also hurts its trading partners, as well as many other countries through global production and financial chains.

Middle Class Trends

A strong economy needs strong consumption and investment to function well. Low-income households have limited ability to consume and save little. High-income households save a lot, but relative to their incomes, consume too

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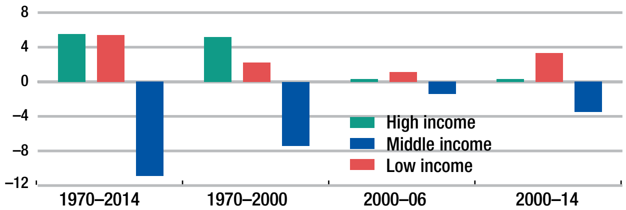
Income Polarization in the United States *(continued)*

Figure 1. Hollowing Out

The share of middle-income households in the United States has been shrinking since 1970.

(change in income-class share, percent of households)

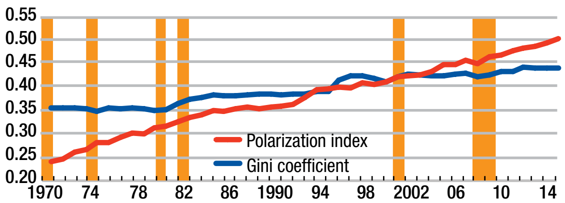


Source: U.S. Census Bureau, Current Population Survey.
Note: Middle-income households are those with annual incomes, adjusted for household size, between 50 percent and 150 percent of the national median income. Above that range are high-income households and below it are low-income households.

Figure 2. Fast Polarization

Although the growth in inequality has leveled off, income polarization continues to increase in the United States.

(value for Gini coefficient and polarization index)



Sources: U.S. Census Bureau, Current Population Survey; and author's calculations.
Note: The Gini coefficient is a measure of income inequality. When the coefficient is zero each household has the same income; when it is 1 a single household has all the income. The polarization index measures the movement of income from the middle to the lower and upper brackets. It is zero when all households have the same income and 1 when some households have no income and the others have the same (nonzero) income. Income data are adjusted for household size. Shaded areas represent recession.

little. Middle-income households provide a reliable balance for consumption and saving in the society. In the United States, the middle class not only accounts for most of the economy's consumption, but also provides most of its human capital and owns most of its physical capital, such as houses and cars. Therefore, a shrinking middle class hurts the economy.

The 11 percentage point shift in the middle class share of total U.S. households since 1970 represents, in part, economic progress; roughly half of these households advanced up through the income distribution, while the other half moved down over that span. But the long-term trend masks a deterioration since the turn of the century. While the majority of middle income households that left the middle ranks moved up between 1970 and 2000, since 2000 only 0.25 percent of households have moved up to higher income ranks, compared to an astonishing 3.25 percent of households that have moved down the income ladder from middle- to low-income status.

Income share is a proxy for an income group's relative weight in the economy. At the same time that the middle class is hollowing out, its share of total national income is shrinking. The income share of middle-income households fell from about 47 percent of total U.S. income in 1970 to about 35 percent in 2014. That decrease in the income of the middle-income households corresponds to the increase in the income share garnered by high-income households. Meanwhile, the income share for the lower-income households has been flat over the entire period—at around 5 percent of total national income. Low wage growth in recent years—partly a result of the drawn out recovery from the global financial crisis but also because people weren't changing jobs—has also contributed to these trends (Danninger, 2016).

Inequality and Polarization

Although growing income inequality has been studied extensively by economists, income polarization (or hollowing out) has not received as much attention. Income polarization measures the move from the middle of the income distribution out into the tails. Income inequality measures how far apart incomes at those tails are, that is, what is the income distance between the low and high-income groups.

Income inequality is usually measured by the Gini coefficient, which gauges statistical dispersion in household income distribution. The polarization index, which is not as well-known as the Gini coefficient, was developed to measure income polarization. This index, measures the relative population weight of households whose incomes are close to the extremes (poles) of the income distribution. The polarization index varies between zero and one. It is zero when all households have the same income. It increases as incomes of more households get closer to the two extremes of the income distribution and reaches 1 when some households have no income and the others have the same (non-zero) income. Figure 2 shows that polarization has grown faster than inequality since 1970 based on a comparison of the Gini and polarization indices. Moreover, while the Gini coefficient has been broadly flat since 2000, the polarization index notably increased around the global financial crisis, suggesting that the hollowing out of the middle class in recent years may be socially and economically even more worrisome than inequality.

How Broad-Based Is Hollowing Out?

We defined the middle class as households whose incomes fall within 50 to 150 percent of median income, but there are no

easily-agreed definitions of what constitutes the middle class. Our research shows that the hollowing out of the middle class appears to occur under alternative reasonable assumptions about what upper and lower bands around median income (e.g., 60–225 or 75–125 percent of median income, instead of 50-150 percent) are used to define middle income.

We adopted a relative definition of the middle class in which household incomes each year are compared to the median income of that year. One could also define the middle class based on absolute dollar salary cut-offs that are not necessarily the median income. The hollowing out trends are also similar when absolute levels are used.

In addition, when households in the top 1 percent of income distribution are excluded as well as across age, race, or education level the results are similar: income polarization has increased substantially over the past four decades. The only exception is for households headed by women; in this group polarization has somewhat decreased since 1970, although in recent years, households headed by women have also seen an increase in income polarization.

The Economy Suffers

When households disproportionately move toward the lower part of the income distribution scale, as has been happening recently, there may be negative social and political repercussions. This downward move may also, and usually justifiably, be seen as unfair.

But polarization can also have important consequences for the overall economy. Since 1998, most polarization has involved middle-income households joining the low-income ranks. For the economy as a whole this downward movement has reduced income and resulted in a consumption loss. We estimate that polarization has resulted in about 1¾ percentage points of cumulative lost U.S. consumption growth between 1999 and 2013—i.e., the total consumption lost over this period due to increased polarization is equivalent to about half a year of consumption growth.

To make matters worse, recent evidence suggests that an increase in income of a similar amount for all households does not result in the same increase in consumption that it would have triggered not too long ago—to use economists' jargon, the economy's marginal propensity to consume has decreased, despite economists' predictions that it would increase with more low-income households. This has put additional downward pressure on consumption. The total consumption lost between 1999–2013 due to the lower responsiveness of consumption to increases in income has also been estimated at about 1¾ percentage points.

We can only hypothesize about what has caused the increased polarization and its alarming consequences for the overall economy. Some of it may be due to policies such as taxation or immigration. Technological progress and declining unionization may also play a role, as well as recessions. Future research should study these or other possible explanations.

Understanding the causes of polarization would help authorities devise policies to mitigate the pattern, ensure most people achieve improved living standards over time, and tackle the social and economic consequences of polarization toward the lower part of the income distribution.

Global Phenomenon

Although this article focused on income polarization in the United States, hollowing out appears to be occurring in other countries too. For example, Bigot and others (2012) show that in Canada and Germany, polarization seems more pronounced than in the United States in recent decades, while in France, Italy, and the United Kingdom, it appears to have slowed or decreased. The data for emerging economies are sparse, but Lueth and Syed (2006), using World Bank data, found that in all but one of nine Asian countries, polarization grew from the mid-1990s to mid-2000s. The largest increase in polarization was in China and the smallest in Sri Lanka. Only in Thailand was there a decline in income polarization during this period.

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