

Does Redistribution Increase Output?

By Kartik B. Athreya, Andrew Owens, Jessie Romero, and Felipe F. Schwartzman

According to conventional wisdom, wealth redistribution boosts output by increasing aggregate consumption. However, while redistributive policies can have a short-run stimulative effect on consumption, their effect on output depends, potentially quite importantly, on the nature of household labor supply.

In response to economic downturns, fiscal policymakers have turned to redistributive policies as a means to stimulate economic growth. For example, the Economic Stimulus Act of 2008 provided tax rebates to low- and middle-income taxpayers, and the bulk of the government expenditures in the 2009 American Recovery and Reinvestment Act were in the form of transfers, such as extending unemployment insurance and increasing food stamp benefits.¹

The conventional rationale for redistribution is that lower-wealth households have a higher marginal propensity to consume — that is, they are more likely than higher-wealth households to spend an extra dollar received than to save it. This occurs because less wealthy households are generally more likely to be affected by liquidity constraints, that is, a limit on the amount they are able to borrow against future income in order to fund their desired current consumption level. As a result, transfers to lower-wealth households would boost aggregate consumption. This redistribution then has a stimulative effect on output because, in a standard Keynesian framework, an increase in the demand for labor is met with higher employment.²

This view puts household heterogeneity, with respect to both wealth and consumption behavior, front and center in determining the aggregate short-run response to a change in transfers. In recent research, Kartik B. Athreya, Andrew Owens, and Felipe F. Schwartzman show that the effect of a wealth redistribution program likely depends critically on another type of heterogeneity: how the marginal propensity to work varies with wealth.³ If recipients of a redistribution of wealth are likely to drop out of the labor force and contributors are not more likely to increase their hours worked, wealth redistribution programs could have contractionary effects on output and employment, even if there is a short-run increase in consumption. In other words, the stimulative impact of a redistributive policy is a function of how the marginal propensity to work, more than the marginal propensity to consume, varies with household wealth.

In practice, most redistribution programs are income-based, such as welfare programs or the Earned Income Tax Credit; real-world examples of wealth redistribution programs are relatively rare.⁴ However, it is challenging to isolate the impact of income redistribution programs from

distortions caused by the tax system or changes in a household's future exposure to income risk. Athreya, Owens, and Schwartzman thus chose to study wealth redistribution to isolate more clearly the impact of differences in labor supply decisions across households. The research is not empirical but rather a counterfactual study based on a quantitative model of the U.S. economy.

Modeling Labor Supply Decisions

The authors' model features several characteristics to make it as realistic as possible, given current evidence about the U.S. economy and U.S. households' behavior and preferences. First, the model is specified to match the wealth distribution in the United States, in particular the high concentration of wealth in the extreme right tail of the distribution. The model also includes life-cycle effects — the fact that savings behavior changes with age — by incorporating Social Security, among other things. In addition, the model includes means-tested social insurance and income taxes, which can affect households' saving behavior and labor supply decisions.

The model also includes two-earner households and allows each earner to make a separate decision about his or her labor supply. Empirical work has shown that second earners have a relatively high labor supply elasticity, meaning that their decisions about whether and how much to work are very responsive to changes in both the primary and secondary earners' wages (both pre- and post-tax). Recent research has found that the reaction of the secondary earner's labor supply to the primary earner's income is a result not only of complementarities in leisure (that is, non-market activities) for the two members of the household, but also of the type of wealth effects on labor supply that Athreya, Owens, and Schwartzman emphasize: if the wage of the primary earner increases, overall household wealth goes up and the secondary earner can afford to work less.⁵ At the same time, primary earners have been shown to have a relatively low labor supply elasticity with respect to the number of hours they work. For this reason, the authors assume that the labor of primary earners is "indivisible." In other words, they can only choose to work full time or not at all.

As a starting point, Athreya, Owens, and Schwartzman analyze a model in which labor and capital are purchased in competitive markets with no externalities or distortions. In this case, expenditures have no effect on labor demand, so any change in output results from changes in labor supply. In another specification of the model, expenditures do have an effect on labor demand. In this case, shifts in the labor demand function only matter to the extent they amplify or dampen labor supply responses. Labor supply behavior thus remains dominant even when changes in household expenditure decisions can shift labor demand.

Athreya, Owens, and Schwartzman also analyze an economy with "sticky prices," meaning that prices are slow to change in response to other variables. In this type of model, the central bank sets an interest rate that might differ from the natural rate of interest, which is the interest rate consistent with stable prices and full employment of capital and labor.⁶ If the central bank sets a rate that is lower than the natural rate, this action leads to an increase in consumption. Firms respond by increasing production, but because prices are sticky, they can't raise their prices as much as they otherwise would to cover the increase in the marginal cost of production. Low price markups then lead to a boom in demand. In other research, this type of model has generated an increase in aggregate labor demand through fiscal stimulus. However, the authors still find that labor demand plays a very limited role, and that understanding the determinants of labor supply remains critical.

The Effects on Labor Supply and Output

In their quantitative model, Athreya, Owens, and Schwartzman find that a one-time wealth redistribution leads to a significant increase in aggregate consumption, driven almost entirely by households in the lowest quintile of the income distribution. This occurs because, prior to the redistribution, poor households attempt to avoid liquidity constraints by saving to reach a certain target wealth level. Receiving the transfer enables them to achieve this target and thus allows them to increase their consumption substantially. In addition, prior to the transfer, some households must borrow to fund their current

consumption. Those households that already have reached their borrowing limit when the transfer occurs will not save any portion of the transfer, further increasing consumption.

While lower-wealth households generally will increase their consumption as a result of the transfer, they also are able to increase their leisure. This increase in leisure leads to a decrease in labor supply and thus, potentially, to a decline in aggregate output. However, contributors to the transfer — that is, the higher-wealth households — might increase their labor supply and reduce their leisure. This countervailing effect is especially likely to be important to the extent that higher-wealth households are more productive, so that a small increase in their labor supply can make up for large decreases in the labor supply of less-wealthy and less-productive households.

The authors find that labor supply decreases for households in the bottom four quintiles of the wealth distribution, with the largest decreases in the first and second quintiles. Households in the top quintile increase their labor supply, but not enough to offset declines in the other quintiles. Still, although there is a decline in aggregate hours worked, effective hours worked changes only slightly; assuming the wealthy earn higher wages because they are more productive, the increase in labor supply among those in the top quintile offsets the decline in labor supply among the bottom quintiles. This helps to dampen the contraction in output that results from the fall in labor supply.

The contraction also is muted due to the fact that many of the least wealthy people are retirees. Because by definition retirees do not work, they cannot reduce their labor supply in response to a wealth transfer. If the redistribution only took place between working families, the decline in labor supply and hence in output would be much greater.

The effect on output also depends on how the redistribution is targeted. When labor is indivisible — in the model, primary earners can only choose whether or not they work, not how much they work — the labor supplies of the very poor and the very rich are

insensitive to the redistribution. But for households on the margin, for whom the redistribution might be enough to induce them to start or stop working, it matters whether they are recipients of or contributors to the redistribution. The authors conclude that the effect on output is more likely to be positive if these moderate-wealth households are net contributors and thus increase their labor supply.

Conclusion

As the authors note, it is possible that alternative specifications of their model could overturn the result that labor supply is the central channel through which a redistribution of wealth affects output. Still, under a reasonable and realistic set of assumptions, labor supply plays an important role and is an important complicating factor that requires more investigation. Currently, there is a large body of work on how the marginal propensity to consume varies with wealth but very little research on how the marginal propensity to work varies. These results point to the need for more empirical research on the latter.

Although Athreya, Owens, and Schwartzman's results suggest that a redistribution of wealth would have at best little effect on output, and might actually reduce it, they should not necessarily be construed as saying that redistribution is bad. Gross domestic product is not the same as welfare: allowing people to retire earlier or enabling secondary earners to drop out of the labor force to, for example, help take care of children or elderly parents are significant benefits to the recipients of a redistributive program. Those benefits might be good reasons in and of themselves to redistribute wealth, even if they have little to do with the more standard rationale and rhetoric surrounding boosting output. ■

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Endnotes

¹ Hyunseung Oh and Ricardo Reis, "Targeted Transfers and the Fiscal Response to the Great Recession," *Journal of Monetary*

Economics, December 2012, vol. 59 supplement, pp. S50–S64. A [working paper version](#) is available online.

- ² For an overview, see Alan S. Blinder, “[Keynesian Economics](#),” In *The Concise Encyclopedia of Economics*, David R. Henderson (ed.), Indianapolis: Liberty Fund, 2008.
- ³ Kartik Athreya, Andrew Owens, and Felipe Schwartzman, “[Does Redistribution Increase Output? The Centrality of Labor Supply](#),” Federal Reserve Bank of Richmond Working Paper No. 14-04R, Revised December 28, 2016.
- ⁴ Atif Mian and Amir Sufi proposed forgiving housing debt as a way to accelerate the recovery from the 2007–09 recession. (See Mian and Sufi, “What Explains the 2007–2009 Drop in Employment?” *Econometrica*, November 2014, vol. 82, no. 6, pp. 2197–2223.) A [working paper version](#) is available online. Another example of a redistribution of wealth is unexpected inflation that redistributes from holders of nominal assets to holders of nominal debts.
- ⁵ Richard Blundell, Luigi Pistaferri, and Itay Saporta-Eksten, “Consumption Inequality and Family Labor Supply,” *American Economic Review*, February 2016, vol. 106, no. 2, pp. 387–435. A [working paper version](#) is available online.
- ⁶ For a discussion of the natural rate of interest, see Thomas A. Lubik and Christian Matthes, “[Calculating the Natural Rate of Interest: A Comparison of Two Alternative Approaches](#),” Federal Reserve Bank of Richmond *Economic Brief* No. 15-10, October 2015.

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