/media/project/frbstl/stlouisfed/files/pdfs/bullard/remarks/2019/bullard_uo fwisconsin_28_mar_2019_transcript.pdf)

Bullard also gave a presentation on this topic at the University of Wisconsin-Madison on March 28. For additional information, see his related St. Louis Fed On the Economyblog post, " [Can Monetary Policy Benefit Everyone in Society?](https://www.stlouisfed.org/on-the-economy/2019/march/monetary-policy-benefit-everyone)," which was released the same day. (The paper and blog post are both co-authored with [Riccardo DiCecio](https://research.stlouisfed.org/econ/dicecio/sel/).)

Bullard's previous presentations of " [Optimal Monetary Policy for the Masses](https://www.stlouisfed.org/from-the-president/speeches-and-presentations/2018/optimal-monetary-policy-masses)" are also available.

This video is from the April 17th event in Annandale-on-Hudson, N.Y.

Having trouble with the video? [Watch it here.](https://www.youtube.com/watch?v=coOzxQysfhg&list=PLGGYihhM4K 237CmaBCI-r2c96HU_rMib6&index=5&t=0s)

- **March 28, 2019**. Article. "Can Monetary Policy Benefit Everyone in Society?" *St. Louis Fed On the Economy* blog.
  Related working paper (with Riccardo DiCecio), "Optimal Monetary Policy for the Masses," March 2019.

Can Monetary Policy Benefit Everyone in Society?

Since the financial crisis, the topic of income inequality has become more important in monetary policymaking circles. In particular, monetary policy has been criticized as redistributing income to various parts of the population.

But can monetary policy be conducted in a way that benefits everybody in society? This is a question that we set out to answer in a recent working paper, and we found that the answer is yes. Bullard, James and DiCecio, Riccardo. " [Optimal Monetary Policy for the

Masses](https://research.stlouisfed.org/wp/more/2019-009)," Federal Reserve Bank of St. Louis Working Paper No. 2019-009A, March 2019. Presentations of this paper can be found at https://www.stlouisfed.org/from-the-president/speeches-and-presentations/2018/optimal-monetary-policy-masses. In fact, nominal gross domestic product (GDP) targeting constitutes "optimal monetary policy for the masses," which is the title of our paper.

Consumption, Income and Wealth Inequality
Along with income inequality among households, consumption inequality and financial wealth inequality are important considerations. Wealth inequality tends to be higher than income inequality, which tends to be higher than consumption inequality.

Many models used to assess the aggregate implications of monetary policy assume a representative agent. That is, a single household is meant to represent the distribution of households, and that household could be the median or average along some characteristic, for instance.

By construction, these models are silent on the redistribution effects of monetary policy. Instead, our model includes substantial heterogeneity (or differences) among households in terms of consumption, income and financial wealth and allows us to study the distributional effects of monetary policy.

Life Cycle Economy
Our model also has a life cycle aspect, tracking economic decisions of people aged 20 to 80 at a quarterly frequency. Income will be relatively low at the beginning and the end of the life cycle and relatively high in the middle.

However, people want to smooth their consumption over their lifetimes. Therefore, they tend to borrow when they are young, save in middle age and draw down their savings when they are older. This requires a well-functioning private credit market, which is the heart of the model.

This life cycle economy naturally has some inequality. For instance, people

in the second half of the life cycle will have more wealth than those at the beginning, who are taking on debt to pull consumption forward.

Another source of inequality in our model is that people have different efficiency (or we could think of this as ability), which explains why some people are richer than others at the same age. The highly talented people will have higher efficiency and therefore earn higher income than those who have lower efficiency at every point in the life cycle.

Even those with higher efficiency still want to borrow when they are young and save later in the life cycle so they can smooth consumption. However, the levels at which these households consume and save will be higher than the levels of those with lower efficiency. In this sense, everyone is using credit markets and benefits from having them work properly.

In our model, aggregate output depends on the aggregate labor input across all households and on aggregate labor productivity. Importantly, monetary policy will respond to shocks (or unexpected changes) to aggregate productivity growth, which are the only shocks in the economy.

Optimal Monetary Policy
The model in our paper is an extension of the model in a paper with Aarti Singh. Bullard, James and Singh, Aarti. " [Nominal GDP Targeting with Heterogeneous Labor Supply](https://s3.amazonaws.com/real.stlouisfed.org/wp/2017/2017-016.pdf)," Journal of Money, Credit and Banking, forthcoming. For issues related to the zero lower bound, see Azariadis, Costas; Bullard, James; Singh, Aarti and Suda, Jacek. " [Incomplete Credit Markets and Monetary Policy](https://s3.amazonaws.com/real.stlouisfed.org/wp/2015/2015-010.pdf)," Journal of Economic Dynamics and Control, forthcoming. In these models, private credit markets play an important role in reallocating uneven income across the life cycle so that people can consume smoothly. As a practical matter, we can think of privately issued debt as similar to mortgage-backed securities.

However, there is a problem with the credit markets—households borrow in nominal (rather than real) terms and pay a nominal interest rate, neither of

which depends on the state of the economy. This imperfection in the credit market is referred to as "non-state contingent nominal contracting." This is an issue because optimal allocations of resources require contracts to be tied to the realization of aggregate productivity shocks.

Monetary policy fixes this problem in the credit markets by adjusting the aggregate price level in response to aggregate productivity shocks, which makes the nominal contracts real and state-contingent. The optimal monetary policy in these models is something very close to nominal GDP targeting because it calls for countercyclical price-level movements. To keep nominal GDP on its targeted path, the monetary policymaker would follow a policy rule whereby inflation would be relatively high when growth is low and it would be relatively low when growth is high.

In our recently released paper, the new aspect is the substantial heterogeneity among households. The amount of consumption, income and wealth inequality generated by our model is close to that in U.S. data, as measured using Gini coefficients. Nevertheless, in this environment, the optimal monetary policy—nominal GDP targeting—fixes credit markets for all agents.

Conclusion
Our paper contributes to the literature on inequality and monetary policy. We provide an example of an economy where monetary policy benefits everyone in society because it helps to best allocate resources among borrowers and lenders. Therefore, it improves consumption allocations and reduces consumption inequality—that is, it helps everyone along the income distribution to smooth consumption over their lifetime.

While monetary policy in this paper benefits everyone, considerable inequality still exists. Some inequality occurs naturally due to differences over the life cycle, but not all of it. The remaining inequality—due to differences in efficiency or ability—would need to be addressed with other types of policies.

Notes and References
1Bullard, James and DiCecio, Riccardo. " [Optimal Monetary Policy for the

Masses](https://research.stlouisfed.org/wp/more/2019-009)," Federal Reserve Bank of St. Louis Working Paper No. 2019-009A, March 2019. Presentations of this paper can be found at https://www.stlouisfed.org/from-the-president/speeches-and-presentations/2018/optimal-monetary-policy-masses.

2Bullard, James and Singh, Aarti. " [Nominal GDP Targeting with Heterogeneous Labor Supply](https://s3.amazonaws.com/real.stlouisfed.org/wp/2017/2017-016.pdf)," Journal of Money, Credit and Banking, forthcoming. For issues related to the zero lower bound, see Azariadis, Costas; Bullard, James; Singh, Aarti and Suda, Jacek. " [Incomplete Credit Markets and Monetary Policy](https://s3.amazonaws.com/real.stlouisfed.org/wp/2015/2015-010.pdf)," Journal of Economic Dynamics and Control, forthcoming.

Additional Resources
• [President Bullard's website](https://www.stlouisfed.org/from-the-president)
• Presentations and Paper: [Optimal Monetary Policy for the Masses](https://www.stlouisfed.org/from-the-president/speeches-and-presentations/2018/optimal-monetary-policy-masses)
• Annual Report 2017: [Alternatives to Inflation Targeting](https://www.stlouisfed.org/annual-report/2017/alternatives-to-inflation-targeting)

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- **February 22, 2019**. Presentation. "When Quantitative Tightening Is Not Quantitative Tightening," 2019 U.S. Monetary Policy Forum, The Future of the Federal Reserve's Balance Sheet, New York, N.Y.