Monetary Policy and Racial Inequality

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Introduction

Motivation

- 150 years after the end of slavery, racial gaps in income and wealth remain enormous in the U.S.

- In 2019, median black household wealth stood at 11%, median income at 58% of white households.

- Research interest in the distributional effects of monetary policy

"The Fed has a profound impact on our economy. [...] It's existing mandate promotes maximum employment, and stable prices. [...] [T]he Fed should add to that responsibility, and aggressively target persistent racial gaps in jobs, wages, and wealth [...]."

Joseph Biden, Wilmington, Delaware, July 28, 2020

"With regard to the employment side of our mandate, our revised statement emphasizes that maximum employment is a broad-based and inclusive goal. This change reflects our appreciation for the benefits of a strong labor market, particularly for many in low- and moderate-income communities."

Jerome Powell, Jackson Hole, August 27, 2020

Task: Investigate impact of monetary policy on racial gaps in income and wealth

What we do

- Estimate the effects of monetary policy shocks on racial unemployment and wage gaps and on asset prices.

- Link asset price changes to the portfolio gains of black and white households using SCF data.

⇒ Compare the earnings and portfolio effects of monetary policy shocks over different time horizons.

What we find

- An accommodative policy shock reduces the unemployment gap, which increases earnings of black households relative to white.

- At the same time, the shock affects asset prices with different impacts on the the portfolios of black/white households.

- Wealth gains from an accommodative shock overwhelmingly benefit white households.

$\Rightarrow$ While monetary accommodation reduces racial income inequality slightly, it widens racial wealth gap significantly.

Racial inequalities in income and wealth

Data

- Granular household-level data from the 2019 SCF.

- Wealth = sum of marketable assets minus debt.

- Stock and bond holdings are the sum of *direct and indirect* positions in mutual funds, trusts, retirement and investment savings accounts.

- Labor market data from the Bureau of Labor Statistics.

Black and white household wealth and income (2019 SCF)

|	Means		Medians		Share with holdings (%)	
	White	Black	White	Black	White	Black
Bonds	122,700	19,600	0	**0**	47	27
Housing	353,500	104,700	170,000	**0**	75	46
Equity	474,000	40,900	9,000	**0**	64	35
Other non-financial assets	33,400	13,500	17,000	8,000	90	72
Liquid assets	57,000	13,900	8,000	1,400	99	95
Other financial assets	28,400	7,600	0	0	37	30
Net wealth	951,300	139,800	**181,400**	**20,700**		
Debt	117,300	60,400	35,000	10,100		
Income	113,300	58,100	67,200	38,700		

Source: Table 1.

- Black households' median holdings of equities, bonds, houses are 0.
- Wealth gaps proportionately much larger than income gaps.

Change in wealth-to-income ratios relative to 1971
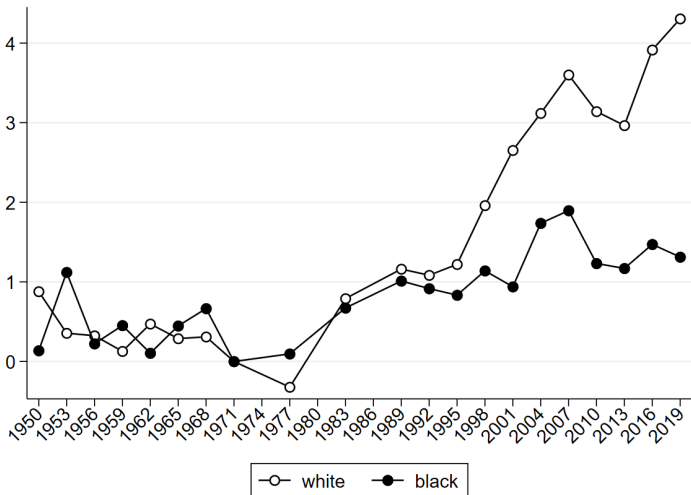
Source: Figure 3.

Average portfolio shares (percent of total assets)
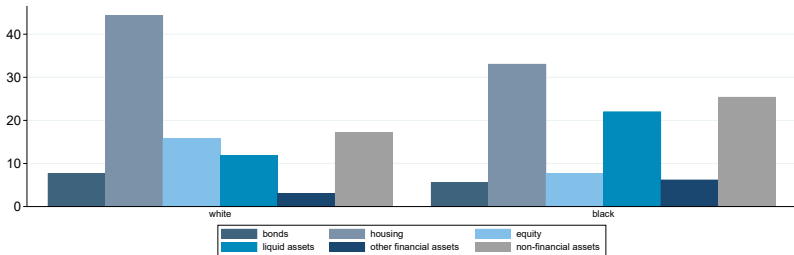
Source: Figure 1.

- Pronounced portfolio differences: equity share of white households twice as high, housing share about a third higher.
- Differences in portfolio composition give rise to different exposures to asset price changes.

Monetary policy, asset prices and the unemployment gap

Effects of monetary policy shocks

Step 1

- Shock identified with Romer and Romer methodology - orthogonal to Fed's information set
- Estimate effects of shock on asset prices and labor market with LP-IVs

Step 2

- Apply estimated asset price changes to SCF household data to determine portfolio and capital income effects.
- Use estimated labor market effects of shocks to determine earnings effects.

Step 3

- Compare earnings and portfolio effects over time.

Estimation strategy
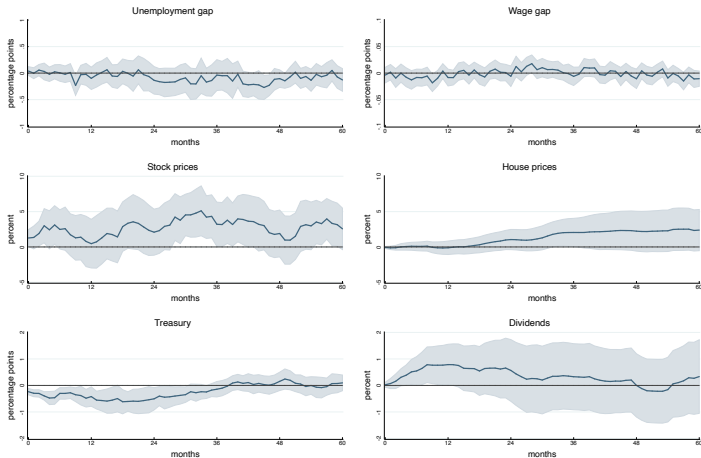
$$\Delta r_t = \Delta z_t\, b + x_t\, g + \epsilon_t$$
$$y_{t+h} = \alpha_h + \Delta \widehat{r}_t\, \beta_h + x_t\, \gamma_h + \nu_{t+h}\,; \quad \text{for } h = 0, \ldots, H-1$$

- Δr_t: change in FFR in month t
- Δz_t: surprise component
- y_{t+h}: unemployment gap or asset prices
- x: controls (6 lags of outcome and shock variable)

▸ shock measures ▸ macro data

Effects of a 100bp monetary policy shock

Source: Figure 9.

▸ point estimates

Portfolio and capital income effects

Assumptions

- Identical price changes within each asset class in the SCF
- Use duration data from Bloomberg to translate yield effects into price changes.
- The policy rate change passes through to deposit rates
- The change in treasury yield passes through to mortgage rates and all borrowers refinance.
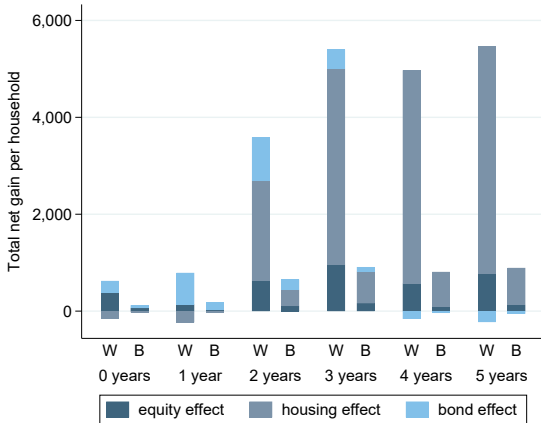
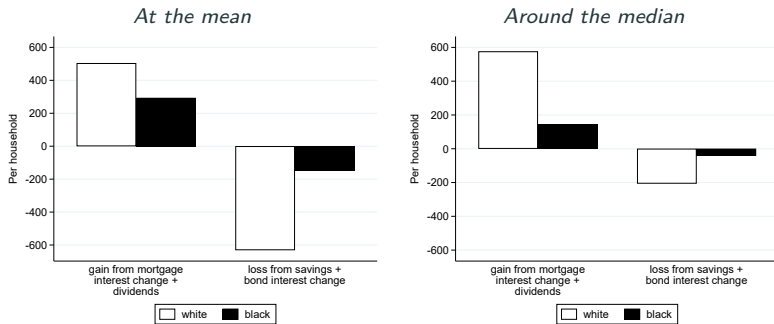# Capital gains for black and white households from policy shock

▸ gender & marriage
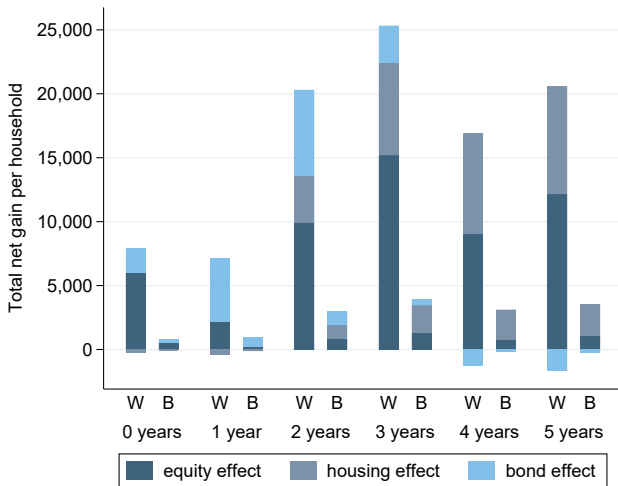
Capital gains for black and white households around the *median (40-60th percentile)* from policy shock

Source: Figure 14.

Effects of policy shock on capital income for black and white households, after one year

At the mean

Around the median

Source: Figure 12 (mean) and Figure 16 (median).

# The earnings effect and comparisons with portfolio effect

Quantifying the earnings effect

- Policy shock affects the unemployment rate gap but not the wage gap.

- The earnings gain for black households relative to white households in period h:

$$\Delta_h Y = \Delta_h u (Y_E^B - Y_U^B)$$

- $\Delta_h u$ is the policy shock effect on the unemployment rate gap. At the peak, $h = 24$ months, $\Delta_h u = $ -0.137

- Y_E^B and Y_U^B denote average labor income of black households who have / have not experienced unemployment during the past year. $Y_E^B - Y_U^B = \$56{,}200 - \$27{,}500 = \$28{,}700$.

- Relative gain in average earnings after 24 months: \$39 or 0.07% of average annual income for black households.

Accumulated relative earnings and portfolio effects
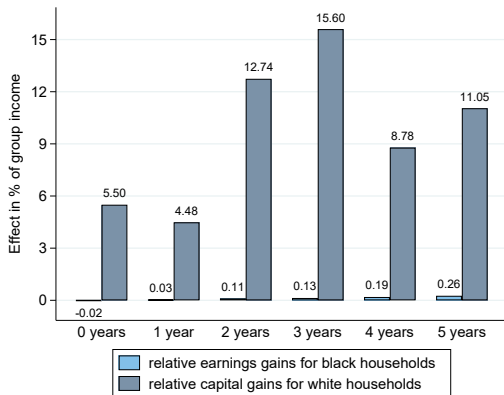
Source: Figure 17.

Comparing earnings and portfolio effects

- To make a comparision, use the effect of wealth changes on consumption.

- After 5 years, capital gains of the average white household are $15,600 more than gains of average black household.

- Typically, the MPC out of capital gains is 3 cents/dollar, which implies an increase in consumption of $470.

- The relative wealth effect on consumption for white households is 3.5 times greater than the cumulated relative earnings gain for black households ($134).

Beyond the business cycle

- Traditionally, monetary policy shocks seen to have short-run effects only
- However, empirical studies find effects over long horizons
- Capital gains on assets can have persistent effects on racial gap:
    - Relaxation of collateral constraints eases access to credit for homeowners or business formation
    - Shifts in the policy regime can have permanent effects on asset prices
    - Life-cycle trading motives can make it impossible to wait for shock in opposite direction
    - Inherited differences in asset ownership along racial lines can lead to different propensities to buy assets.

Conclusion

Conclusion

- Monetary policy shocks affect earnings and wealth of black and white households differently.

  - Black households reap larger benefits from accommodative policy in terms of employment and earnings.
  - White households have larger capital gains on assets.
  - By any measure, earnings gains are small relative to portfolio effects

- Policies that reduce earnings gap exacerbate wealth inequality.

Conclusion

- Reduction of racial inequalities is a major policy objective, but the conventional tools of monetary policy may not be the right ones to achieve it.

- Raphael Bostic, President of the Atlanta Fed: *"[the Fed] can play an important role in helping to reduce racial inequities and bring about a more inclusive economy."*

- Can a central bank pursue this objective without becoming embroiled in politics?

Monetary policy shock series

Source	Method	Time Period
Coibion et al. (2017)	Extended Romer-Romer shocks identified as component of policy changes that is orthogonal to the Fed's information set, Federal Reserve Greenbook projections for GDP and inflation, and unemployment	3/1969 - 12/2014

Macroeconomic data

Variable	Description	Time Period	Source
Federal Funds Rate	Federal Funds Target	11/1988 - 9/2017	FRB
Unemployment rate	seasonally adjusted unemployment	1/1960 - 9/2017	BLS
Unemployment gap	difference in black and white unemployment rates	1/1972 - 9/2017	BLS
Hourly wages	Black and white workers	1/1982 - 9/2017	BLS
Weekly earnings	Black and white workers	1/1982 - 9/2017	BLS
Industrial production	industrial production index	1/1960 - 9/2017	FRB
Stock price	S&P500 price	1/1960 - 9/2017	S&P
Inflation	CPI, all urban consumers	1/1960 - 9/2017	BLS
M2 growth	Real money stock	1/1960 - 9/2017	FRB
House price	Case-Shiller house price index	1/1975 - 9/2017	S&P Corelogic
Dividends	Real dividends, S&P500	1/1960 - 9/2017	R. Shiller
Corporate debt yield	Moody's seasoned corporate BAA yield	1/1960 - 9/2017	FRB
Treasury yield	10-year constant maturity T-note yield	1/1960 - 9/2017	FRB

Source: Table 2.

LP-IV estimates for response to 100bp expansionary MP shock

| Horizon	Unemployment Gap %	Wage Gap %	Stocks pp	Houses pp	Treasury pp	Dividends %
0M	0.038	-0.004	1.268*	-0.074	-0.236***	0.026
	(0.121,-0.045)	(0.011,-0.018)	(2.461,0.074)	(0.069,-0.217)	(-0.117,-0.355)	(0.119,-0.067)
6M	0.004	-0.008	2.479	0.080	-0.299**	0.548*
	(0.161,-0.154)	(0.008,-0.024)	(5.254,-0.295)	(0.687,-0.527)	(-0.082,-0.516)	(1.088,0.007)
12M	-0.009	-0.008	0.463	-0.118	-0.420*	0.787*
	(0.111,-0.308)	(0.007,-0.024)	(3.903,-2.976)	(0.835,-1.070)	(-0.055,-0.785)	(1.553,0.020)
24M	-0.137	-0.006	2.089	1.046	-0.505**	0.566
	(0.123,-0.396)	(0.013,-0.025)	(5.346,-1.169)	(2.475,-0.383)	(-0.085,-0.925)	(1.731,-0.598)
36M	-0.038	-0.006	3.206*	2.047*	-0.143	0.328
	(0.253,-0.328)	(0.011,-0.023)	(6.333,0.078)	(4.044,0.051)	(0.148,-0.434)	(1.575,-0.918)
48M	-0.104	-0.011	1.905	2.230	0.154	0.001
	(0.061,-0.269)	(0.008,-0.029)	(5.211,-1.401)	(5.049,-0.589)	(0.500,-0.192)	(1.195,-1.193)
60M	-0.129	-0.011	2.564	2.383	0.097	0.334
	(0.084,-0.342)	(0.004,-0.025)	(5.493,-0.365)	(5.299,-0.533)	(0.393,-0.199)	(1.723,-1.054)

Source: Table 3.

Summary statistics by marital status and sex

|	Mean income	Mean wealth	Share of housing in total assets	Share of equity in total assets
White				
Single	57614	403456	0.36	0.38
Men	69194	469742	0.30	0.45
Women	49373	356279	0.41	0.31
Married	151141	1323076	0.32	0.46
Black				
Single	41466	82248	0.58	0.15
Men	51961	118201	0.54	0.20
Women	36146	64022	0.62	0.10
Married	90825	253066	0.49	0.24

Source: Table A.2.

◄ back

Total effects over time by marital status, per household
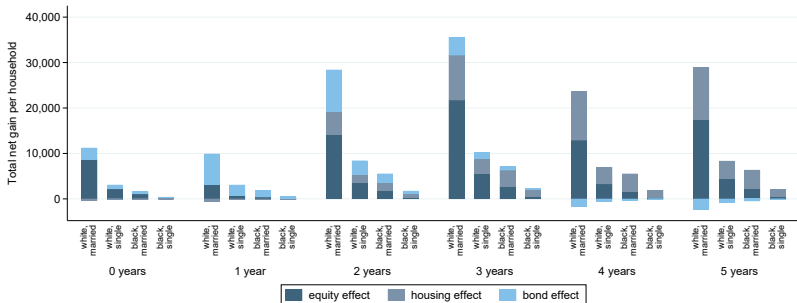
Source: Figure A.6.

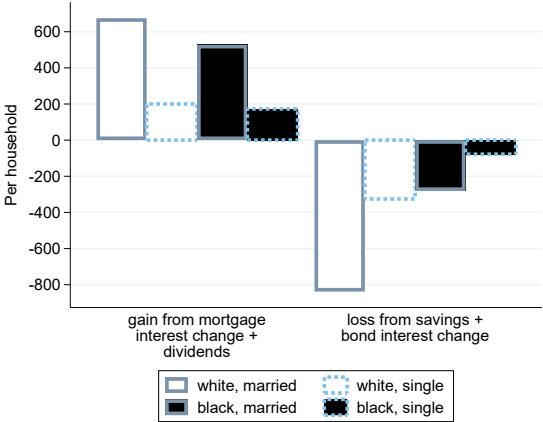# Total effects over time by sex (singles), per household
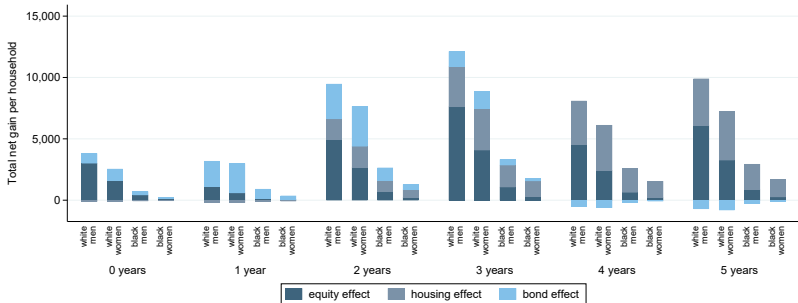
Source: Figure A.7.

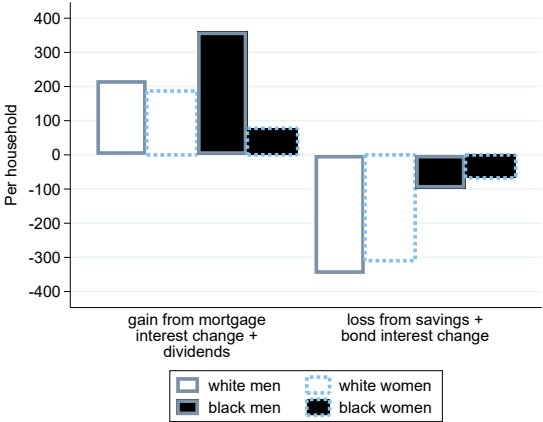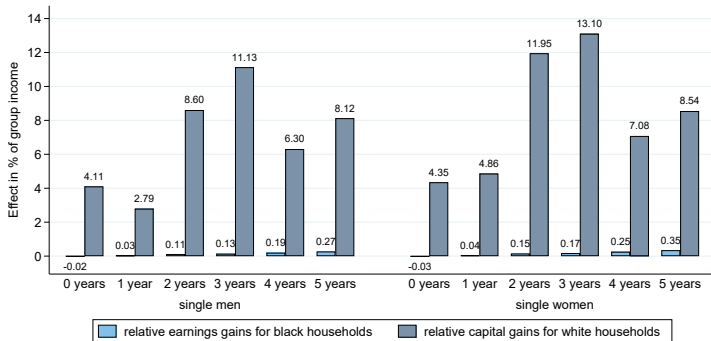# Effects of MP shocks on capital income by marital status, per household, after one year

Per household

- white, married
- black, married
- white, single
- black, single

gain from mortgage interest change + dividends

loss from savings + bond interest change

Source: Figure A.8.

Effects of MP shocks on capital income by sex (singles), per household, after one year

Source: Figure A.9.

Comparison of earnings and portfolio effects by sex (singles)

Source: Figure A.10.