

OVERVIEW

Research Question

- How much have persistent inequities in labor market opportunities and outcomes hindered US economic output?

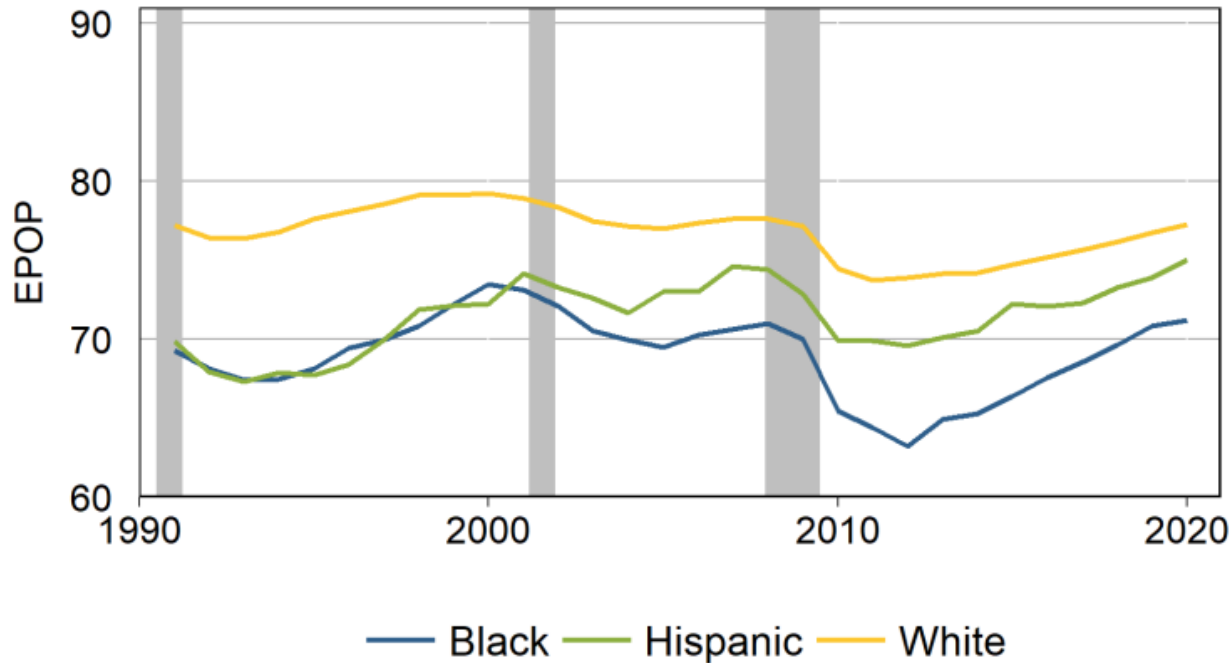
Related Literature

Economic costs of systemic inequities (e.g. education, employment, earnings, occupation)

- Peterson & Mann (2020)
- Hsieh, Hurst, Jones, and Klenow (2019)
- Cook and Yang (2018)
- Turner (2018)
- Truehaft, Scoggins, and Tran (2014)

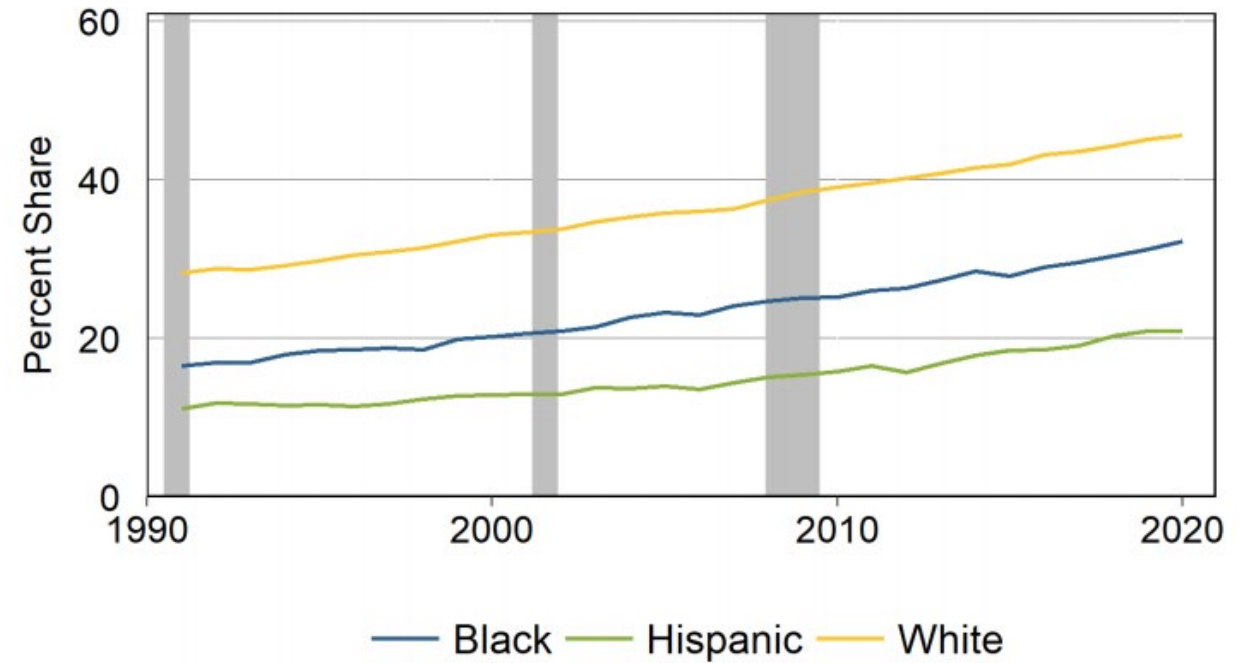
The views presented are those of the speaker and do not necessarily reflect those of the Federal Reserve Bank of San Francisco or the Federal Reserve System.

HISTORICAL TRENDS: EMPLOYMENT AND EDUCATION



Source: Author's calculations using CPS Data.

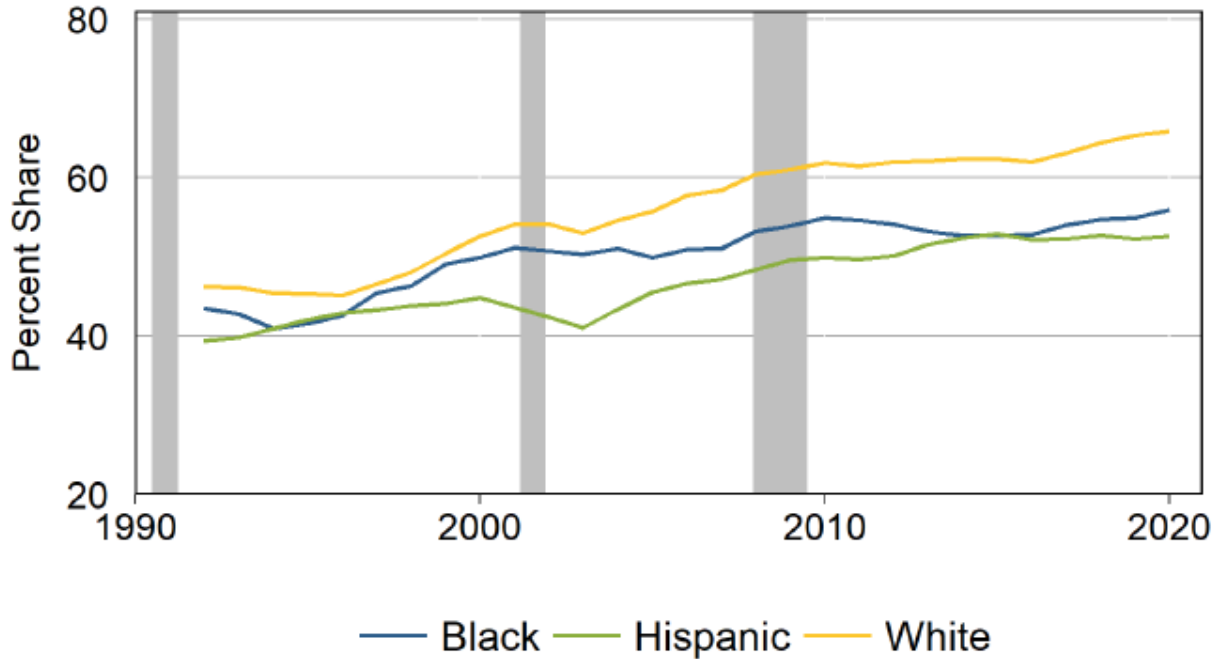
Trends in Employment (25-64)
Employment to Population Ratio



Source: Author's calculations using CPS Data.

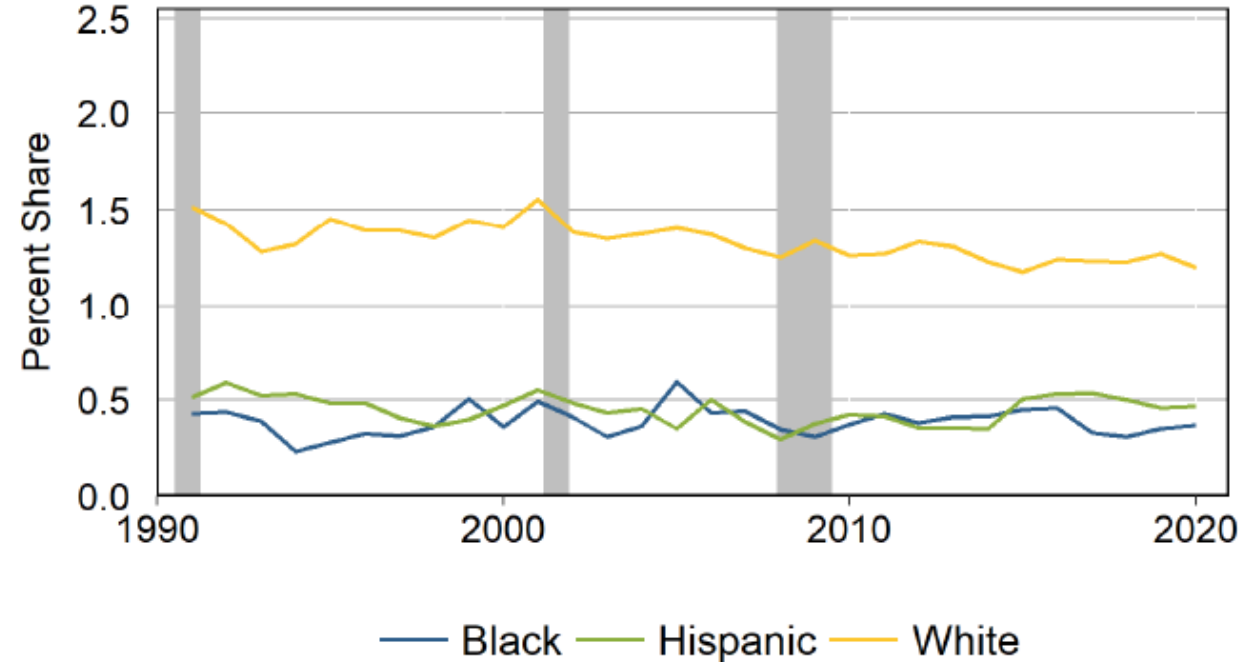
Trends in Educational Attainment (25-64)
Share of population with a BA or higher

HISTORICAL TRENDS: UTILIZATION AND OCCUPATION



Source: Authors' calculations using CPS data.

Trends in Educational Utilization (25-64)
Share of BA+ degree holders in BA+ jobs



Source: Authors' calculations using CPS data.

Trends in Industry-Occupation Distribution (25-64)
Share of professionals in durable goods manufacturing

ESTIMATING THE COST OF THE GAPS

Growth accounting framework

Focus on labor contribution to aggregate output (Y_L):

- Labor quantity: workers, avg. hours worked
- Labor productivity: education, utilization, industry-occupation distribution

$$Y_L = \underbrace{\left(N \times \frac{H}{N} \right)}_{\text{Labor quantity}} \times \underbrace{F(e, u, io)}_{\text{Labor productivity}}$$

RESULTS: EQUALIZING LABOR INPUT SHARES

	EPOP (%)		Weekly Hours			EPOP (\$T)		Hours (\$T)	
	1990	2019	1990	2019		1990	2019	1990	2019
Actual	75.5	75.9	40.1	40.8	Actual	4.07	6.97	4.07	6.97
Adj by Race	77.5	78.0	40.4	41.2	Adj by Race	4.16	7.13	4.10	7.04
<i>Gain by Race</i>	<i>2.0</i>	<i>2.1</i>	<i>0.3</i>	<i>0.4</i>	<i>Gain by Race</i>	<i>0.08</i>	<i>0.15</i>	<i>0.02</i>	<i>0.06</i>
Adj by Gender	85.1	82.2	42.7	42.5	Adj by Gender	4.47	7.47	4.29	7.25
<i>Gain by Gender</i>	<i>9.6</i>	<i>6.3</i>	<i>2.5</i>	<i>1.8</i>	<i>Gain by Gender</i>	<i>0.39</i>	<i>0.49</i>	<i>0.22</i>	<i>0.28</i>
Adj by Race Gender	87.1	83.9	43.2	43.1	Adj by Race Gender	4.55	7.60	4.33	7.35
<i>Gain by Race Gender</i>	<i>11.6</i>	<i>8.0</i>	<i>3.0</i>	<i>2.4</i>	<i>Gain by Race Gender</i>	<i>0.48</i>	<i>0.63</i>	<i>0.26</i>	<i>0.37</i>

Table 1: Impact on Employment and Hours

Table 2: Adjusted Output by Labor Quantity Shares

Note: All adjustments use granular age/gender/race groups and are shifted by the group listed in the leftmost column. i.e. Adjusting by race holds age and gender groups constant.

RESULTS: EQUALIZING LABOR PRODUCTIVITY SHARES

	Education (\$)		All (\$)			Education (\$T)		All (\$T)	
	1990	2019	1990	2019		1990	2019	1990	2019
Actual	20.23	25.59	20.23	25.59	Actual	4.07	6.97	4.07	6.97
Adj by Race	20.50	26.28	20.47	26.40	Adj by Race	4.13	7.16	4.12	7.19
<i>Gain by Race</i>	<i>0.27</i>	<i>0.69</i>	<i>0.24</i>	<i>0.82</i>	<i>Gain by Race</i>	<i>0.05</i>	<i>0.19</i>	<i>0.05</i>	<i>0.22</i>
Adj by Gender	20.38	25.59	20.48	25.60	Adj by Gender	4.10	6.97	4.12	6.98
<i>Gain by Gender</i>	<i>0.15</i>	<i>0.00</i>	<i>0.25</i>	<i>0.02</i>	<i>Gain by Gender</i>	<i>0.03</i>	<i>0.00</i>	<i>0.04</i>	<i>0.00</i>
Adj by Race Gender	20.66	26.13	20.69	26.20	Adj by Race Gender	4.15	7.12	4.16	7.14
<i>Gain by Race Gender</i>	<i>0.42</i>	<i>0.54</i>	<i>0.46</i>	<i>0.62</i>	<i>Gain by Race Gender</i>	<i>0.08</i>	<i>0.15</i>	<i>0.09</i>	<i>0.17</i>

Table 3: Impact on Labor Productivity

Table 4: Adjusted Output by Labor Productivity Shares

Note: All adjustments use granular age/gender/race groups and are shifted by the group listed in the leftmost column. i.e. Adjusting by race holds age and gender groups constant.

RESULTS: PUTTING IT ALL TOGETHER

	Shares (\$T)		Returns (\$T)		Total (\$T)	
	1990	2019	1990	2019	1990	2019
Actual	4.07	6.97	4.07	6.97	4.07	6.97
Adj by Race	4.24	7.43	4.24	7.36	4.41	7.82
<i>Gain by Race</i>	<i>0.17</i>	<i>0.46</i>	<i>0.17</i>	<i>0.38</i>	<i>0.33</i>	<i>0.84</i>
Adj by Gender	4.81	7.80	4.73	7.82	5.48	8.65
<i>Gain by Gender</i>	<i>0.74</i>	<i>0.83</i>	<i>0.66</i>	<i>0.84</i>	<i>1.40</i>	<i>1.67</i>
Adj by Race Gender	5.01	8.24	5.00	8.33	5.94	9.60
<i>Gain by Race Gender</i>	<i>0.94</i>	<i>1.27</i>	<i>0.93</i>	<i>1.36</i>	<i>1.87</i>	<i>2.62</i>

Table 5: Labor Output Adjusted by All Terms: Changing Shares and Returns

Note: All adjustments use granular age/gender/race groups and are shifted by the group listed in the leftmost column. i.e. Adjusting by race holds age and gender groups constant.

CONCLUSION

Context on gaps

- Persistent gaps rooted in systemic inequities
- Both structural racism and individual discrimination influence disparities
- Barriers to economic participation for women, especially women of color

Implications

- Gaps cannot be explained by observable measures of talent or skill
- Changing racial composition of U.S. labor force
- Gender and racial equity is crucial to our shared economic future