



Citi
GPS



Closing the Racial Wealth Gap

Restating the Economic Case

Citi GPS: Global Perspectives & Solutions
March 2024

Citi is one of the world's largest financial institutions, operating in all major established and emerging markets. Across these world markets, our employees conduct an ongoing multi-disciplinary conversation – accessing information, analyzing data, developing insights, and formulating advice. As our premier thought leadership product, Citi GPS is designed to help our readers navigate the global economy's most demanding challenges and to anticipate future themes and trends in a fast-changing and interconnected world. Citi GPS accesses the best elements of our global conversation and harvests the thought leadership of a wide range of senior professionals across our firm. This is not a research report and does not constitute advice on investments or a solicitations to buy or sell any financial instruments. [For more information on Citi GPS, please visit our website at \[www.citi.com/citigps\]\(https://www.citi.com/citigps\).](https://www.citi.com/citigps)



Harold Butler

Head of Diverse Financial Institutions Group
Citi



Lisa Frison

Head of Financial Inclusion and Racial Equity
Citi



Andrew Pitt

Head of Global Insights and Content
Citi

andrew.pitt@citi.com



Amy Thompson

Social Economist
Citi Global Insights

amy1.thompson@citi.com

With thanks to:

Dana M Peterson and Catherine L Mann for their original work, which we build on in this report.

CLOSING THE RACIAL WEALTH GAP

Restating the Economic Case

Economic gaps between Black people and white people in the U.S. persist.

Some racial gaps, like the wealth gap, have widened since 2020. Others, such as the racial gap in business ownership, have narrowed¹.

Racial gaps continue to be a material headwind to the U.S. economy,

impacting Black communities and individuals through unequal access to work, housing, and business ownership.

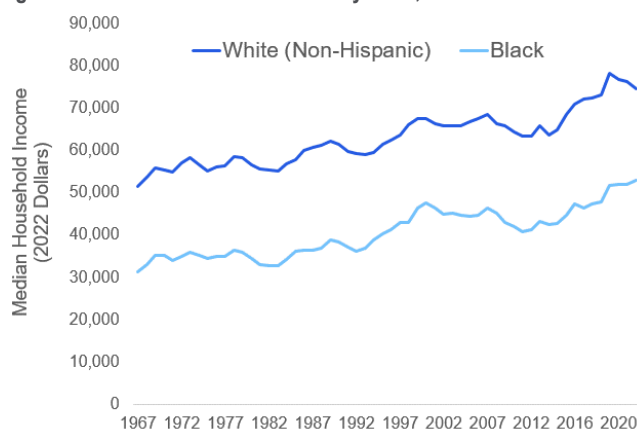
We update the scenario analysis contained in our 2020 Citi GPS report [Closing Racial Inequality Gaps: The Economic Cost of Black Inequality in the U.S.²](#), to estimate the potential size in dollar terms of racial gaps in income, business ownership, and home ownership.

We find that the scale of these three racial gaps could have totaled up to \$3.9 trillion between 2020 and 2024, driving the potential cumulative size of the same three racial inequalities since the turn of the millennium to up to \$21.3 trillion, which would have been a significant boon for the entire U.S. economy.

The analysis does not account for substitution effects. The economic impact of closing the gaps that we describe will not be entirely additional to current economic productivity. For example, some of the jobs created by closing the racial gap in business ownership are likely to be filled by those leaving other jobs.

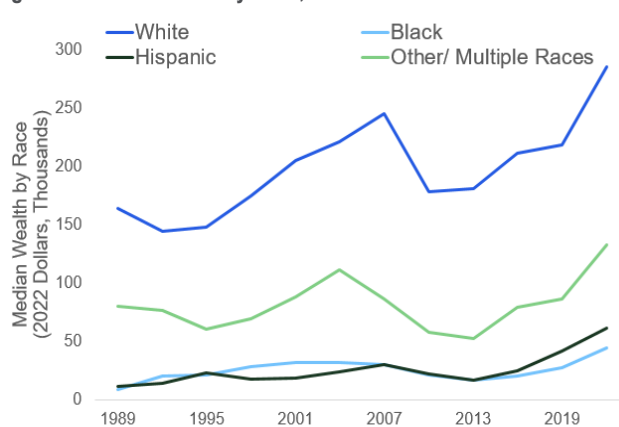
Therefore, some of the economic activity generated by closing the racial wealth gap is a substitution for other economic activity. We highlight where such substitutions might occur and underline that our analysis is simply an economic approximation of the scale of three racial gaps—in business ownership, income and home ownership.

Figure 1. Median Household Income by Race, 2022 Dollars



Source: U.S. Census Bureau

Figure 2. Median Wealth by Race, 2022 Dollars



Source: Board of Governors of the Federal Reserve System

¹ We note that the capitalization of “black” and/or “white” is the subject of much debate. In this report we have followed the style of the Associated Press Stylebook.

² <https://www.citigroup.com/global/insights/citigps/closing-the-racial-inequality-gaps-20200922>

A Path Towards Equality

The economic scale of three racial gaps — in business ownership, income, and home ownership — could have reached up to \$3.9 trillion between 2020 and 2024.



The economic scale of the racial wage gap between 2020 and 2024 was up to \$0.9 trillion in lost wages.



The racial home ownership gap between 2020 and 2024 reached up to \$165 billion in money that could have been spent on purchasing a home.



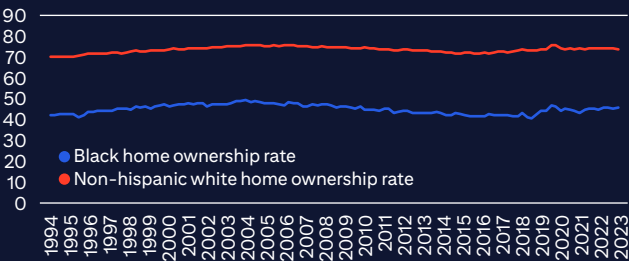
The economic scale of the racial gap in employer business ownership reached up to \$2.9 trillion in potential revenue between 2020 and 2024.

Black men and women continue to earn significantly less than their white counterparts: for every dollar earned by a white man, a Black man earns 79 cents and a Black woman 73 cents.

Racial inequalities in business ownership, home ownership, and income continue to be a material headwind to the U.S. economy.

Housing

The gap between white and Black home ownership remains wide.



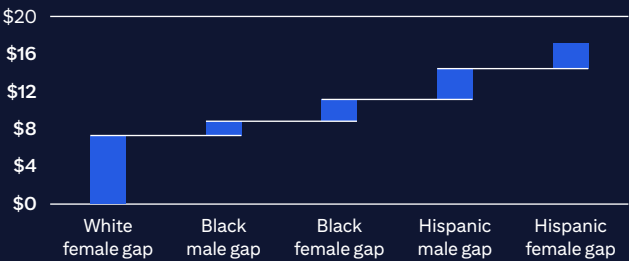
Businesses

	Per Year		24 Years	
	According to 2021 Black business ownership	If equality was achieved	According to 2021 Black business ownership	If equality was achieved
Black small businesses				
Firms (number)	161,031	792,438		
Revenues (\$ billions)	\$183.30	\$902.02	\$4,399.20	\$21,648.58
Employees (number)	1,400,000	6,889,438		
Annual Payroll (\$ billions)	\$53.60	\$264	\$1,286.40	\$6,330.41

Income

White families have 6x as much wealth as Black families.

Lost wages by demographic group, 2000 to 2023 (\$ trillions)



Approximate individual loss in income vs. median white male income, 2020 to 2023

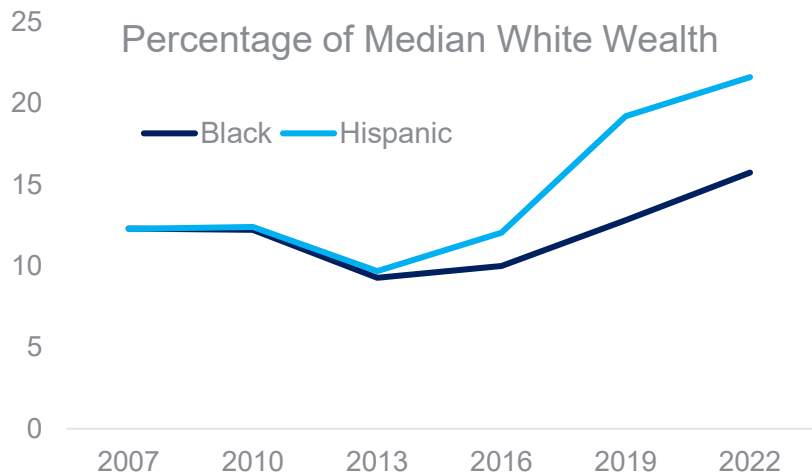


In this report we focus on racial inequality between Black and white people.

Other racial inequalities in the U.S. – like those affecting Hispanic people or American Indian and Alaska Native populations – are of similar or even larger magnitude in some dimensions.³ These inequalities also require attention.

However, as the title suggests, for the purposes of this report we zoom in on the racial wealth gap. The largest racial wealth gap is between Black and white people: for every \$100 in wealth that the average white family had, the average Black family had \$16 in 2022 and the average Hispanic family had \$22. (Figure 3). One inequality is not more pressing than any other, but for the purposes of this report, we focus on where the wealth gap is widest.

Figure 3. Median Black and Hispanic Wealth as a Percentage of Median White Wealth



Source: Board of Governors of the Federal Reserve System (2023)

Racial Inequality Gaps Remain

Gaps in the median income of Black and white households persist. (Figure 1)

In 1967, the average Black household earned 58% of the average white household's annual income. This figure increased to 68% in the most recent data.

The spread of households across the income distribution also varies by race: almost half of Black households had an income of less than \$50,000 in 2022 vs. under a third of white households. In the same year, 6% of Black households earned more than \$200,000 vs. 12% of white households. This has consequences for wealth creation.

The racial wealth gap grew in absolute terms between 2019 and 2022. In 2019, the average white family had total assets \$190,000 dollars more than the average Black family and in 2022, this gap had widened to \$240,000. The size of the wealth gap at the beginning of the period meant that the racial wealth gap grew at the beginning of this decade, even though Black households' median wealth grew at a

³ En Shrider, 'Black Individuals Had Record Low Official Poverty Rate in 2022' US Census Bureau. September 12, 2023. Accessible [here](#) [Last accessed March 23, 2023]

faster rate than white households⁴ In the most recent data, white households continue to have ~6x more wealth than Black families.

Closing Racial Inequality Gaps Generates Growth

We find that before accounting for substitution effects, the economic value of three key racial inequalities could have reached \$3.9 trillion since 2020. This brings the cumulative potential economic size of the same racial gaps since the turn of the millennium (the reference point in our original report) to up to \$21.3 trillion. We estimate that:

- The economic scale of the **racial gap in employer business ownership** reached up to \$2.9 trillion in potential revenue between 2020 and 2024.
- The economic scale of the **racial wage gap** between 2020 and 2024 was up to \$0.9 trillion in lost wages.
- The **racial home ownership gap** between 2020 and 2024 reached up to \$165 billion in money that could have been spent on purchasing a home, without accounting for additional spend associated with homeownership.

The new overall estimate is higher given it covers a longer reference period during which U.S. inflation was elevated.

First, some progress towards closing racial gaps in business ownership has been made since 2020. The number of Black-owned businesses grew by 14.3% in 2021, which some have attributed to the social movement for racial justice and the growth of initiatives like Buy Black in the same year.⁵

Black women made an outsized contribution to this growth, with the number of Black-women-owned businesses growing by more than 20%. That said, at this rate, Black men and women would not own the number of businesses proportional to their share of the U.S. population for another 80 years.⁶ This not only impacts the “missing” business owners but the wider U.S. economy.

We estimate the potential economic size of the racial gap in business ownership between 2020 and 2024 at up to \$2.9 trillion before accounting for substitution effects. In the most recent data, 0.8% of the adult Black population owns an employer business compared with 3.7% of the white population. Black-owned employer businesses generated \$183 billion in revenues, employed 1.4 million people, and paid about \$53.6 billion in annual payroll in 2021.⁷

If the number of Black-owned businesses could be increased to reflect the share of the white population that owns a business, there could be an additional 600,000 firms and more than 5 million additional jobs. These additional firms and jobs could

⁴ Aladangady, A. et al. ‘Greater Wealth, Greater Uncertainty. Washington: Board of Governors of the Federal Reserve System, October 18, 2023, <https://doi.org/10.17016/2380-7172.3405>

⁵ Perry, Donoghoe, and Stephens, ‘[Closing the Black Employer Gap: Insights from the Latest Data on Black-Owned Businesses](#),’ Brookings Institute. February 15, 2024

⁶ *Ibid*

⁷ ‘[Census Bureau Releases New Data on Minority-Owned, Veteran-Owned and Women-Owned Businesses](#),’ October 26, 2023

have generated up to an additional \$2.9 trillion in revenues and \$840 billion in annual payrolls.

Figure 4. Racial gap in business ownership totals \$2.9 trillion between 2020 and 2024

Black small businesses	Per Year		4 Years		
	2021 Actual Black Business Ownership	Equal Share of Population as White Business Owners	2021 Actual Black Business Ownership	Equal Share of Population as White Business Owners	Lost Economic Output Over 4 Years
Firms (number)	161,031	792,438			
Revenues (\$ billions)	\$ 183.30	\$ 902.02	\$ 733.20	\$ 3,608.10	\$2.9 trillion
Employees (number)	1,400,000	6,889,438			
Annual Payroll (\$ billions)	\$ 53.60	\$ 264	\$ 214.40	\$ 1,055.07	\$ 840.67

Source: US Census Bureau, Annual Business Survey (2022), Bureau of Labor Statistics (2022)

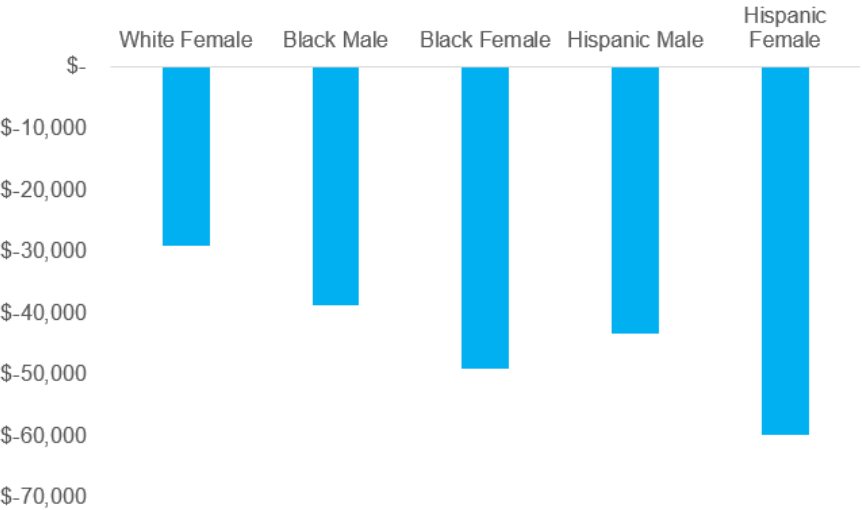
In some senses this may be a conservative estimate. It is well understood that Black business owners face additional barriers to business growth, over and above those faced in forming a business. Indeed, Black business owners are more likely to own a sole proprietorship than other races indicating the barriers they face to business growth. These barriers include access to finance like bank loans and venture capital. Better supporting Black-owned businesses could drive an even larger economic contribution—by supporting existing businesses in their growth.

However, this estimate does not account for substitution effects, for example, some of the 5 million jobs created by new Black-owned employer businesses are likely to replace those generated elsewhere. It is difficult to estimate just how many of the new jobs created would be impacted by this effect. In our [2022 Citi GPS report⁸](#) on Women Entrepreneurs, we discounted at least 50% of jobs created by levelling the playing field for women-led businesses due to substitution effects.

Second, we estimate the potential size of the racial wage gap in the U.S. at up to \$0.9 trillion between 2020 and 2024. Black men and women continue to earn significantly less than their white counterparts: for every dollar earned by a white man, a Black man earns just 79 cents and a Black woman 73 cents. The gap between Black men and Black women indicates how racial and gender inequality can compound one another. From 2020 to 2023, applying the same differential to the average income, the average Black man has earned \$39,000 less than the average white man, and the average Black woman has earned \$49,000 less, as shown in Figure 4, which also shows the wage gap for Hispanic men and women.

⁸ [Women Entrepreneurs - CitiGPS \(citigroup.com\)](#)

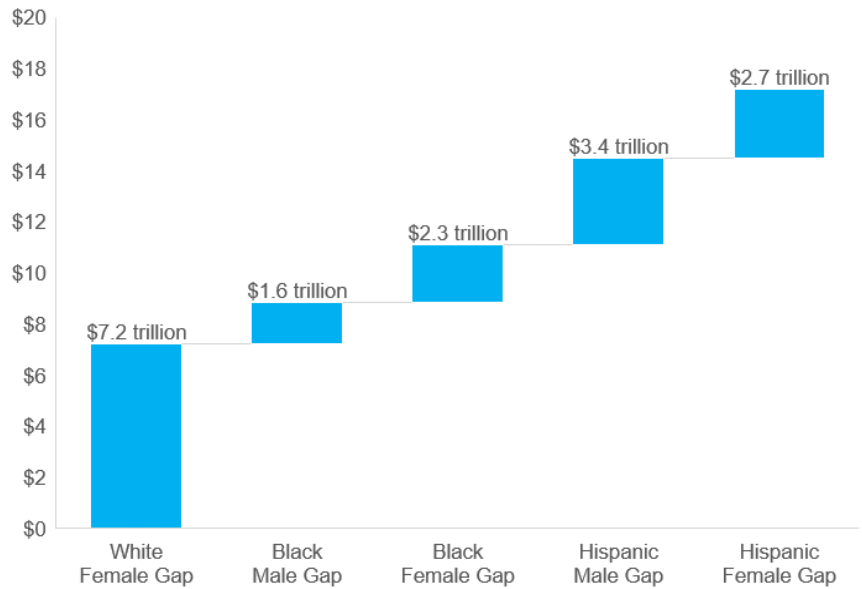
Figure 5. Approximate individual loss in income vs. median white male income, 2020 to 2023



Source: U.S. Bureau of Labor Statistics

Closing the racial income gap is an economic imperative. Multiplying the wage gap at the individual level since 2020 by the number of people in each demographic group shows that the Black income gap at the population level totaled up to \$0.9 trillion between 2020 and 2024. This brings the potential cumulative racial income gap since 2000 (the benchmark of our first report) to \$3.9 trillion. Including Hispanic people and white women –the gap totals \$17.2 trillion, underlining the need to think about how intersecting disadvantages compound one another when it comes to wage gaps. (6)

Figure 6. Lost wages by demographic group, 2000 to 2023



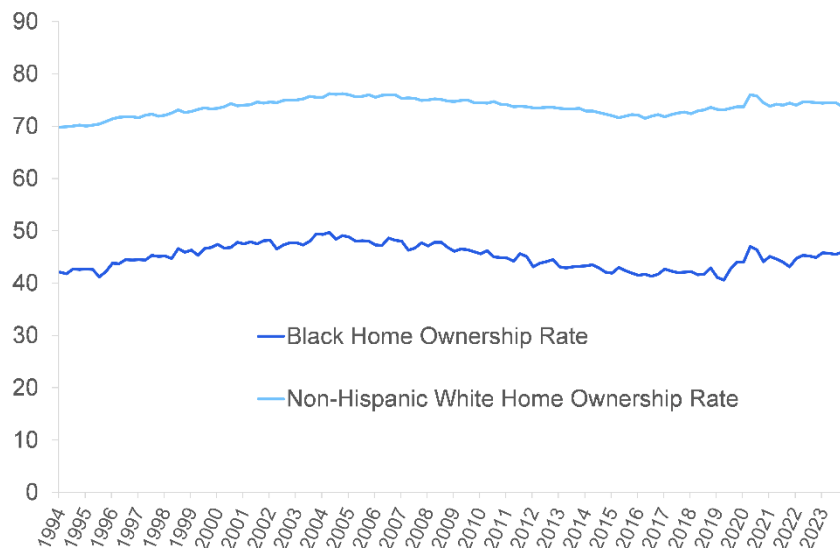
Source: U.S. Bureau of Labor Statistics

There are of course likely to be some substitution effects in closing the racial income gap, meaning that this \$0.9 trillion estimate is not a strict addition to current economic productivity. Closing the racial income gap without such substitution requires the creation of more high-paying jobs in the economy.

Third, Black families are much less likely to be owner-occupiers than their white peers. At the end of 2023, a homeownership gap of almost 28 percentage points persisted between Black and white households. This marked a narrowing of the racial home ownership gap compared with 2020, but the gap remained wider than it was in the 1990s. (Figure 7)

The homeownership gap represents what could be seen as 430,000 “missing” Black homeowners compared with gap identified in 2000. If each of those homeowners had paid the median house price, there would have been an additional spend of \$165 billion⁹. Homeownership brings additional spend on home maintenance, cars, and furniture which are not accounted for in this estimate and could have generated additional spending.

Figure 7. Racial gaps in home ownership persist






Source: St. Louis FRED (2024)

This estimate also does not account for a substitution effect: additional Black homeowners might substitute for new white homeowners, resulting in a substitution of some economic activity for others, rather than a net increase. However, the vacancy rate of homeowner dwellings has held steadily around 1% of dwellings since 2020. These homes might be poorly located for the current labor market or otherwise inappropriate for these “missing” homeowners to purchase, but on a strict analysis of the number of homes, there does seem to be an economically additive opportunity in boosting Black homeownership.

⁹ [National Association of Realtors](#). Median house price is reported at \$383,600 as at 21st February 2024

High-Level Principles for Addressing Racial Gaps

Reducing these racial gaps in the U.S. is not only a matter of racial justice, but an economic imperative. Our 2020 report contained extensive recommendations for policymakers, for companies, and for individuals.¹⁰ Here, we distill three high-level principles for addressing racial inequalities:

	<p>Increase access to high-paying jobs and entrepreneurship.</p> <p>Closing the income gap involves increasing the number of Black workers in high-paying professions. Securing equal opportunities for education, from pre-school to college, would be a good first step. Another would be the idea of “living wages” even outside high-paying professions.</p>
	<p>Increase access to financial services, including for Black-owned businesses.</p> <p>Financial services are a pre-requisite of building wealth. Yet 40% of Black adults are un- or underbanked and Black adults at every income level are more likely to have been denied credit.¹¹ Improving Black business owners' access to bank loans and venture capital would also drive business growth.</p>
	<p>Increase homeownership among Black households.</p> <p>Homeownership builds wealth. It has been a key driver of gains in Black wealth in recent years.¹² Increasing the supply of affordable homes could be a first step because racial wealth and income gaps make it more challenging for Black households to become homeowners when homes become less affordable.</p>

¹⁰ See Citi GPS, [‘Closing the Racial Inequality Gaps: The Economic Cost of Black Inequality in the U.S.’](#) pp. 66-96

¹¹ Board of Governors of the Federal Reserve System, [‘Economic Wellbeing of U.S. Households’](#), May 27, 2022

¹² Board of Governors of the Federal Reserve System, [‘Greater Wealth; Greater Uncertainty’](#), October 23, 2023

In Conversation

Citi's Harold Butler, Head of Diverse Financial Institutions Group and Lisa Frison, Head of Financial Inclusion and Racial Equity

What progress have you seen in closing the racial wealth gap in the U.S. over the last four years?

Harold: Four years is not a long time. At the micro level, high inflation and lack of affordability might make many people feel like not much progress has been made since 2020.

Yet if we zoom out to the macro level, community banks that serve under-invested communities are better capitalized than they've been in several decades. Why? Public and private entities in the finance sector have made unprecedented investments, coupled with collaborative approaches to help create access and opportunities for community banks to grow, attract new depositors and offer existing clients more services.

This increased activity and focus on supporting banks directly helps close the racial wealth gap by expanding access to education, small business, **homeownership** and more in communities around the country.

Lisa: While there are gains in some areas, the gap persists for many consumers. We must give credit to the ingenuity and resilience of communities who are building their own supportive ecosystems and solutions. In parallel, there has been a deliberate focus on implementing new initiatives that can help more Americans attain wealth or improve their financial standing. In addition to innovative solutions and programs supporting areas like investing or lending for diverse small business owners, we've seen more companies and non-profits working together across industries to help close the racial wealth gap.

By leveraging the unique capabilities and strengths of each organization, thoughtful collaborations can help generate or deepen impact. So, while we are mindful to glance behind, we must fix our gaze ahead. There's more work to be done, so it's important that the momentum we've seen over the last four years continues.

Why is now the time to bolster efforts to address the racial wealth gap in the U.S.?

Harold: Addressing the racial wealth gap in the U.S. cannot be done overnight. Nevertheless, we are in an important moment and it's imperative that we build on the momentum of recent years and continue to seize opportunities to deepen support for sustainable efforts that help close the racial wealth gap.

Increased strength in community banks that serve underinvested and underrepresented communities is vital. It means more loans that spur growth and attract investment.

Boosting our efforts here at Citi is and will continue to be good for communities and, as this report demonstrates, good for business. One way to create wealth and reduce the gap is through homeownership. In 2023 the homeownership rate amongst Black Americans was 45.9%, up 1 percentage point from the year prior. Imagine the impact of more capital to lend for homeownership and how that translates to intergenerational wealth creation and how it becomes accretive to growth in the economy.

Lisa: The recent gains don't compensate for systemic and persistent gaps. Over the next 30 years, roughly \$30 trillion in wealth will be transferred from baby boomers to their heirs.¹³

The increasing diversity of the U.S. makes it imperative to set the next generation up for success as they build their wealth.

Millions of households are unbanked or underbanked, disproportionately affecting diverse communities. From concerns about costs and fees to a lack of familiarity with products, there is important work to be done to help people navigate the financial system.

We also see rising educational attainment and affluence among diverse communities, which presents another opportunity to propel the wealth journey for those within reach. There's a dual need to support underserved and underestimated communities by creating pathways to prosperity, which will enable growth in our nation's economy.

What role do financial institutions play in closing the racial wealth gap in the U.S.?

Harold: A crucial one. Without pumping capital, growth does not occur. Where there is no growth, investments do not happen. And where there is no investment, communities struggle. Where no sense of community exists, poverty, crime and hopelessness ensue and that is a cost to humanity and a cost to the economy. Financial institutions- large and small- have a role investing in economic growth.

Lisa: By serving the U.S. population, financial institutions have a critical role in reducing barriers and supporting households across the socio-economic spectrum. Many banks, like Citi, have brought forward products and solutions to improve banking access and expand credit and lending opportunities to the communities they serve.

Continuing to democratize the role of investing and provide financial education and guidance to empower and help people make informed decisions about their financial goals will be key.

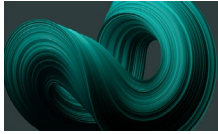
Ultimately, financial institutions can develop more on-ramps, build trust and transparency, and invest in innovations and partnerships that unlock and accelerate sustainable and inclusive pathways to wealth and financial success.

¹³ Hall, M. ['The Greatest Wealth Transfer In History: What's Happening and What are the Implications.'](#) Forbes. November 11, 2019.

As our premier thought leadership product, **Citi Global Perspectives & Solutions (Citi GPS)** is designed to help readers navigate the most demanding challenges and greatest opportunities of the 21st century. We access the best elements of our global conversation with senior Citi professionals, academics, and corporate leaders to anticipate themes and trends in today's fast-changing and interconnected world.



All Citi GPS reports are available on our website www.citigroup.com/global/insights/citigps



Supply Chain Financing

Building Resilience

January 2024



Unlocking Climate and Development Finance

Creating Bankable Projects
December 2023



Food, Water, and Climate Change

Solutions for Tackling this Critical Nexus
November 2023



APEC Economic Outlook

Navigating Shifting Dynamics
November 2023



Unlocking Climate and Development Finance Preview

Creating Bankable Projects
November 2023



Supply Chains

Lessons Learned Helped by New Technology
November 2023



Food Security

Solutions for a Perfect Storm
November 2023



Treasury Leadership

Does It Matter?
November 2023



Philanthropy and the Global Economy v3.0

Perspectives on the Future of Giving
October 2023



Supply Chain Technology

Improving Efficiency, Resilience, and Transparency
October 2023



Technology at Work v7.0

The Third Phase of Globalization
October 2023



Africa

A New Growth Model
October 2023



Skills That Pay

The Returns from Specific Skills
October 2023



Future of Cross-Border Payments

Who Will Be Moving \$250 Trillion in Next Five Years?
September 2023



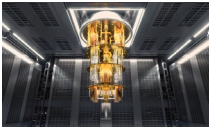
Unleashing AI

The AI Arms Race
September 2023



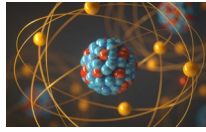
Hydrogen

A Reality Check on the Hydrogen Craze
August 2023



[Quantum Computing](#)

Moving Quickly From Theory to Reality
July 2023



[Future of Nuclear Energy in a Low-Carbon Environment](#)

Fission and Fusion Advanced Reactors to Prevail
July 2023



[Voluntary Carbon Market](#)

A Critical Piece of the Net Zero Puzzle
July 2023



[Economic and Social Mobility](#)

The Role of Business in Improving Outcomes
June 2023



[Sustainable Ocean Economy](#)

Charting a Prosperous Blue Future: Risk to Resilience
June 2023



[Asia as a Time Machine to the Future](#)

Seven Areas Where Asia Gives Insights Into the Future
May 2023



[Money, Tokens, and Games](#)

Blockchain's Next Billion Users and Trillions in Value
March 2023



[The Cyber Problem](#)

Causes and Consequences of the Rise in Cyber Skill Demand
March 2023



[The Creator Economy](#)

Getting Creative and Growing
March 2023



[Generative AI](#)

ChatGPT and Search
February 2023



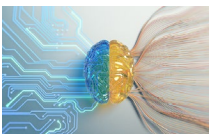
[Supply Chain Finance](#)

Uncertainty in Global Supply Chains Is Going to Stay
January 2023



[State of Global Electric Vehicle Adoption](#)

A Trip Around the World
January 2023



[Disruptive Innovations IX](#)

Ten More Things to Stop and Think About
December 2022



[Antimicrobial Resistance](#)

The Silent Pandemic
December 2022



[Climate Finance](#)

Mobilizing the Public and Private Sector to Ensure a Just Energy Transition
November 2022



[Food Security](#)

Tackling the Current Crisis and Building Future Resilience
November 2022



[Energy Transition: Vol 1](#)

Mixed Momentum on the Path to Net Zero
November 2022



[Energy Transition: Vol 2](#)

Building Bridges to Renew Momentum
November 2022



[China's Inward Tilt](#)

The Pursuit of Economic Self-Reliance
October 2022



[Philanthropy v2.0](#)

Reinventing Giving in Challenging Times
October 2022

If you are visually impaired and would like to speak to a Citi representative regarding the details of the graphics in this document, please call USA 1-888-800-5008 (TTY: 711), from outside the US +1-210-677-3788

IMPORTANT DISCLOSURES

This communication has been prepared by Citigroup Global Markets and is distributed by or through its locally authorised affiliates (collectively, the "Firm"). This communication is not intended to constitute "research" as that term is defined by applicable regulations, though it may contain thematic content that has been or may be contained in research reports. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report. The views expressed by each author herein are their personal views and do not necessarily reflect the views of their employer or any affiliated entity or the other authors, may differ from the views of other personnel at such entities, and may change without notice.

You should assume the following: The Firm may be the issuer of, or may trade as principal in, the financial instruments referred to in this communication or other related financial instruments. The author of this communication may have discussed the information contained herein with others within the Firm and the author and such other Firm personnel may have already acted on the basis of this information (including by trading for the Firm's proprietary accounts or communicating the information contained herein to other customers of the Firm). The Firm performs or seeks to perform investment banking and other services for the issuer of any such financial instruments. The Firm, the Firm's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of the Firm may be long or short the financial instruments referred to herein, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different or adverse to your interests.

This communication is provided for information and discussion purposes only. It does not constitute an offer or solicitation to purchase or sell any financial instruments. The information contained in this communication is based on generally available information and, although obtained from sources believed by the Firm to be reliable, its accuracy and completeness is not guaranteed. Certain personnel or business areas of the Firm may have access to or have acquired material non-public information that may have an impact (positive or negative) on the information contained herein, but that is not available to or known by the author of this communication. The Firm shall have no liability to the user or to third parties, for the quality, accuracy, timeliness, continued availability or completeness of the data nor for any special, direct, indirect, incidental or consequential loss or damage which may be sustained because of the use of the information in this communication or otherwise arising in connection with this communication, provided that this exclusion of liability shall not exclude or limit any liability under any law or regulation applicable to the Firm that may not be excluded or restricted.

The provision of information is not based on your individual circumstances and should not be relied upon as an assessment of suitability for you of a particular product or transaction. Even if we possess information as to your objectives in relation to any transaction, series of transactions or trading strategy, this will not be deemed sufficient for any assessment of suitability for you of any transaction, series of transactions or trading strategy.

The Firm is not acting as your advisor, fiduciary or agent and is not managing your account. The information herein does not constitute investment advice and the Firm makes no recommendation as to the suitability of any of the products or transactions mentioned. Any trading or investment decisions you take are in reliance on your own analysis and judgment and/or that of your advisors and not in reliance on us. Therefore, prior to entering into any transaction, you should determine, without reliance on the Firm, the economic risks or merits, as well as the legal, tax and accounting characteristics and consequences of the transaction and that you are able to assume these risks.

Financial instruments denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. Investments in financial instruments carry significant risk, including the possible loss of the principal amount invested. Investors should obtain advice from their own tax, financial, legal and other advisors, and only make investment decisions on the basis of the investor's own objectives, experience and resources.

This communication is not intended to forecast or predict future events. Past performance is not a guarantee or indication of future results. Any prices provided herein (other than those that are identified as being historical) are indicative only and do not represent firm quotes as to either price or size. You should contact your local representative directly if you are interested in buying or selling any financial instrument, or pursuing any trading strategy, mentioned herein. No liability is accepted by the Firm for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained herein or derived herefrom. Although the Firm is affiliated with Citibank, N.A. (together with its subsidiaries and branches worldwide, "Citibank"), you should be aware that none of the other financial instruments mentioned in this communication (unless expressly stated otherwise) are (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citibank or any other insured depository institution. This communication contains data compilations, writings and information that are proprietary to the Firm and protected under copyright and other intellectual property laws, and may not be redistributed or otherwise transmitted by you to any other person for any purpose.

© 2024 Citigroup Global Markets Inc. Member SIPC. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.