# STRUCTURED FINANCE ASSOCIATION

Structured Finance: A Tool to Address Inequality

# Structured Finance: A Tool to Address Inequality

Income and wealth inequality are multi-faceted problems that have expanded over the past 40 years. Structured finance, through securitizations, can be an effective tool to improve financial inclusion by channeling private capital to disadvantaged communities.

## Key Takeaways

— Conceived as a tool for expanding homeownership, the single greatest wealth-building investment for most people, securitization has greatly increased access to capital for mortgage lending.

— The securitization industry can do more by channeling private capital to disadvantaged, lower income communities. But how to do that?

— Mobilizing the securitization market's ability to raise sizable private capital, together with CDFI's unique expertise financing underserved minority and women-led households and businesses, a significant expansion of critical financial services and wealth building opportunities can be made available to low-income communities in a shorter time

— CDFIs are private-sector financial intermediaries with the primary mission of providing capital and credit in areas where traditional financial institutions have little presence. In **2019**, 84% of CDFI customers were low-income, 60% were people of color, 50% were women and 28% lived in rural areas.

— Improving credit scoring for low-income borrowers via rapidly evolving data technology is making it possible to compute credit scores using a range of alternative data. This alone would allow millions to access credit and take the first step in wealth building. Having a credit score allows a borrower's risk of default to be quantified.

— Once risk is quantified, capital market investors can support community lending efforts.

— Securitizations backed partially or fully by CDFI loans provide investors with ESG investment opportunities that make a societal impact—an important investment component for structured finance investors and their underlying pension plans, savings plans, family offices and bank clients.

— SFA 2020 ESG Industry Engagement Survey found that 95% of securitization investors currently apply an ESG framework to all or some of their investment decisions.

— Combined with complementary policy solutions, the private capital invested with CDFIs can create a stable, long-standing source of financing for underserved communities.

**STRUCTURED FINANCE ASSOCIATION**

# Contents

## Executive Summary

In this report we discuss two ways wealth inequality can be addressed.  First, expanding the use of alternative data to compute consumer credit scores. This step alone would provide the opportunity for millions of people to access credit, which is considered by many to be the first step to wealth building. Additionally, since credit scores are one important way to allow the borrower's risk of default to be quantified, which is key to responsible investing, this step opens up the channel for investors to support lending efforts. In the second part of this report, we explore how structured finance and the securitization of loans can support the mission of community financial development institutions (CDFIs) by channeling private capital to underserved, minority, and historically disadvantaged communities.

This report also provides as background information an overview of the literature on growing income and wealth inequality over the past 40 years in the US. It spotlights a key reason why lower income people cannot start to build wealth; upwards of 45 million people lack access to basic financial services, including bank accounts, mortgages, and small business loans.

## Introduction

Thomas Piketty's best-selling 2013 book, "Capital in the 21st Century", may have been the first wakeup call for many people about the growing inequality in the distribution of income and wealth in developed countries. But in fact, economists and other social scientists have been tracking this for decades. As Figure 1 below illustrates, before 1980 aggregate income gains were distributed evenly across all income bands (by deciles) of society in the US. After 1980 the distribution of income started becoming more unequal. People near the top of the income distribution saw their real income nearly double, while those at and below the median saw only an increase of 20-30%. Many other Organization for Economic Cooperation and Development (OECD) countries have seen a similar growing divergence between top earners and everyone else.

**Figure 1: Income Inequality Accelerated After 1980**

## Income Gains Widely Shared in Early Postwar Decades — But Not Since Then

Real family income between 1947 and 2018, as a percentage of 1973 level
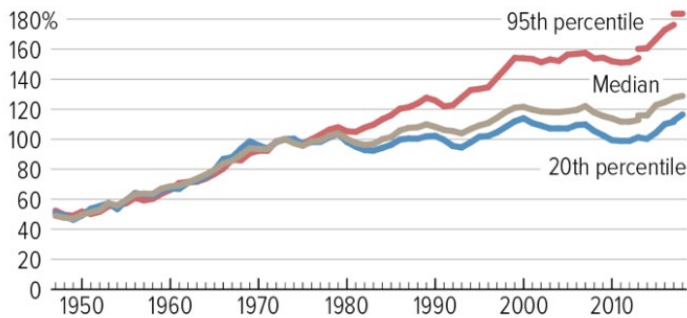


Note: Breaks indicate implementation of a redesigned questionnaire (2013) and an updated data processing system (2017).
Source: CBPP calculations based on U.S. Census Bureau Data

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

Compared to income inequality, wealth inequality is more extreme. The top decile captures about 40% of total income—but controls more than 70% of total wealth. The bottom 50% holds about 2% of total wealth. As with income, wealth inequality has been growing over time. Over the past thirty years the top 10% share of wealth has gained about nine percentage points, mostly at the expense of the next 40%.

The reasons for this growing disparity are many and varied.[1] They include growth in globalization and trade, technology, insufficient investment in retraining programs, inferior education facilities in lower income communities, among others..

To get at the underlying causes, a variety of policy proposals have been advanced to respond more proactively to growing income inequality. These include taxing wealth and capital, increasing the estate tax, expanding tax credits for children; improving access to education, adding job training programs; raising the minimum wage; and strengthening the social safety net.

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[1]For a deeper discussion on wealth inequality, see the appendix.

The securitization industry has a continuing role to play. Originally conceived as a tool for expanding homeownership, the single greatest wealth-building investment for most people, securitization has greatly increased access to capital for mortgage lending and helped to decrease the cost of funding. The industry can continue to participate in identifying and removing barriers to wealth-building in lower income communities, primarily by helping to make financial services more accessible within the community.

This report discusses how access to financial services is a necessary first step towards wealth building and how securitization can be a conduit connecting the capital markets to low-income communities. By some estimates, half to three-quarters of people in the bottom 20% of income lack access to basic financial services. When that improves, and community institutions start making more loans, the securitization industry could also develop programs that would channel more private capital back to these communities.

## Addressing Wealth Inequality

Government policies to address income and wealth inequality have focused on income. Currently, the primary policy tools to offset growing income inequality are the progressive tax system and a variety of income transfer and benefit programs, most recently the expanded child tax credit.

> **FDIC Survey of Unbanked and Underbanked Households**
>
> The FDIC periodically surveys households to determine how they use banking services. In the 2019 survey, 5.4% of households had no relationship with a bank, meaning they did not have checking or savings accounts. (FDIC 2020) Of households *with* bank accounts, 15% *also* used nonbank financial services: check cashing, money orders, bill payment services, and international remittances. These figures are an improvement over the 2017 survey, where 6.6% of households were unbanked and 18.7% underbanked. (FDIC 2020) This was attributed largely to improvement in employment and socioeconomic conditions.
>
> There are several reasons for these unbanked households: lacking funds to meet minimum balance requirements, high bank fees, mistrust of banks, identification issues, and inconvenient bank locations. Interestingly, about half of unbanked households have had bank accounts in the past and have some interest in having accounts in the future. Black and Hispanic households have higher unbanked rates at 13.8% and 12.2%, respectively, versus 2.5% for white households.

But this is only a partial solution. Studies by the Federal Deposit Insurance Corporation (FDIC) and the Consumer Financial Protection Bureau (CFPB) show that more than a fifth of US adults lack full access to basic banking services and rely on alternative non-bank financial service providers like check-cashing outlets, pay-day lenders, and pawnshops. These are typically inefficient and more expensive than banking services. Lack of access to the financial services grid challenges a person's ability to build

a financially secure life through savings, payment history, and establishment of a credit record, all of which have become "remarkably consequential in this economy."[2]

## Barriers to Wealth Building

Therefore, a key first step in addressing inequality in wealth building is to integrate more people into the financial services grid. One way to do this is to expand the presence of banks in lower income communities, addressing the "unbanked" and "underbanked" households (see sidebar). Another avenue, and one that could prove to be a channel for securitization, is to broaden the criteria used to determine credit scores (essential for obtaining credit). By broadening the credit box, securitization programs, in partnerships with community-facing institutions, can be used to attract capital to underserved communities. We explore both of these below.

### CFPB Report: Credit Invisibles Cannot Access Conventional Credit

In its seminal research on this topic, the CFPB estimated that there are 45 million Americans that do not have sufficient access to credit. The Bureau breaks this group out into two categories. The larger group is composed of the "credit invisibles" – 26 million consumers, or 11% of the U.S. adult population, that do not have a credit record at the three nationwide credit reporting agencies.[3] An additional 19 million people, or 8.3% of the population, have credit records but are considered "unscoreable" as there is insufficient information or credit history to generate a credit score.

For those in low-income neighborhoods with limited or no access to financial services, the share of credit invisibles and unscoreables are appreciably higher at 30% and 15%, respectively. Put another way, nearly half of consumers in low-income neighborhoods face a significant barrier to building financial security. In high-income neighborhoods, those percentages are notably lower—4% percent of adults are credit invisible and another 5% are unscoreable—although in most cases this is a matter of choice. There are numerous ways in which creditworthy borrowers can be invisible. On the Cheyenne River Reservation in South Dakota, for example, there are four financial institutions, three of which do not report to the Credit Bureaus. Despite decades of history with local institutions, successfully utilizing debt tools, these borrowers remain invisible to mainstream credit.

### Conventional Credit Scoring as a Barrier to Credit

A lender uses a credit score to rank-order a borrower according to the likelihood that the borrower will default on a loan. It's the most efficient way to evaluate the credit risk of a new account. In securitizations backed by consumer loans, credit scores are used as a universal metric to objectively

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[2] Davidson (2018)
[3] Brevoort, et al. (2015)

assess the credit quality of a pool of loans, which subsequently informs the risk considerations and the value of a given security.

The conventional credit score factors are a borrower's payment history, which represents 35% of the score, the ratio of used versus available credit (30%), the average age of credit (15%), requests for new credit (10%), and mix of credit (10%). The score maps to a probability of default and risk level for a specific loan type. Unfortunately, scoring models that rely solely on these traditional factors are subject to clear limitations—the "credit catch-22", as referred to by FICO, of needing credit to apply for credit—and have proven to be inadequate in capturing creditworthy borrowers who have been deemed credit invisible or unscoreable.[4] As noted by Experian, a national credit reporting agency, an unscoreable is not necessarily a high credit risk, rather they are an *unknown* credit risk.[5]

In a 2020 speech on "Creating a Financial System of Inclusion and Belonging," FDIC Chair Jelena McWilliams shared her experience in obtaining credit as a young, recent immigrant. With no credit history and with $500 in a checking account as her only asset, Chair McWilliams's application for an unsecured credit card was denied. Using her checking account as collateral, she was approved for a $500 secured credit card. After a year's worth of on-time monthly payments, she was finally able to obtain an unsecured credit card, an auto loan, student loans, and, eventually, her first mortgage. This experience offered her an insight into the challenges faced by the financially disenfranchised and the importance of bridging the gap between those who belong and those who do not.

## Removing Barriers to Wealth Building

### Alternative Data Can Be Used to Generate Credit Scores

With the proliferation of digital information, big data, and data science analytics, lenders and credit reporting companies have made significant progress in making the unknown known.

The Fair Isaac Corporation (FICO) demonstrated that access to credit can be expanded if scoring models incorporate alternative sources of consumer data[6]. While a wide range of alternative consumer data is potentially available, FICO's research demonstrates that financial account and bill payment data have been most useful in creating an alternative credit score model (Figure 9).

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[4] FICO (2021)
[5] Experian (2018)
[6] FICO (2021)

**Figure 9: A Hierarchy of Consumer Data:**
**Financial and Bill Payment Data is Most Useful for Credit Risk Prediction**
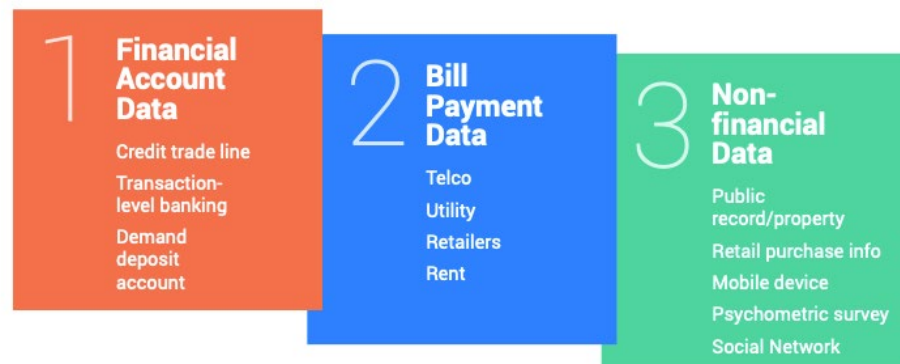


*Source: Fair Isaac Corporation © 2021 Fair Isaac Corporation. All rights reserved.*

In FICO's testing, about 53 million people cannot be scored given thin, non-existent or outdated credit bureau data. When supplementing bureau data with alternative data—such as telco, cable, and other payment histories—plus public record and property data, including property ownership records, FICO is able to score 26 million previously unscoreable consumers. Once credit is established and accessed, borrowers display improved risk profiles. For example, 75% of the consumers who scored above 620 using the above type of alternative data scored the same or higher in the subsequent 24 months with nearly half rising above 700.

For people with bank accounts, FICO recently piloted a credit score based on the activity in a person's cash flow accounts—checking, savings, and money market accounts—as these reveal patterns of responsible financial management. A consumer who has been actively maintaining a checking or savings account balance over time and avoiding a negative account balance is likely to be a better credit risk than someone who has not. Using this type of alternative data, FICO can score 15 million people, all of whom to do not have enough credit history to generate a traditional credit score. FinRegLab, a nonprofit financial research organization, has also done research that concludes that cash flow-based scores are predictive of credit risk and loan performance, both on their own and when combined with traditional credit scores.[7] Experian, TransUnion, Equifax and fintech companies have also piloted credit scoring products that draw on non-traditional data sources. This kind of data could enable people with subprime scores to improve their scores and obtain more credit or less expensive credit.

Similar to FICO's research, VantageScore has recently released its research entitled "Credit Invisible No More". Their alternative data scoring model includes trended data, which is collected over a longer period of time (up to two years) than traditional scoring models (the most recent month) in a

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[7] FinRegLab (2019)

determination of risk of default. The three credit reporting companies—Equifax, Experian and TransUnion—provided the data for VantageScore's research with which they expect to be able to score 37 million previously unscoreable consumers as shown in Figure 10.

**Figure 10: VantageScore 4.0 Uses Trended Data, Could Score 37 Million Unscoreable Consumers**
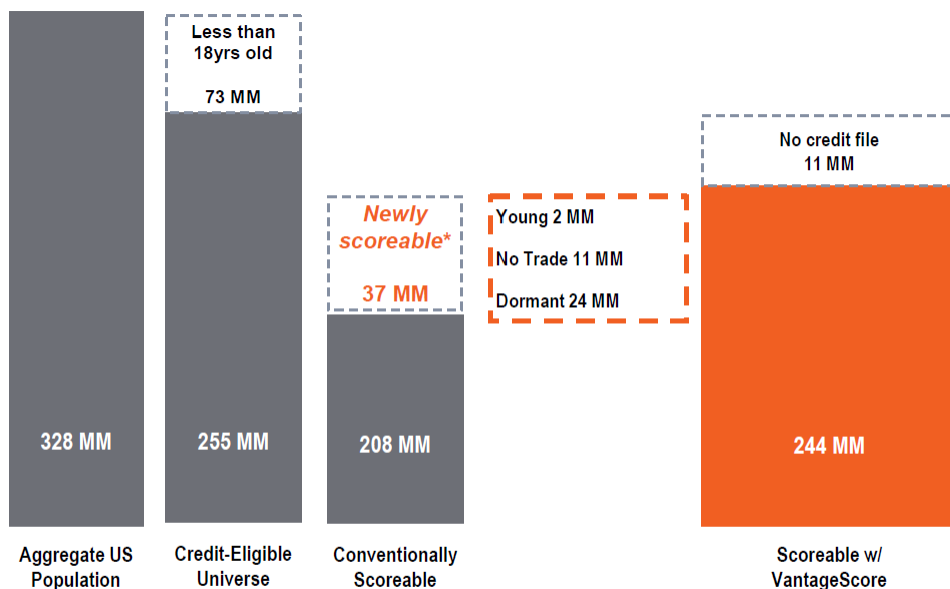


*Based on 2019 US Census population estimates and a random sample of consumers as of February 2020*

*Source: VantageScore Solutions, LLC*

Another positive development in this space has been consumer-permissioned data, which is data typically obtained with the consumer's permission by screen scraping or APIs. Lenders can access the borrower's financial accounts quickly and efficiently, and often obtain a fuller financial picture. According to an Experian study, 56% of consumers either agree or strongly agree that allowing lenders to access their financial data digitally would be more convenient than collecting hard-copy documents.[8]

The use of alternative data in lending to the unscoreable cohort is not new to lenders who access capital through securitization. According to a sample of offering documents for the past decade, up to 30% of subprime auto ABS pools do not have a FICO score. To score this cohort, lenders collect alternative data such as utility payment and account closures, home and apartment rental data, frequency of address change, professional licensures, car insurance claims, vehicle reports, and

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[8] Experian (2018)

savings and checking account activity, according to S&P.[9]  Many subprime auto ABS issuers, according to the rating agency, have been lending to this cohort for at least two decades.

Credit scoring models using alternative data have only been used in limited ways to date, due to a variety of regulatory and institutional barriers. The Fed, CFPB, Congress, and others are studying the issue. Some concerns are; ensuring that using alternative data is consistent with consumer protection laws, identifying potential privacy issues and addressing the problem of incomplete or bad data.[10] Another barrier that may slow adoption, is limited performance data, particularly during periods of financial or economic stress.  Although the subprime auto sector is familiar with the performance of this cohort, other consumer sectors, such as mortgages and credit cards, are not. A thorough understanding of what drives delinquency and defaults, as well as how quickly an alternative data borrower cures when delinquent is crucial to a widespread adoption of alternative data.   A successful resolution of these concerns will go a long way in narrowing the wealth gap by providing previously unscoreable or credit invisible consumers, most of whom will be from the bottom 20% of wealth, with access to credit.

## Supporting CDFIs in Their Mission

There are long-standing government programs to make financial services available to lower income communities. These include the Community Reinvestment Act, and community development financial institutions (CDFIs).

CDFIs are private-sector financial intermediaries with the primary mission of providing capital and credit in areas where traditional financial institutions have little presence. In 2019, 84% of CDFI customers were low-income, 60% were people of color, 50% were women and 28% lived in rural areas.

CDFIs were founded on the idea that lenders at the local level are in better positions to understand the nuances of their under-served communities, and therefore make better lending decisions. There are six basic types: community development banks, community development loan funds, community development credit unions, microenterprise funds, community development corporation-based lenders and investors, and community development venture funds. CDFIs finance small and mid-size businesses, social and cultural facilities, and housing including single- and multi-family rental as well as homeownership. CDFIs may also provide consumer finance. All are market-driven, locally controlled, private-sector organizations.

CDFIs have been around in some form since the 1970s. The creation of the CDFI Fund, which was established by the Riegle Community Development and Regulatory Improvement Act of 1994 and is
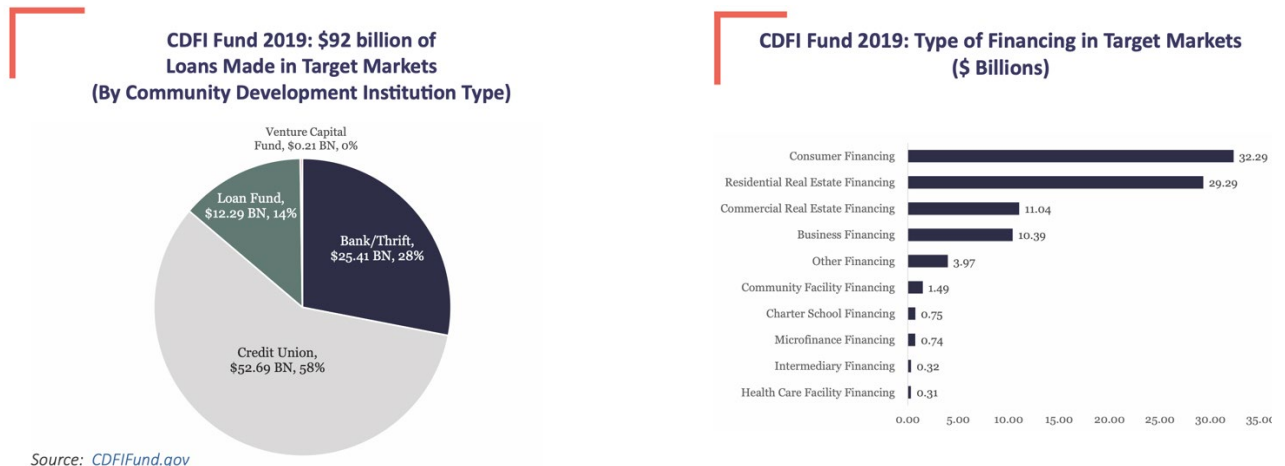
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[9] Moran, et al (2017)
[10] Fed (2019) and Kreiswirth (2017)

administered by the U.S. Treasury, allowed CDFIs to leverage private capital with federal support. To access many of the CDFI Fund award programs, which allow CDFIs to leverage $12 private capital to $1 in federal support, CDFIs must be certified by the Treasury and target at least 60 percent of their financial products and services to low-income communities and populations. Financial assistance awards are capped at $2 million and may be used for lending capital, loan loss reserves, capital reserves, operations, and development services. CDFIs must match this award with funds acquired from a non-federal source.

Today there are 1,298 Treasury-certified CDFIs. In general, these are small institutions when compared to traditional financial institutions. Median assets and capital for certified CDFIs is $29.5 million and $9 million, respectively. Chart 10 summarizes key characteristics of CDFIs sponsored by the CDFI Fund. Earned income through loan interest and loan fees generates 66% of funding for CDFIs. Lending is concentrated in the small business sector (41%) followed by residential real estate (28%) and commercial real estate (11%).

In a 2019 Federal Reserve Bank of Richmond survey, CDFIs reported a 73% year-over-year increase in consumer demand with 32% of respondent CDFIs receiving more qualified loan requests than they could fund. The same survey reported that raising capital, and securing long-term, low cost capital were the top needs for CDFIs.

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**Figure 10: Key Characteristics of CDFIs**



CDFI Fund 2019: $92 billion of Loans Made in Target Markets (By Community Development Institution Type)

Venture Capital Fund, $0.21 BN, 0%
Loan Fund, $12.29 BN, 14%
Bank/Thrift, $25.41 BN, 28%
Credit Union, $52.69 BN, 58%

Source: CDFIFund.gov



CDFI Fund 2019: Type of Financing in Target Markets ($ Billions)

| Financing Type | $ Billions |
|---|---|
| Consumer Financing | 32.29 |
| Residential Real Estate Financing | 29.29 |
| Commercial Real Estate Financing | 11.04 |
| Business Financing | 10.39 |
| Other Financing | 3.97 |
| Community Facility Financing | 1.49 |
| Charter School Financing | 0.75 |
| Microfinance Financing | 0.74 |
| Intermediary Financing | 0.32 |
| Health Care Facility Financing | 0.31 |

This was among the topics of the January 5, 2022, Senate hearing of the Committee on Banking, Housing, and Urban Affairs' subcommittee on Housing, Transportation, and Community Development entitled, "Exploring How Community Development Financial Institutions Support Underserved

Communities." Along with increasing CDFI Fund appropriations and reducing the CDFI Bond Guarantee, which currently has a minimum of $100M to $25M, members and witnesses discussed a new bill that would make the New Markets Tax Credit permanent. All of these supports for CDFIs could lead to greater private capital being attracted to CDFIs.

Senator Mark Warner (D-VA), who successfully included federal funding for CDFIs in pandemic relief legislation, has been particularly focused on ways to facilitate the securitization of CDFI portfolios to "better leverage private capital," a point he focused on at the January 5 hearing.

While the application of securitization is not new to CDFIs, there have been meaningful challenges which have impeded growth. These include a change in accounting rules, which made it less attractive for smaller issuers to securitize, and the lack of standardization and performance information on the underlying loans. As investors have become more comfortable with alternative data and specialized underwriting, in recent years, we have seen a limited number of rated stand-alone securitizations by CDFIs:

- Oportun Funding has been a Treasury-certified CDFI since 2009 with a track record of lending to people with little or no credit history. Their typical customer has an average income of $50,000; approximately 50% of their new customers do not have a FICO score. The company has raised over $331 million in equity capital and issued 14 revolving ABS totaling $3.2 billion, according to a May 2021 new issue report from KBRA.[11]

- Tricolor Auto Acceptance LLC is another CDFI that has accessed the capital markets through securitization. Tricolor provides financing on used vehicles for underserved Hispanic consumers, or an estimated 43% of the U.S. Hispanic community. According to the company website, 50% of Tricolor's customers have no credit score. Since 2013, the company has issued two rated securitizations, with a total amount of $335 million, and five unrated securitizations, with a total amount of $567 million, according to a June 2021 new issue report from KBRA .[12]

As a practical matter, however, the vast majority of CDFIs are too small to tap the securitization market on their own. A viable alternative exists in the loan aggregator model where CDFIs, working with third-party loan aggregators, can maximize their lending capacities quickly and efficiently. In this model, third-party entities purchase loans from numerous CDFIs, pool them, and ultimately securitize them. With the help of loan aggregators, there are examples of non-agency RMBS issuer securitizing CDFI loans using this model:

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[11]  https://firstlook.oportun.com; https://www.kbra.com/documents/report/47511/oportun-issuance-trust-2021-b-new-issue-report
[12]  https://www.tricolorautoacceptance.com/?lang=en; https://www.kbra.com/documents/report/51379/tricolor-auto-securitization-trust-2021-1-new-issue-report

- Angelo, Gordon & Co. LP, a global asset management firm, through Blue Creek II LLC, its loan aggregator, and Gold Creek Asset Trust (GCAT), its RMBS shelf, has issued eight agency RMBS transactions with CDFI loans.  For all GCAT transactions, the collateral pool is backed by fixed- and floating-rate non-prime mortgage loans originated by various financial institutions, including CDFIs. The share of CDFI loans vary by deal with GCAT 2019-NQM1 having the highest percentage of CDFI loans at 46.7% and GCAT 2019-NQM3 the lowest at 13.4%, according to a KBRA new issue database.[13]

Moreover, since mortgage loans originated by CDFIs are exempt from CFPB Ability-to-Repay/Qualified Mortgage rules, creating "incentives for aggregators to seek out CDFI collateral that would otherwise be ATR noncompliant, with the intent to include them in PLS [private label securitizations]." KBRA analytics estimates at least $35 billion of loans are potential candidates to be included in private label securitizations.

## Conclusion

Income and wealth inequality are multi-faceted problems that have expanded over the past 40 years. The bottom 50% of the US population holds only 2% of total wealth. More than 20% of households do not have bank accounts or rely on non-bank financial service providers. Most of these people also have no credit score or are unscoreable, leaving little opportunity to build wealth through owning a business or a home.

The building blocks are in place to address much of these shortcomings. Rapidly evolving data technology is making it possible to assign credit scores, or revise existing credit scores, using a range of alternative data. Securitization can be a way to channel private capital to lower income communities. Securitizations backed partially or fully by CDFI loans will provide investors looking for ESG opportunities a way to participate in an investment that makes a societal impact. These developments might only make incremental improvements in the near term, but over the course of a decade, and combined with other policy initiatives, they could have meaningful impact on both wealth inequality and racial inequality.

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[13] https://www.kbra.com/documents/report/851/kbra-rmbs-kcat

# Appendix

## What the Data Says

The data says that worsening income inequality is a global issue. An analysis by the OECD[14] concluded that the average Gini coefficient, a widely referenced measure of wealth distribution, gradually rose across six major economies from .295 in 1975 to .32 by 2012 (Figure 2).[15] The US has had the highest Gini coefficient over time, but the broader point is that what is happening in the US is happening across many developed countries.

**Figure 2: The Gini Coefficient (vertical axis) is Rising in Many OECD Countries**
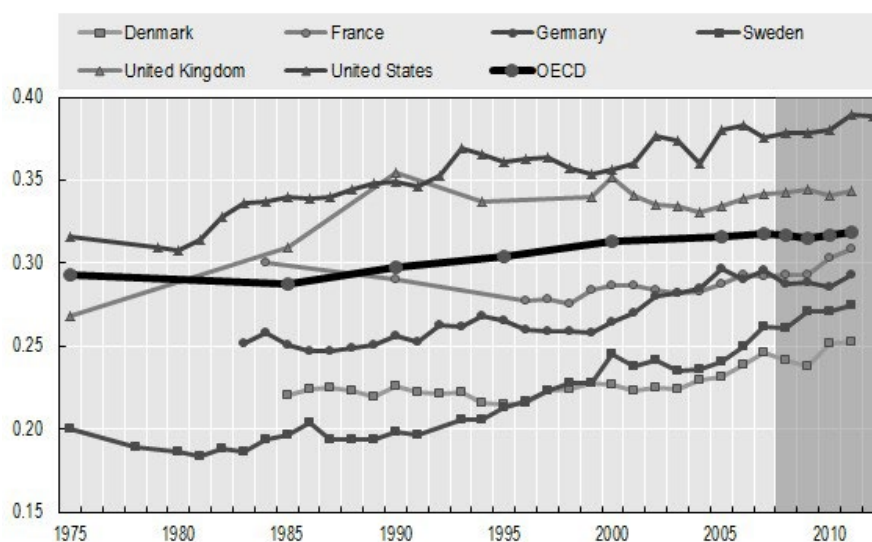


*Source: Cingano (2014), OECD Income Distribution Database (IDD)*

In the U.S., a Congressional Budget Office (CBO) report in 2020 showed income inequality trends over time, 1979 to 2017, by looking at income in two ways, income and disposable income. The first considers income only (before taxes and any transfers) while the second takes taxes, transfers, and

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[14] See Cingano (2014)

[15] The Gini coefficient is a measure of income and wealth distribution between zero and one, zero at perfect equality and one when all income is captured by a single person or subgroup of the nation. The Gini coefficient captures a lot of information in a single number, but it is hardly a perfect measure. Cross-country comparisons are problematic because income is defined differently (e.g., pretax or after tax) and classified differently (e.g., into quintiles or deciles) and because of differences in demographic factors such as the country's age distribution. The Gini can rise over time, either when lower income groups are receiving less income or when higher income groups are capturing more of the growth in income, but tells little about how or why, or whether it is a problem that policymakers need to address. We view the Gini as more of a starting point for further analysis, but because it is widely used, we make use of it here.

benefits into account.[16]  Gross income increased by 35% for the bottom 80% (in 2017 dollars) between 1979 and 2019 (Figure 3). Disposable income, however, rose 85% for the bottom quintile and 49% for the middle three quintiles. Over the same period the top quintile increased both real gross income and disposable income by about 110%. Disposable income for the top 1% rose 226% (not shown).

**Figure 3:  Income Growth for Bottom 80% Relies on Transfers Payments**

Percent Change in Real Income by Quintile – 1979 – 2017

Gross Income                                               Disposable Income
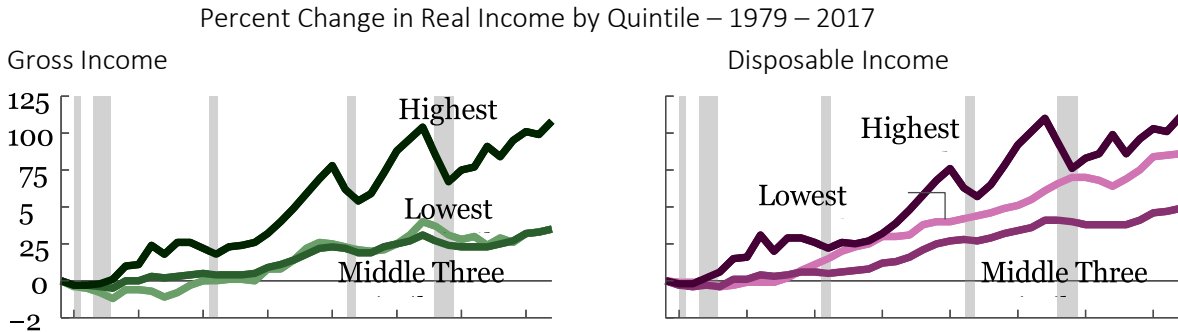


*Source:  Congressional Budget Office (2020)   The Distribution of Household Income, 2017 (cbo.gov)*

The jump in disposable income for the bottom quintile was due in part to technical changes over time in how transfer programs are counted in income. However, its share of total income, whether on a gross or disposable basis, declined slightly by one to two percentage points (Table 1). Put another way, transfer programs essentially kept the income share for the bottom 20% from declining more precipitously. The top quintile increased its share of disposable income by seven percentage points. And the disposable income share for the middle 60% (essentially the middle class) fell by five percentage points. The data shows what happened: the top quintile captured most of the growth in income between 1979 and 2017.

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[16] These include Medicaid, Children's Health Insurance Program (CHIPS), the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps Program), and Supplemental Security Income (SSI).

**Table 1: Taxes and Transfers Boost Bottom 20% Disposable Income**

| | Gross Income* | | | Disposable Income** | | |
|---|---|---|---|---|---|---|
| | 1979 | 2017 | Change | 1979 | 2017 | Change |
| Top 1% | 9 | 17 | 8 | 7 | 14 | 7 |
| Top 20% | 44 | 52 | 8 | 40 | 47 | 7 |
| Middle 60% | 51 | 44 | -7 | 51 | 46 | -5 |
| Bottom 20% | 5 | 4 | -1 | 9 | 7 | -2 |
| Top 20%/Bottom 20% | 8.8 | 13.0 | 4.2 | 4.4 | 6.7 | 2.3 |

\* Gross Income is income before taxes and transfers
\*\* Disposable Income is income after taxes and transfers
*Source, Early (2018), Congressional Budget Office*

Income inequality is also seen in ratios of income received by different income groups as a share of the overall economy, the slices of the pie perspective. The bottom line of Table 1 shows that the ratio of the top-to-bottom income quintiles rose for both gross and disposable income over time. The increase in the disposable income ratio was about one-half that of the gross income ratio (although both ratios increased by about 50%).

Most studies of income distribution lack granular detail on the bottom 20%, tending to suggest that this group is homogeneous and that its members are mostly receiving sufficient disposable income to live on even if the group is not capturing any of the growth in income. We return to this point below.

The takeaway here is two-fold. First, the distribution of income has become more unequal over the past 40 years by any measure. Second, it makes a big difference whether income distribution is measured based on gross income or disposable income. Many of the headline reports focus on gross income inequality, which does not tell the whole story about what is being done to address income inequality nor about what *isn't* being done to address underlying causes.

## Why is Income Distribution Becoming More Unequal?

In this section we highlight some of the key drivers of broadening income inequality, most of which are interrelated.

Globalization – Production and supply chains have moved to low-labor cost countries. Two million workers have lost manufacturing jobs since the 1940s, even as total employment grew by more than 100 million (Figure 4).

**Figure 4: Manufacturing Employment Declined Even as Total Employment Rose Nearly Four-fold**
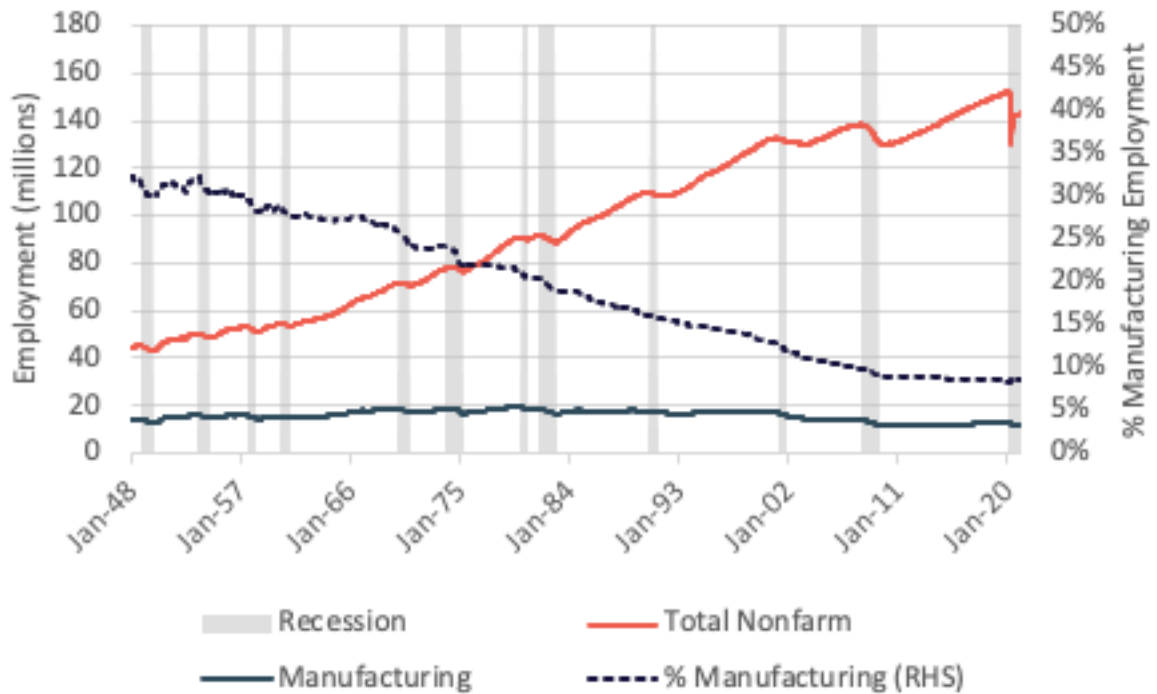


**Technology** – For three decades technological advances have displaced manual labor workers from well-paying low- or middle-skill jobs while creating new higher paying jobs for people who have the skills to use, develop, or manage technology. Companies investing in technology and capital equipment, flow the gains in efficiency (and income) back to the providers of capital, people in higher income and wealth groups, rather than to labor.

**Decline in Unions** – Between 1950 and 2019 unions collapsed from one-third of workers to less than 10%.[17] This has led to a loss of worker bargaining power.

**Education** –About 90% of children from families in the top decile of income will attend college; however, only one-third of children from the bottom decile will.[18] Some lack resources to pay for education while others received subpar primary and secondary education, therefore lack the grades to qualify for higher education.

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[17] PIEE (2020)
[18] PIIE 2020

**Poor Policy Choices** – As noted in the previous section, income redistribution programs and Medicaid have increased over the past 30 years, allowing the bottom 20% as a group to roughly maintain their share of disposable income and keeping many from falling into outright poverty.

But little attention has been paid to the often-hidden impacts of globalization and technology on the job prospects for the bottom half of the income spectrum. More could be done to directly address these issues, such as providing retraining for new jobs. The utter failure in this regard is best exemplified by the student loan crisis. Parents of students in upper deciles generally pay for their child's education, while students in lower deciles take on student loans and begin their working lives deeply in debt. The net effect on the economy has been to impede lower-income students from accumulating wealth while funneling wages toward the higher income groups of providers of educational services.

**Winner-Take-All Culture** – A growing acceptance of a winner-take-all culture, where a small number of superstars in sports, the arts and entertainment, and business reap extraordinary monetary benefits, is exhibited in the business world in CEO compensation. At larger companies, one source pegs the ratio of average CEO pay to worker pay at 21:1 in 1965, 65:1 in 1989, and 320:1 in 2019. Between 1978 and 2019 CEO pay rose 1167% while average worker pay rose 13.7%.[19] Other sources show similar ratios. Another analysis of CEO pay, for Russell 3000 companies, found that CEO to worker compensation ratios ranged from 32:1, for companies with fewer than 1000 employees, up to 290:1 for large companies with more than 50,000 employees.[20] These trends have certainly contributed to growing income inequality.

## Implications of Income Inequality

Research to analyze the relationship between economic growth and income inequality fall into five topic areas[21]. We consider much of this work to be inconclusive, because of data quality issues or because analysis was based on average or median incomes of broad subgroups where most of the granularity and variation in the data is lost. The previously mentioned Gini coefficient is a good example of the lack of granularity about income *distribution*.[22] Despite the broad averaging, however, these studies point to a negative relationship between income inequality and economic growth—higher inequality reduces economic growth.

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[19] Mishel, et al. (2020)
[20] Phan (2018)
[21] For the fifth category of income inequality studies, happiness, is difficult to quantify. Those studies are not included here. For further information on these studies, see the literature survey by d'Hombres (2012) in the bibliography.
[22] World Bank and OED have developed databases to track and measure income equality for many countries. Over time this data should facilitate higher quality statistical analysis of income inequality and economic growth..

**Education** - Analysis across OECD countries estimated the probability of a child achieving a tertiary level of education based on parent's education background (PEB) and income inequality (Figure 5).[23] Medium and high PEB represents at least one parent having completed secondary and tertiary schooling, respectively. For children with highly educated parents there was little variation across income inequality, but for children with uneducated parents the likelihood of achieving tertiary education declined steadily with rising income inequality. The implication is that countries with more equal income distributions are more likely to provide education opportunities which are comparable across income groups. As income inequality rises, the quality of primary and secondary education for lower income groups declines.

**Figure 5: Achieving Tertiary Education Depends on Parent's Education and Income Inequality**
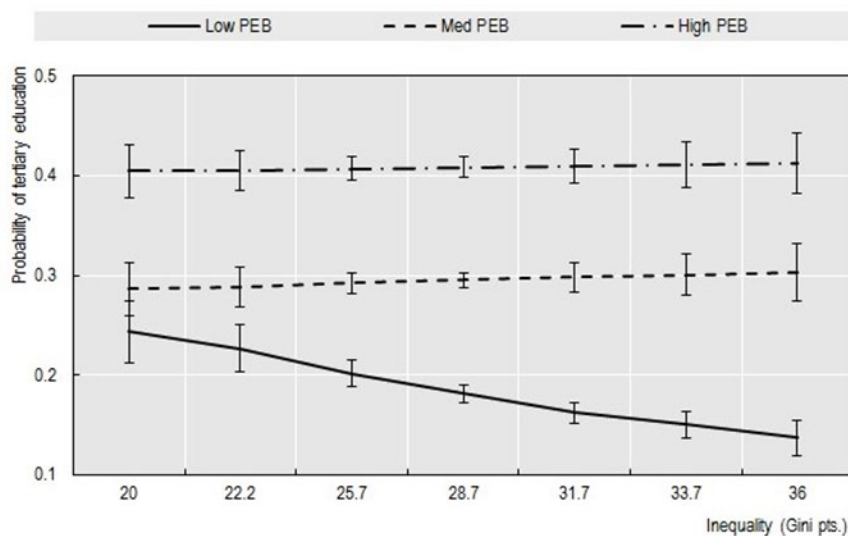


*Source: Cingano (2014)*

In the US, where education is largely controlled and financed locally, the quality of education varies based on the income level of communities. Children from lower income families have quite a challenge: they are more likely to have less educated parents, who may value education less; they are more likely to receive a substandard primary and secondary education; and because of these factors, they are more likely to be ill prepared for further education.

**Criminal Activity** – Among the research in criminal activity, it is suggested that acts such as robbery and homicide increase with high income inequality.

**Health** – While studies of the relationship between health outcomes and income inequality have generally found there is little or no statistical relationship across the wealthier European countries,

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[23] See Cingano (2014)

that is not the case in the US. The difference is surely due to the availability of national health in all industrialized countries except the US.

**Civic Engagement and Voting Behavior** – Many studies for the US and across countries conclude there is a strong negative relationship between income inequality and participation in elections and other civic activities.

## Wealth Inequality is Worse

Income inequality pales in comparison with wealth inequality. A recent Fed survey showed that even though the bottom 50% receives about 17% of total disposable income, it holds only 2% of the total wealth (Figure 6). The top 10% on the other hand receives 41% of total disposable income and controls 71% of total wealth.[24] The bottom 90% holds less than 30% of the total wealth of the nation.

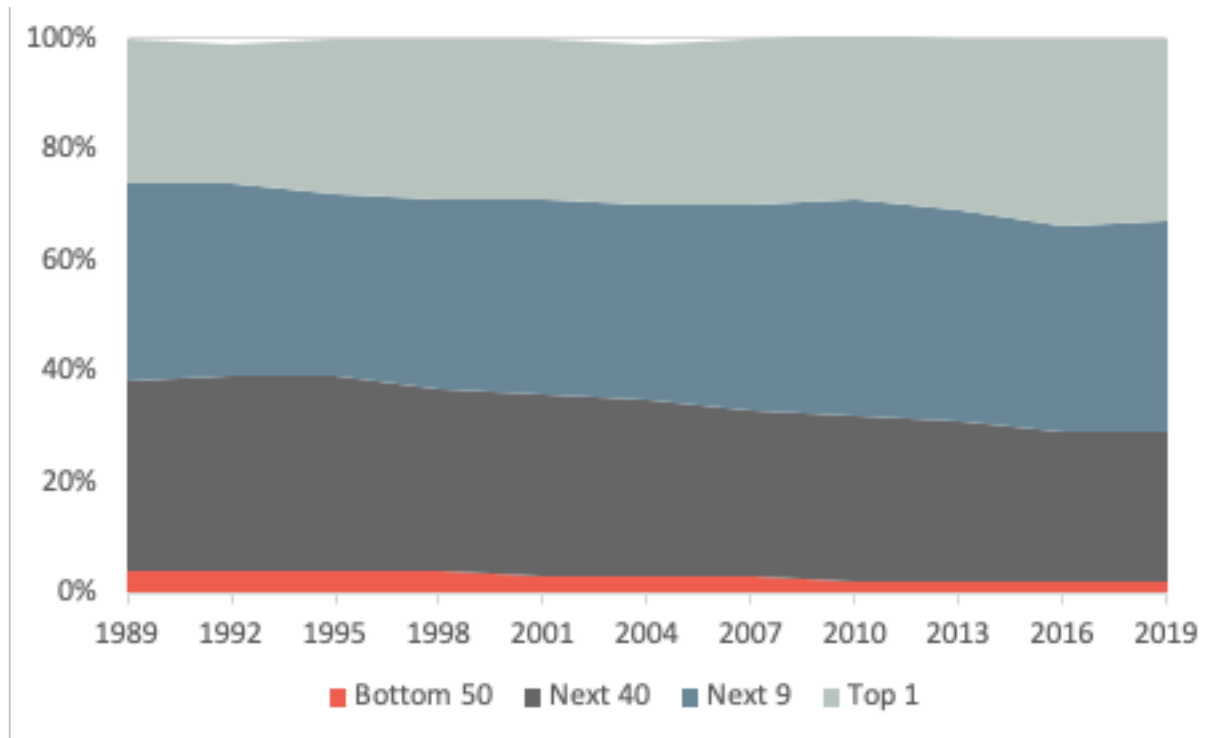**Figure 6: Wealth Distribution is Heavily Skewed to the Top 10%**
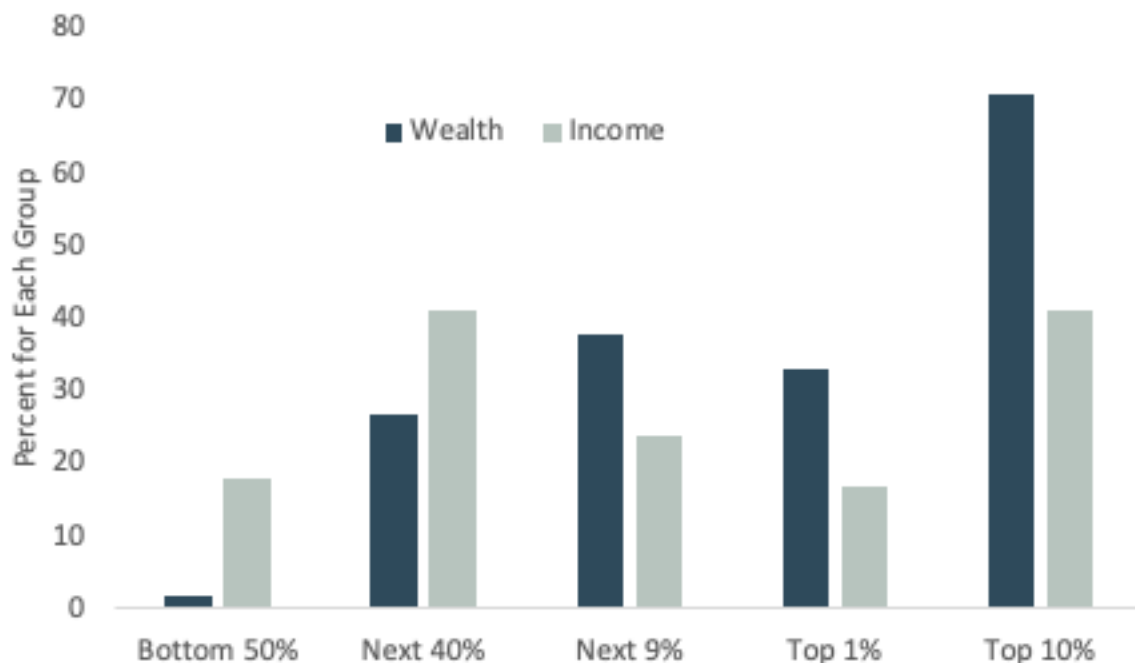


*Source:  Federal Reserve Board (Bricker, et al., (2020))  https://doi.org/10.17016/2380-7172.2795*

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[24] The Fed's data is based on its Survey of Consumer Finances, a triennial survey of household wealth and income. Its definition of disposable income is similar to the CBO approach in Table 1. The Fed defines cohorts differently from the decile or quintile approach used for income studies because the bottom 50% holds so little wealth.

Wealth inequality has also widened over the past 30 years (Figure 7). The top 10% increased its share by 9 percentage points, with most of that gain going to the top 1%. The big loser was the next 40%, which fell 7 percentage points. The bottom 50% gave up 2 percentage points. A combination of booming financial markets and favorable tax policies (for the higher deciles) and stagnant real income growth (for the lower deciles) accounts for much of the widening gap in wealth inequality.

**Figure 7: The Top 1% has Increased its Share of Wealth at the Expense of the Next 40%**



*Source: Federal Reserve Board of Governors, Bricker, et al., (2020)* https://doi.org/10.17016/2380-7172.2795

Inequality of wealth is also apparent in mean family wealth for each wealth group (Figure 8). The average family in the top 1% holds $29.97 million in net wealth or seven times that of the next 9%. The bottom 50% has, on average, a scant $94,000 in net wealth. Many have little or even negative wealth if debts exceed the value of their assets. There are about 123 million households in the US, so the top 1% includes about 1.2 million households and the bottom 50% 61.3 million households.

**Figure 8: Families in the Top 1% Have Far More Wealth Than the Bottom 99%**



*Source:  Federal Reserve Board of Governors Bricker, et al., (2020)     https://doi.org/10.17016/2380-7172.2795*
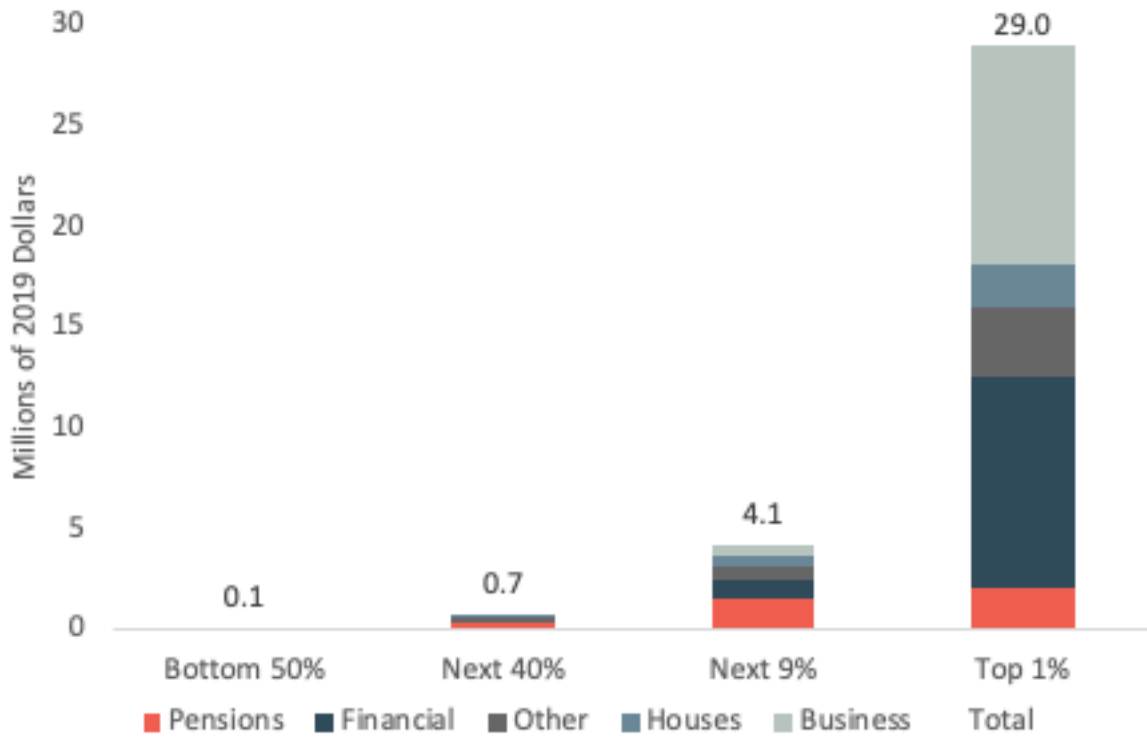
**There is Wealth, and Then There is** *Wealth* – The wealth for the top 1% is significantly different from that of the bottom 99%. The average family in the top 1% derives 37% of its wealth from owning a business, and another 36% from holding financial assets (e.g., stocks, bonds) or 73% total. The next 9% derive only 35% of their wealth from these sources; pensions account for another 37%. The bottom 90% derives less than 5% of its wealth from owning a business. The wealth of the 90% is mostly limited to equity in homes and includes the depreciating value of smaller assets like cars and household effects.

**Acquiring Wealth** – For the top 1% about one-half of total wealth was acquired through inheritances. Much of the rest comes from the ability to accumulate savings out of higher incomes or from building equity in a private business. Most people in the bottom 50% are essentially excluded from both sources—they receive little or no inheritance and, because most of their income is needed to cover living expenses, they have little to no savings apart from homeownership.

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## The Bottom 20%

Focusing on the bottom 20% income group, where redistribution policies cause the share of income to rise from 2%, on a pre-tax basis, to 8% or more, after taxes and transfers, it is tempting to assume that these benefits are distributed equitably and that many people have sufficient income to cover basic living expenses. But the reality is otherwise. There are roughly 250 million adults in the US, so there are 50 million people in each income quintile. Consider the following:

- The poverty rate in the US is about 10% (Stebbins et al, (2019)). This implies that about one-half of the bottom 20% income group lives in poverty.[25]

- The Consumer Financial Protection Bureau has estimated that 25 million consumers are "credit invisible", with no credit history with any of the three major credit reporting agencies. Another 19 million people are "unscoreable" with insufficient or outdated credit history. Assuming many, *if not most*, of those people are in the bottom 20% income group, that implies most of the bottom 20% is essentially off the financial services grid. As we have seen, no credit means no business or homeownership, which creates a meaningful barrier to wealth-building.

- About 9% of Americans do not have health insurance (Belchick, et al, (2018)). Assuming most of them are in the bottom 20% income group, that implies 45% of that group does not have health insurance.

- States have discretion in how they receive and administer Federal benefit programs. Twelve states have not opted to increase Medicaid coverage under ObamaCare. States can also set eligibility requirements for the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps Program). These kinds of impediments ensure that redistribution programs are not distributed equitably.

To be clear, there are no studies or data that explicitly link poverty rate, access to credit, or lack of health insurance to the bottom 20% income group. It is, however, a reasonable conjecture.

## Racism and Inequality

Over the past two years several studies show income and wealth inequality falling more heavily on Black and Hispanic communities.[26] The gap between median family wealth for whites and for Blacks and Hispanics has widened steadily in dollar terms over the past 50 years (Figure 9), about $48,000 in 1963; roughly $160,000 in 2019. Black and Hispanic wealth gains in percent terms were largely due to the very low starting point.

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[25] The Cato Institute argues that standard measures of poverty exclude some benefits that flow to lower income people and when these are accounted for the poverty is less than 5%. See Early (2018).

[26] See for example, McCargo, et al. (2020), Stewart, et al. (2020), Fitzhugh, et al. (2020),

**Figure 9: Median Family Wealth – 1963 – 2019***

\* Wealth data for specific non-white groups started in 1983
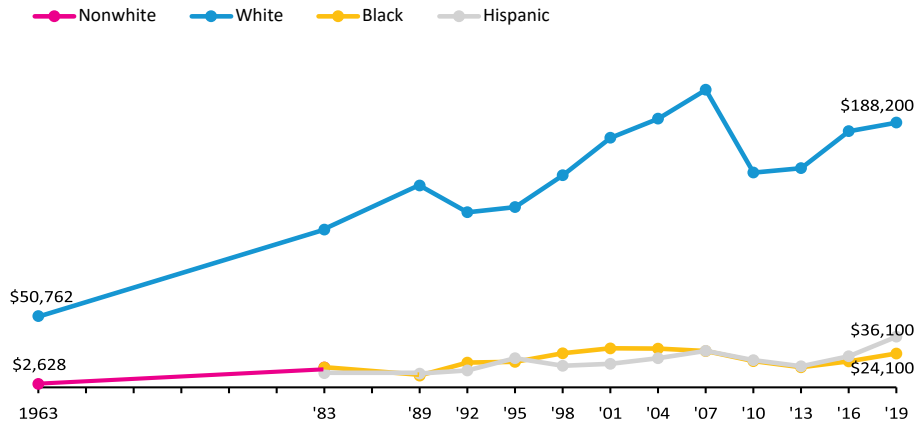


Source: Urban Institute (2020)

For Black and Hispanic homeowners, median wealth is more concentrated in home equity than for whites (Table 2), clearly demonstrating the importance of homeownership in building wealth. But the homeownership rates for Blacks and Hispanics are only 42% and 48% respectively, far lower than 72.1% for whites. Even with the benefit of homeownership, Black and Hispanic homeowner net worth is still considerably lower than the white family median wealth of $188,200 (Figure 1). Given that homeownership carries this much weight in wealth building among Blacks and Hispanics, efforts to improve credit scoring for mortgage applications are even more crucial for reducing racial bias.

**Table 2: Median Wealth for Black and Hispanic Homeowners is Concentrated in Home Equity**

Source: Urban Institute (2020)

|  | Home Equity | Net Worth | Home Equity % | Homeownership Rate |
|---|---|---|---|---|
| White | $130,000 | $299,900 | 43.3% | 72.1% |
| Black | $66,800 | $113,000 | 59.1% | 42.0% |
| Hispanic | $95,000 | $164,000 | 57.9% | 48.1% |

## RMBS Deals with CDFI Percentage

| Deal Name | Original Principal Balance | CDFI % |
|---|---|---|
| CAT 2019-NQM1 | 393,036,931 | 46.7 |
| GCAT 2021-NQM1 | 289,411,267 | 41.2 |
| GCAT 2019-NQM2 | 398,554,951 | 29.2 |
| GCAT 2020-NQM2 | 226,899,021 | 28.6 |
| GCAT 2020-NQM1 | 331,939,675 | 25.3 |
| GCAT 2021-NQM3 | 290,555,843 | 20.0 |
| GCAT 2021-NQM2 | 210,012,238 | 19.3 |
| GCAT 2019-NQM3 | 308,674,499 | 13.4 |
| OBX 2020-EXP1 | 467,510,916 | 8.6 |
| OBX 2019-EXP3 | 465,491,918 | 8.3 |
| PSMC 2021-1 | 420,189,853 | 7.1 |
| STAR 2020-3 | 478,910,510 | 6.1 |
| PSMC 2019-2 | 393,757,029 | 5.8 |
| SEMT 2020-5 | 345,403,101 | 5.4 |
| PSMC 2020-3 | 417,890,463 | 5.2 |
| OBX 2020-EXP3 | 514,609,134 | 5.1 |
| PSMC 2019-3 | 298,606,220 | 4.9 |
| PSMC 2020-1 | 430,416,764 | 4.6 |
| SEMT 2019-CH3 | 359,842,759 | 3.5 |
| SEMT 2021-2 | 348,479,193 | 3.3 |
| SEMT 2019-CH2 | 348,773,680 | 3.3 |
| SEMT 2021-4 | 723,266,896 | 2.8 |
| SEMT 2021-3 | 355,923,559 | 2.6 |
| SEMT 2021-1 | 527,399,804 | 2.6 |
| PSMC 2020-2 | 423,822,008 | 2.4 |
| SEMT 2020-MC1 | 274,048,478 | 2.0 |
| NRMLT 2021-NQM2R | 270,675,615 | 2.0 |
| SEMT 2020-1 | 459,276,405 | 1.8 |
| DRMT 2019-4 | 480,856,236 | 1.8 |
| PSMC 2019-1 | 295,989,377 | 1.7 |
| OBX 2021-NQM1 | 257,135,339 | 1.6 |
| SEMT 2021-5 | 450,855,509 | 1.4 |
| SEMT 2019-CH1 | 340,411,135 | 1.2 |

*Source: KBRA's RMBS New Issue KCAT*

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