

Overcoming Child Support Debt: An Exploratory Data Analysis

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Introduction

Formerly incarcerated and currently incarcerated individuals experience many difficulties easing back into everyday life, including financial responsibilities. Child support debt can contribute to financial instability. Our findings support this statement and highlight the populations most vulnerable to this risk. We also examine trends related to child support payments and arrearages that suggest additional explaining factors including the Covid-19 pandemic. For the sake of space, we have included a small definitions document in our Appendix called “Helpful Definitions and Background Information” for terms related to child support that may not be known to all.

Data and Methodology

We conducted an exploratory data analysis on a dataset from the U.S. Department of Health & Human Services (HHS), Office of Child Support, *FY 2022 Preliminary Data Report and Tables*. We in part chose this dataset to support finEQUITY, a non-profit that is considering programs alleviating the burdens of child support debts as barriers to financial stability. Established in 2019 by Briane Cornish, finEQUITY helps returning citizens with credit education, credit building, and micro-lending. In 2021 the City of New York celebrated finEQUITY for its innovative solutions aiding unbanked New Yorkers. Our analysis may be helpful to them as they develop new programs in the prison-to-prosperity space.

Supplemental Datasets

To contextualize the HHS child support data, we joined population-level data and overlaid geospatial data from the U.S. Census Bureau. We also referenced the World Bank for inflation rates, the National Conference of State Legislatures (NCSL) for unemployment rates, U.S. Census for data on demographics and household headcount, and the Centers for Disease Control and Prevention (CDC) for divorce rates. Please see *References* to access these files.

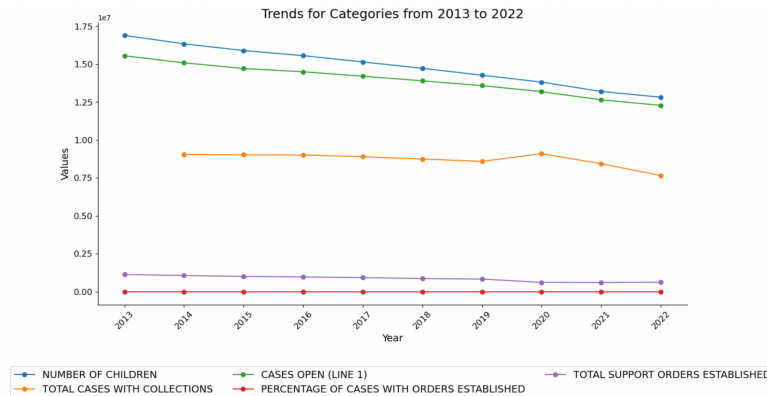
Methodology

Our overall question in this process was: What kind of information can we provide finEQUITY to further understand the scope of child support payments within the U.S. and within specific states? We broke this down into covering insights related to how child support payments have changed over time from 2013 to 2022, how different assistance programs compare, trends related to arrearages, and potential states that finEQUITY could expand to in their aid to formerly/currently incarcerated individuals and their families. Additionally, we wanted to delve into how child support payments affect people of different demographics and of different family sizes. It is necessary to explore all of these aspects as child support debt is complex. We approached this data by first examining the variables in the datasets and comparing the use of these variables with their definitions from our own research. This ensured we were using the correct variables when utilizing them to derive further insights. We will discuss the specific trends we found and whether or not we derived actionable insights from these trends and findings.

Data Analysis

Number of cases and spend breakdown

Our first approach to examine the data was to identify broad trends, including number of cases, number of children, and orders established. The graph below presents trends for various categories over a ten-year period, from 2013 to 2022. Here's a breakdown of the most notable observed trends:



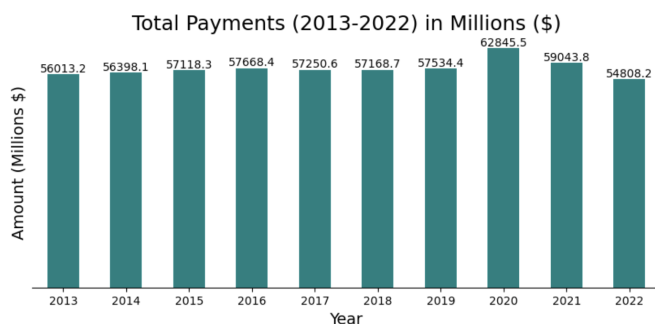
Number of children: This line shows a consistently decreasing trend over the years. The decline suggests a steady reduction in the number of children associated with the data represented, which might indicate changes in demographics, policy impacts or possible social/cultural changes.

Cases open: There is a noticeable declining trend, suggesting a decrease in the number of cases that remain open from year to year. This could

reflect improved efficiency in case processing or other systemic changes.

Some less significant variables, but still notable given the time range are cases with orders established (%), total support orders established and total cases with collections. For *cases with orders established* (%), the percentage represented by this line is very low compared to the counts of other categories, but it shows a gradual increase over the years. *Total support orders established* is similar to the percentage of cases with orders established; this category starts very low but exhibits a slight upward trend. Despite the growth, the overall proportion remains small relative to other categories. This might be indicative of a growing efficiency or effectiveness in establishing orders within cases. For *total cases with collections* the trend for this category is relatively stable with a very slight downward trend, indicating that the total number of cases with collections has not changed dramatically over the given period. It is noteworthy that there was a slight increase in 2020, during the beginning of the pandemic. This could be attributed to non-custodial parents losing their income or other financial issues during this time. Below we will expand on this with a related pattern involving payments in relation to the pandemic.

The data suggests that while there are some shifts and changes in the various categories, most maintain a relatively stable proportion over the years. Categories that represent counts of individuals or cases are generally higher and show more stability, while those representing percentages or specific outcomes are lower and exhibit more noticeable trends, whether increasing or decreasing. This analysis can inform further investigation into the causes behind these trends and their implications.



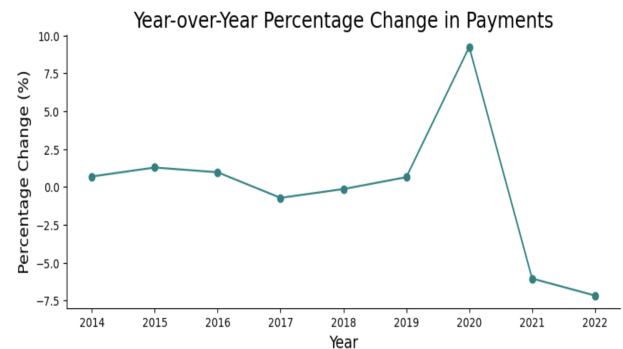
Payment Trends Over Time

In order to focus more closely on parents who may have child support debt, we analyzed the total child support payments made from 2013 to 2022. The following analysis can be derived from the graph “Total Payments(2013-2022) in Millions”:

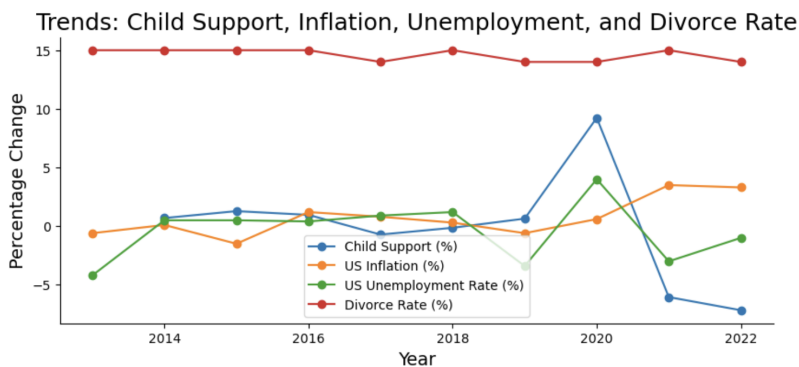
The trend in *total payments* made over the past decade shows varying levels of fluctuation. The early years (2013-2019) exhibit relatively small changes, both positive and negative, suggesting a period of relative stability in total payments with no significant long-term upward or downward trend.

However, a notable shift occurs in 2020, when there is a substantial increase in payments, as indicated by a significant positive percentage change (see the Year-over-Year graph below). This spike could be attributed to various factors, such as changes in economic conditions, policy interventions, or other external factors impacting the financial obligations of payers.

Post-2020, there is a marked reversal in this trend. The years 2021 and 2022 show considerable negative percentage changes, indicating a decline in total payments. This decline is more pronounced than any fluctuations observed in the earlier part of the decade. Such a downward trend could be multifaceted, indicative of economic challenges, policy changes affecting child support enforcement or collection, demographic shifts, or other societal shifts that could impact the ability or obligation of payers. To fully understand the dynamics behind these trends, further investigation into these underlying causes is warranted.



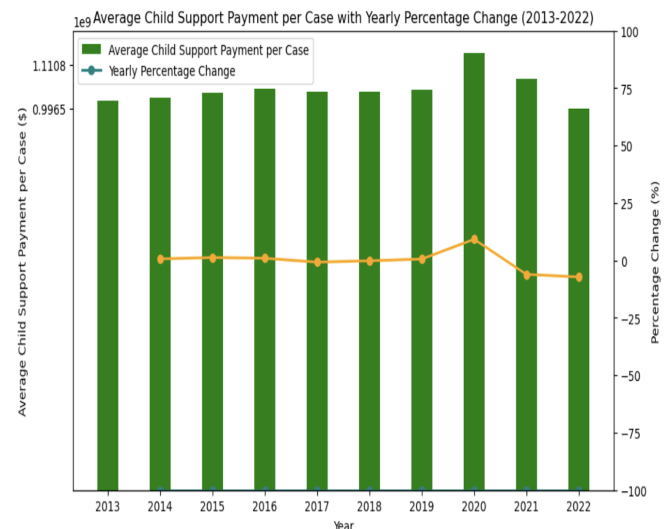
Impact of Unemployment, Inflation and Divorce Rate on Child Support Payments



The 2020 spike in the child support payments coincides with a rise in the unemployment rate (in the “Trends” table to the left), hinting at the impact of the COVID-19 pandemic on financial obligations and employment. Conversely, 2021 and 2022 show a sharp decline in child support change percentage.

Average Child Support Payment Trend

The graph to the right that displays "Average Child Support Payment per Case" shows that in most years, there is some variation in the average payment per case (in thousands), with certain years showing an increase from the previous year, as indicated by positive percentage changes. Notably, there appears to be a significant drop in the average payment per case in 2021, as shown by a sharp decline in the line chart, which corresponds to a negative percentage change that year. The average payment seems to recover slightly in

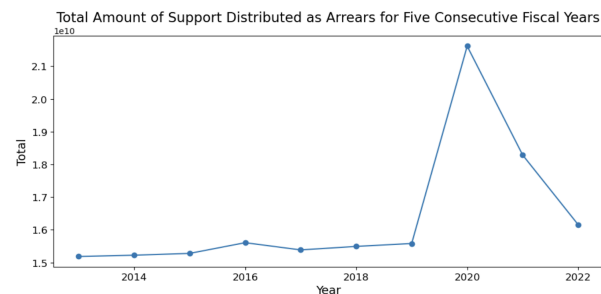
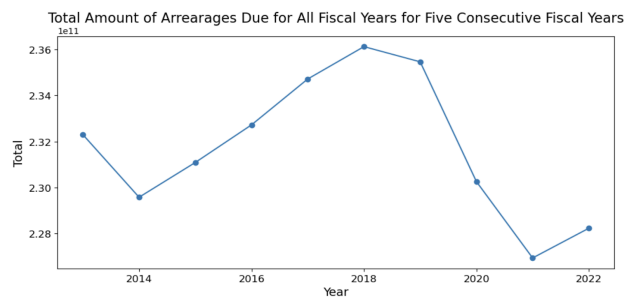


2022 compared to 2021, as the negative percentage change is less steep.

Arrearages Trends

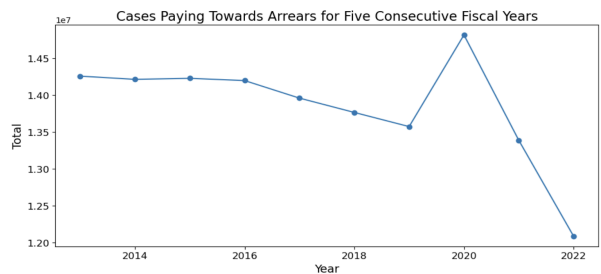
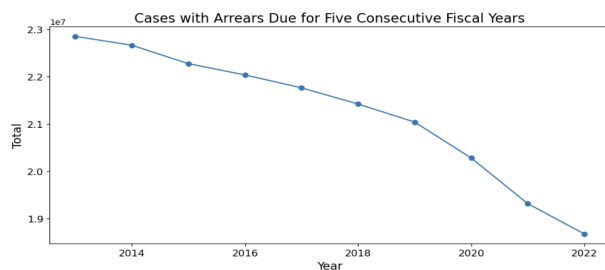
To research debts related to child support further, we looked at arrearage trends or trends within the total amount owed for past support. The graph below to the left indicates a variable trend in the total amount of arrearages due. After an initial decline, there is a notable increase peaking in 2019. Subsequently, a sharp decline occurs through to 2021, with a minor increase in 2022, suggesting a potential change in the downward trajectory.

In the graph to the right, "Total Amount of Support Distributed as Arrears", the chart exhibits volatile changes in the total amount of support distributed as arrears. A significant spike is seen in 2019, followed



by a steep fall in the subsequent year. Although there is a recovery in 2021, the amount in 2022 returns to levels observed in earlier years, indicating irregularity in distribution patterns.

In "Cases with Arrears Due" a continuous downward trend is evident in the number of cases with arrears due. This decline from year to year suggests a progressive resolution or handling of cases involving arrearages, hinting at the possibility of improved management or settlement strategies being implemented.



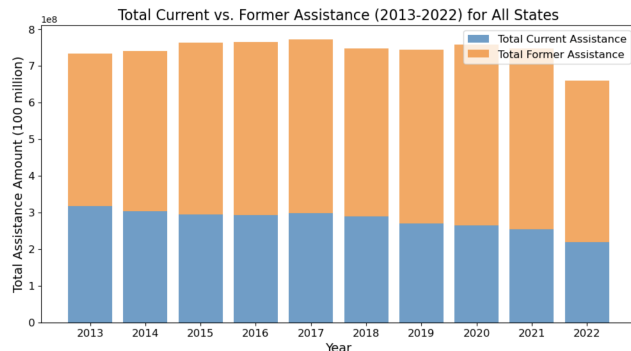
Lastly in our table "Cases Paying Towards Arrears", the data reveals significant fluctuations in the number of cases paying towards arrears. After a peak in 2019, there is a precipitous decrease, with numbers dwindling considerably by 2022. This pattern may reflect underlying challenges in the collection of arrears or perhaps shifts in the overarching strategies of arrear management.

Overall, there is a general declining trend in both the total amounts and the number of cases with arrearages, suggesting potential improvements in management. The dramatic fluctuations in the "Total Amount of Support Distributed as Arrears" and "Cases Paying Towards Arrears" signal a need for a deeper analysis to understand the underlying causes of these inconsistencies. The most recent data, particularly for "Cases Paying Towards Arrears" in 2022, could indicate new difficulties in securing payments from cases with outstanding arrears.

Again, it's important to consider external factors that might influence these trends, such as policy changes, economic conditions, and administrative practices. Additionally, examining these data points in the context of the broader economic environment and within the specific operations of the agency responsible for collections could provide more insight into the reasons behind these trends.

Comparison of Assistance Types

Another aspect that may impact an individual's ability to complete payments are *assistance types*. The stacked bar chart displays the distribution of "Total Current Assistance" versus "Total Former Assistance" from 2013 to 2022. Throughout this period, "Former Assistance" consistently surpasses "Current Assistance" in terms of total amount. Both



categories demonstrate a steady increase year over year, with "Former Assistance" maintaining a substantial lead over "Current Assistance."

In more recent years, "Current Assistance" shows a gentle rise, with a slight reduction in 2022, yet maintaining higher totals than in earlier years, such as 2013 and 2014. "Former Assistance," on the other hand, sees a more pronounced increase over the years, with a minor dip in 2022, although the total for that year remains notably higher than any year from 2013

to 2017.

The sustained higher totals in "Former Assistance" may reflect the longevity or cumulative nature of former support mechanisms, whereas the variations in "Current Assistance" could be indicative of changes in eligibility, need, or policy adjustments. The overall trend highlights the greater financial impact and continued reliance on "Former Assistance" programs over the observed decade.

When assessing which assistance programs have experienced the most significant increase or decrease in payments over the years, "Former Assistance" shows the most substantial growth, particularly in the mid-to-late years of the timeframe. The decline in both "Current" and "Former Assistance" in 2022 could point to a shift in the administration of these programs, changes in the economic environment, or a decrease in the number of qualifying recipients. The data suggests an evolving landscape of assistance distribution.

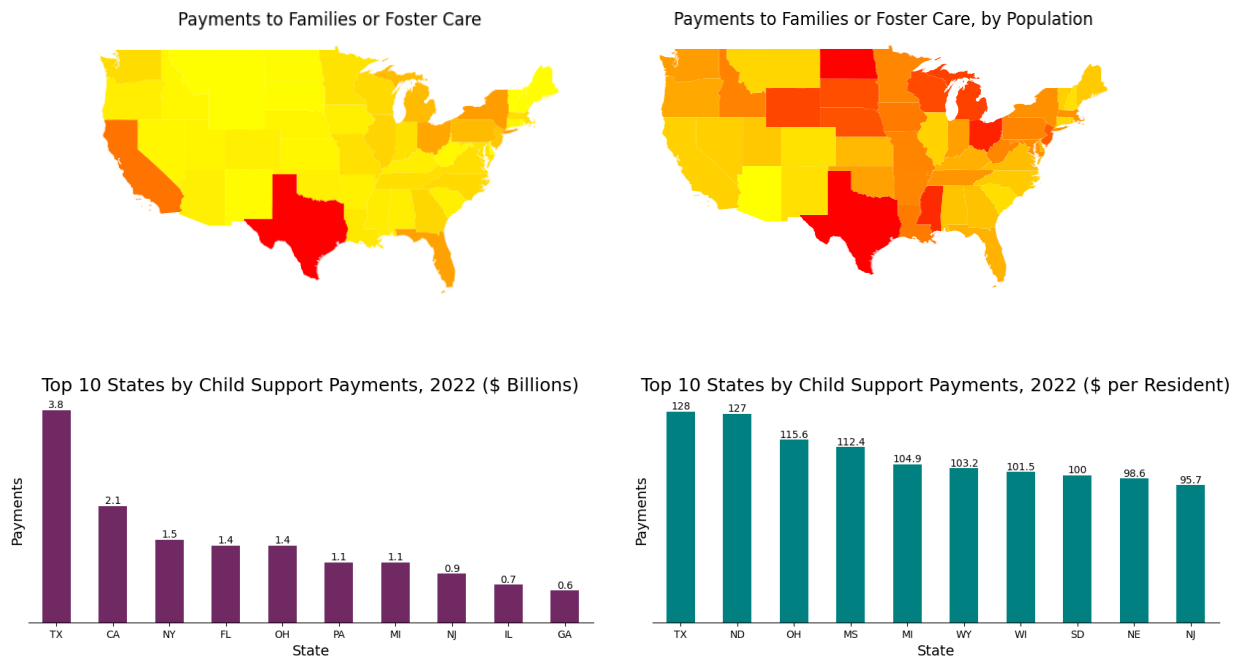
OLS Regression Results Analysis

The R-squared value is 0.35, which means that 35% of the variability in 'Total Collections' is explained by 'Total Cases'. This is very low, indicating that 'Total Cases' is not a good predictor of 'Total Collections'. The p-value is 0.293 and is greater than the significance level of 0.05, suggesting that Total Cases is not statistically significant in predicting Total Collections. This means there is no statistically significant relationship between 'Total Cases' and 'Total Collections'.

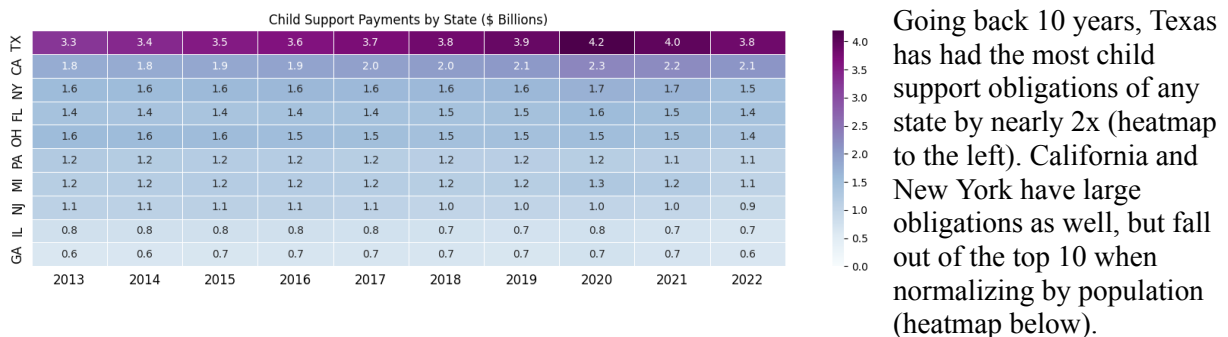
Geographic Analysis

Payments by State

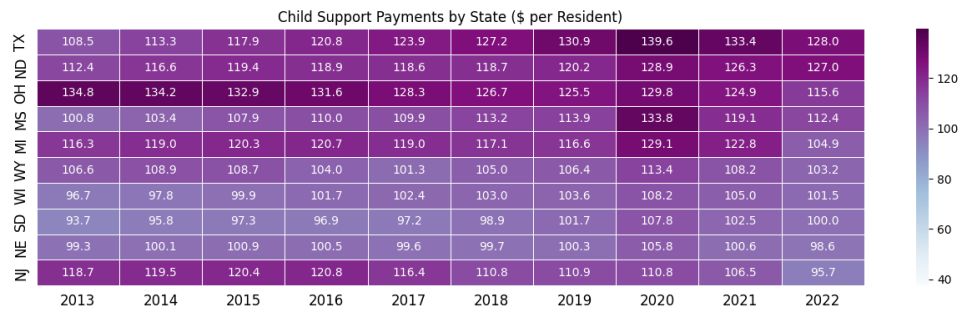
As of December 2023, finEQUITY operates primarily in New York, Kentucky, and Indiana, where they conduct outbound outreach. But they accept enrollments from all states and plan to prioritize Georgia, New Jersey, Alabama, California, Texas, and Colorado in the next few years.



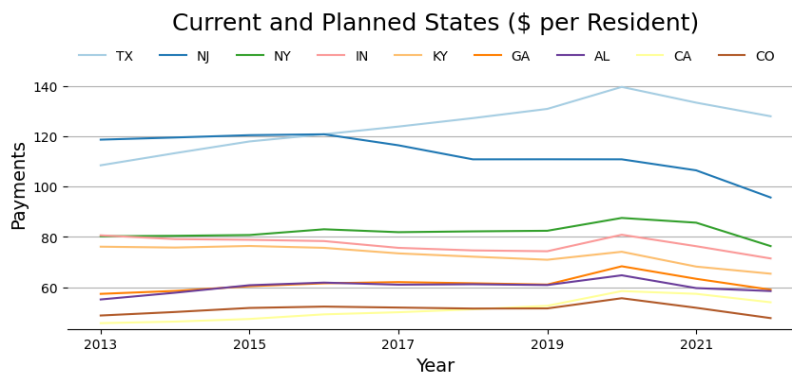
Texas has by far the most child support payments, both in nominal dollars and normalized by statewide population (as seen in the maps and bar charts, above). This may indicate that finEQUITY could have outsize impact operating in Texas. That being said, the state’s geographic immensity, decentralized and limited government, and other factors may make it a difficult state to implement new programs in.



Normalized by population, Texas continues to stand out as the state most in need (heatmap to the right). While Ohio and New Jersey remain in the top 10, they have improved over the last decade, reducing average



payments per resident by \$19 and \$23, respectively. It may be worthwhile for finEQUITY to explore what policies or approaches have been taken in OH and NJ to reduce obligations.



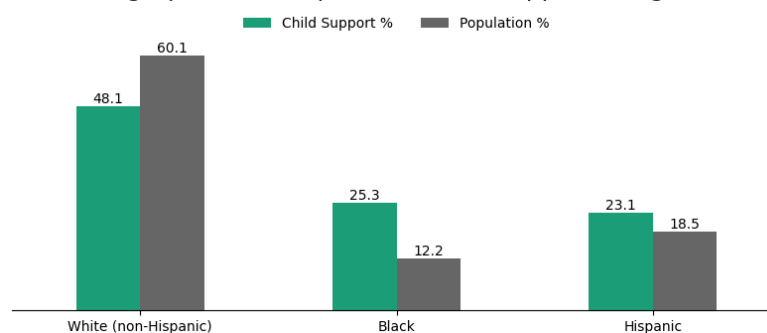
The states that finEQUITY plans to expand to have greater need than those it operates in already. Texas and New Jersey, particularly, have large obligations when measured on a per resident basis(as shown in the graph to the left).

Demographic Analysis

Research from the Journal of Marriage and Family finds that fathers of color with low income hold the majority of past-due child support debt. “About 70% of the \$113.5 billion in outstanding arrears is held by men earning \$10,000 or less, and an emerging body of research suggests arrears can negatively impact economically disadvantaged fathers of color and their families.” (Robbins et al. [2022](#)). This debt harms the men, their children, and their partners. Their prospects of paying down the debt become increasingly difficult as interest rates exceed earning potential. “Disadvantaged fathers with arrears fare far worse physically, psychologically, and economically than those with no arrears.” (Robbins et al. [2022](#)).

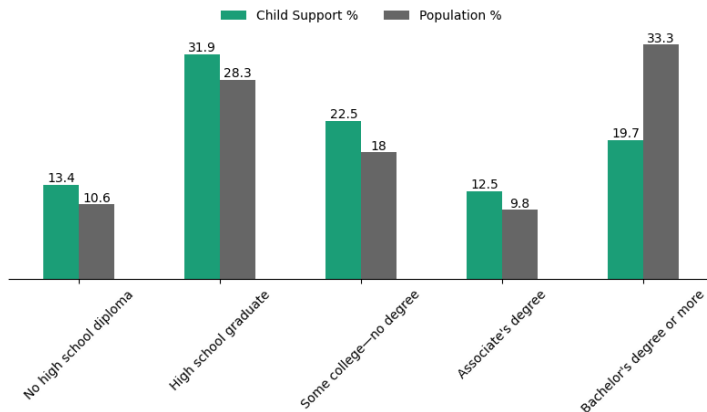
U.S. residents with child support obligations are more likely to be non-white, according to U.S. Census Bureau data from 2016. While only 12 percent of the U.S. population is black, black families comprise 25 percent of families with child support obligations(as shown to the right). Hispanic families are also more likely to have child support

Demographics of People with Child Support Obligations



debt, while white families are less likely.

Educational Attainment of People with Child Support Obligations

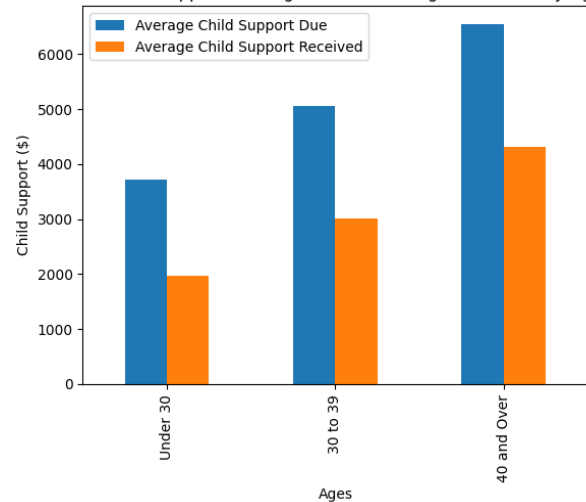


Child support debt holders are less likely to hold a Bachelor's or graduate degree. Of the U.S. population aged 18 or older, 33 percent hold an undergraduate degree or higher. This group is significantly less likely to pay child support, less than 20 percent.

By comparison, people with an Associate's degree or lower account for 67% of the population and 80% of those with child support obligations.

To see how age further increased the likelihood for the non-custodial parent to be in debt from child support, we looked at data on child support received. As illustrated in the table “2017 Average Received Child Support as a Percentage”, we can see the average child support received versus the average child support due(or supposed to receive) by age groups. It was clear that in 2017 the child support due was greater in the two older groups: “30 to 39” and “40 and Over”. The amount of child support received seemed to follow the same pattern with the percentage of child support payments being paid increasing with age. These two findings may point to older adults having more time to find a stable occupation and further build their financial health and stability. Conversely, this also could indicate that younger parents who are paying child support could be more at risk in regards to bad financial stability because of child support payments due.

2017 Child Support: Average Due vs. Average Received (By Age)



Assumptions & Limitations

Here are just some of the assumptions and limitations we made while analyzing this data:

- There was no data on individual debt and how much of that contributes to child support related debt.
- There was a lack of crosstab data per race, ethnicity, age group, or socioeconomic status over time, making it difficult to analyze those categories as a time series.
- In analyzing the number of children in a family with related child support received versus child support due, we didn't have information on why the child support payment wasn't received. Presumably it was because they couldn't afford to pay it, but there may be other reasons. In this

same analysis, we also didn't know if all of the custodial parents and non-custodial parent's were around the same age.

- We were able to gather overall trends, but we weren't able to go deeper into what was actually causing the behaviors in these trends. Going forward, we recommend additional research and studies be conducted to look into this further.

Conclusion

In conclusion, an examination of the child support data over the last ten years reveals distinct trends and insights. There has been a consistent decrease in the number of children and open cases, which suggests demographic changes and an enhancement in the efficiency of case processing. Payment patterns remained stable until 2019, but experienced significant volatility between 2020 and 2022, likely as a result of economic shifts and alterations in policy. The downward trend in arrears points to potential advancements in case management, even though occasional inconsistencies are present.

From a geographic standpoint, analysis indicates that Texas should be a high-priority area for finEQUITY's initiatives relating to child support obligations due to its leading rate of payments, both in absolute terms and when adjusted for population size. Additionally, the progress seen in Ohio and New Jersey warrants an investigation into their respective policies and strategies to inform future programs.

Furthermore, as finEQUITY forges ahead with its child support debt programs, it is advised to engage with communities of color and those with predominantly Associate's degrees or lower levels of education, as they make up a substantial portion of the overdue child support debt. It is also important to note that younger parents tend to receive a smaller portion of the child support payments due to them, whereas older parents receive a higher portion of payments due. This demographic factor should be taken into account when developing targeted support mechanisms.

Appendix

[Helpful Definitions and Background Information](#)

References

1. Center for Disease Control and Prevention, divorce rate.
<https://www.cdc.gov/nchs/fastats/marriage-divorce.htm>. Accessed December 1, 2023.
2. EveryCRSReport. [Child Support: An Overview of Census Bureau Data on Recipients](#). U.S. Census Bureau; 2016.
3. HHS. [FY 2022 Preliminary Data Report and Tables](#). U.S. Department of Health & Human Services, Office of Child Support; 2022.
4. National Conference of State Legislatures, unemployment rate.
<https://www.ncsl.org/labor-and-employment/national-employment-monthly-update>. Accessed December 1, 2023.
5. Robbins, Nathan L., Waller, Maureen R., Nepomnyaschy, Lenna, Miller, Daniel P. [Child support debt and the well-being of disadvantaged fathers of color](#). Journal of Marriage and Family, Wiley Online Library; 2022.
6. The World Bank, Inflation, consumer prices (annual %) - United States.
<https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=US>. Accessed December 1, 2023.
7. U.S. Census Bureau, table dashboard search.
[https://data.census.gov/table/ACSDP1Y2022.DP05?g=010XX00US\\$0400000](https://data.census.gov/table/ACSDP1Y2022.DP05?g=010XX00US$0400000). Accessed November 17, 2023.
8. U.S. Census Bureau, cartographic boundary files.
<https://www.census.gov/geographies/mapping-files/time-series/geo/carto-boundary-file.html>. Accessed November 17, 2023.
9. U.S. Census Bureau, Characteristics of Custodial Parents by Agreement Status and Payments Received.
[Custodial Mothers and Fathers and Their Child Support: 2017 \(census.gov\)](#) Accessed December 3, 2023.