January 2023

The Burden of Court Debt on Washingtonians—Technical Appendix

This appendix provides additional detail on the data, methods, and limitations of the Vera Institute of Justice's (Vera) research brief, *The Burden of Court Debt on Washingtonians*.

Data

Vera received case-level records from Washington's Administrative Office of the Courts (AOC) and Seattle Municipal Court (SMC) for all criminal convictions in the state's courts of limited jurisdiction (CLJs) and superior courts during fiscal years (FYs) 2016 through 2020 wherein a fine, fee, or other legal financial obligation (LFO) was imposed. The combined data contained information corresponding with 739,924 unique dockets.

The variables available or constructed for Vera's case-level analysis include

- court jurisdictional level (district, municipal, superior),[1]
- race of person convicted (white, other races, refused, or unknown),[2]
- attorney representation (private attorney, public defender),[3]
- assessment date,
- total assessment amount,
- payment date(s),[4]
- total payment amount.

For multiple regression analyses, researchers used reference categories of white for race, district for court jurisdictional level, and private attorney for representation type.[5] Attorney representation variable was included only for CLJ cases. Descriptive statistics for the variables included in the analysis are presented in Figures 1 through 4.

Figure 1

Descriptive statistics for categorical variables within sample dataset (CLJs)

Variables	*N*	Percentage of cases
Attorney representation		
Public defender	41,304	78%
Private counsel (reference)	11,371	22%
Type of payment		
Paid in installments	15,226	29%
Paid in a single payment (reference)	10,573	20%

N/A (no payments)	26,876	51%
Race		
Other races	13,605	26%
Refused or unknown	1,710	3%
White (reference)	37,360	71%
Court jurisdictional level		
Municipal	20,147	38%
District (reference)	32,528	62%

Figure 2

Descriptive statistics for numerical variables within sample dataset (CLJs)

Variables	Mean	Min.	25th percentile	Median	75th percentile	Max.
Amount assessed	$695	$0	$243	$537	$955	$12,625
Amount paid**	$443	$0	$0	$43	$550	$102,441

** Payment amounts may exceed assessment amounts due to restitution. Restitution amounts are reflected in payments data but not in assessments data.

Figure 3

Descriptive statistics for categorical variables within sample dataset (superior courts)

Variables	*N*	Percentage of cases
Type of payment		
Paid in installments	449	24%
Paid in a single payment (reference)	38	2%
N/A (no payments)	1,421	74%

Race		
Other races	479	25%
Refused or unknown	146	8%
White (reference)	1,283	67%

Figure 4

Descriptive statistics for numerical variables within sample dataset (superior courts)

Variables	Mean	Min.	25th percentile	Median	75th percentile	Max.
Amount assessed	$1,302	$0	$893	$1,003	$1,134	$71,403
Amount paid	$127	$0	$0	$0	$1	$21,550

Additionally, although researchers conducted analysis at the case level, people with convictions can have multiple cases between fiscal years 2016 and 2017. According to the data Vera received, approximately 22 percent of people have more than one conviction with financial sanctions, meaning they owe more than one set of LFOs.

The sample excludes records from King County District Court (KCDC), which does not report information for LFO payment dates to AOC. Additionally, researchers only captured information for cases with a single LFO assessment date.[6] Cases with more than one assessment date tended to be more complicated in their formatting. These cases also typically signaled the imposition of fees associated with surveillance and monitoring, whereas cases with a single assessment date typically included only conviction-related fines and fees. SMC cases commonly had multiple assessment dates for reasons unknown. When treating SMC cases, Vera researchers assumed that the most frequent LFO assessment date was the date of judgment and sentencing and used that date as the LFO assessment date for analysis.[7]

The variable for total assessment amount factors in all upward and downward adjustments, making the number a net assessment. Downward adjustments are the result of waivers or credits applied by the court. When downward adjustments resulted in full compensation of LFOs, researchers treated the assessment as a $0 assessment. Raw records do not include restitution amounts as part of assessments. Payment data, however, does include restitution payments, although they are not recorded explicitly as such. Because there is no way to track or compare restitution payments to assessments, researchers treated restitution payment amounts as payments toward the fines and fees assessed.[8]

Researchers retained only information for cases in which data for all variables of interest were present in the records produced (see Figure 5). Cases with multiple LFO assessment dates (124,106 in the CLJs and 584 in the superior courts), a missing assessment date (6,557 in the

superior courts), or any LFO payment date preceding the case's LFO assessment date (23,524 in the CLJs and 7,076 in the superior courts) were excluded. Researchers also excluded cases with missing race and/or sex information (two in the CLJs) and missing attorney representation data (50,597 in the CLJs). They additionally excluded cases for which charge information was missing (13,534 in the CLJs).[9] Cases with assessments in fiscal years other than 2016 and 2017 were excluded (355,502 in the CLJs, 53,739 in the superior courts), as was one outdated SMC case from January 2015. Researchers also excluded information corresponding with 11,015 SMC cases that had waivers or suspensions.[10] Finally, Vera excluded data for all superior court cases in which the underlying charge was classified as anything other than "unranked," which corresponds with cases with a term of community custody not to exceed one year (44,661 in the superior courts).[11] Because people with LFOs may be incarcerated in addition to owing LFOs, narrowing the superior court data to just those cases in which the person would be released within one year from judgment ensures that the LFO payment information researchers analyzed was not skewed by the lengthiness of the person's period of incarceration (which would likely prohibit timely payment of LFOs).

Figure 5

Data exclusions

Reason for exclusion	Number of excluded CLJ cases	Number of excluded superior court cases
Multiple assessment dates	124,106	584
Missing assessment date	0	6,557
Payment date(s) precede(s) assessment date	23,524	7,076
Missing race and/or sex demographics	2	0
Missing attorney representation information	50,597	N/A
Missing charge information	13,534	0
Assessment in FYs other than 2016 and 2017	355,503	53,739
SMC cases with dismissed LFOs due to waivers or suspensions	11,015	NA
Underlying charge has classification other than "unranked"	N/A	44,661

All told, the final dataset corresponds with information for 54,683 unique dockets. Vera acknowledges that trimming the dataset to this extent may lead to loss of information, decreased statistical power, and weakened generalizability of findings.

Methods

All analyses were conducted in R version 4.0.3. In the main research brief, Vera calculated the mean LFO assessment in each court type for the data: $695 in the CLJs and $1,302 in the superior courts. Researchers then calculated a weighted average of the percentage of LFOs paid within four years of assessment in each court type: 44 percent per case in the CLJs (amounting to $306 based on the average assessment in these courts) and 8 percent per case in the superior courts (amounting to $104 based on the average assessment in these courts). Researchers chose to take the weighted average to control for variations in payment ability as a result of the total amount assessed. To arrive at these figures, researchers first prepared the data by determining the quartile boundaries for the variable of LFO assessment amount within each court type. They next took the average of the percentage of LFOs paid for each quartile group, followed by taking the weighted average across all quartiles (see Figure 6, row 1). Researchers repeated this process to calculate the average percentage of people who repay their LFO assessment in full within four years (see Figure 6, row 2).

Figure 6

Summary quartile and weighted averages for percentage of LFOs paid and percentage of people who fully paid their LFOs within four years

Row	Measure	Court jurisdictional level	1st quartile, assessment amount	2nd quartile, assessment amount	3rd quartile, assessment amount	4th quartile, assessment amount	Weighted average
1	Average percentage paid in four years	CLJs	38%	41%	43%	53%	44%
		Superior courts	10%	7%	8%	8%	8%
2	Average percentage of people who repay their LFOs in full in four years	CLJs	37%	37%	38%	44%	39%
		Superior courts	7%	4%	3%	4%	6%

To demonstrate payments over time, Vera took the sum of all FY16 and FY17 assessments and tracked the amounts collected by the court across the following four years, including the year of assessment (see Figure 7). In the CLJs, $36.6 million was assessed in FY16 and FY17 combined. Of that total amount, $8.3 million (23 percent) was collected in year one, $8.3 million (23 percent) was collected in year two, $3.9 million (11 percent) was collected in year three, and $1.9 million (5 percent) was collected in year four. $14.2 million (38 percent) remained uncollected

in the CLJs after four years. In the superior courts, $2.5 million in LFOs was assessed on unranked cases in FYs 16 and 17. During year one, nearly $34,000 (1 percent) was collected; during year two, just over $77,000 (3 percent) was collected; during year three roughly $62,000 (3 percent) was collected; and during year four, approximately $68,000 (3 percent) was collected. $2.2 million (90 percent) remained uncollected in the superior courts after four years.[12]

Figure 7

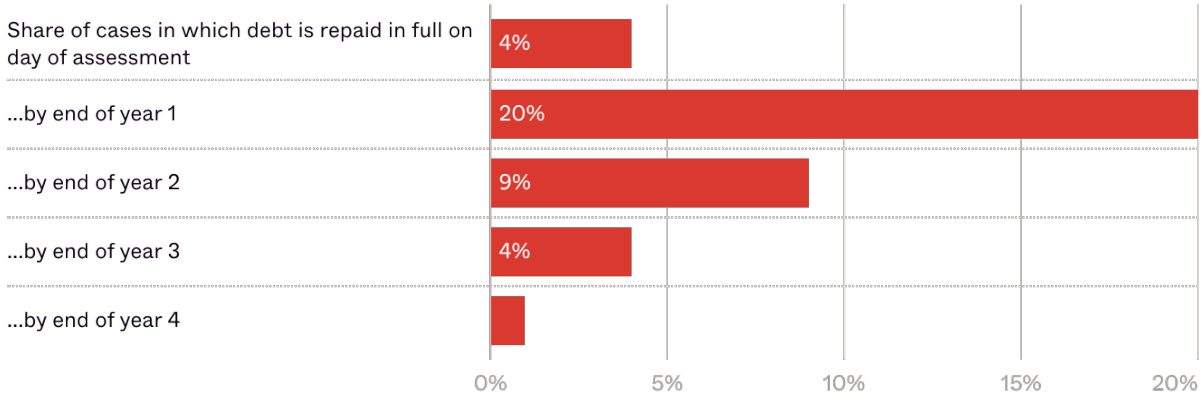
Assessments and payments over time

	Courts of limited jurisdiction	Superior courts
Total assessed	$36,583,518 (100%)	$2,483,500 (100%)
Year 1 payments	$8,264,163 (23%)	$33,921 (1%)
Year 2 payments	$8,310,710 (23%)	$77,226 (3%)
Year 3 payments	$3,916,347 (11%)	$62,341 (3%)
Year 4 payments	$1,932,438 (5%)	$68,340 (3%)
Amount uncollected	$14,159,860 (38%)	$2,241,672 (90%)

Vera also calculated the modal average for the number of days it took people to make full payment on their debts in cases where full payment was achieved within four years of assessment. Across all cases in the CLJs and superior courts, the mode was zero. To underscore this point, Vera used a bar chart to compare across cohorts that fully pay their LFOs on the day of assessment versus by the end of years one, two, three, and four. The bar chart shown in Figure 8, also included in the main brief, reveals that LFO payment peaks around year one and drops off significantly by year two.

Figure 8

Share of cases in which debt is repaid in full, sorted by the number of days or years until LFO debt is fully satisfied (CLJ and superior courts combined)



Finally, the researchers used multiple linear regression models to predict LFO payment rates and whether full payment would be fully satisfied within four years of assessment.[13] Predictor variables included attorney representation, race, court jurisdictional level, assessment amount, and whether the person paid in a single payment versus in installments, and researchers calculated regression coefficients (β) to interpret the models (see Figures 8 and 9). Regression analysis was performed only on CLJ cases, for which information was available for the full range of predictor variables, including attorney representation.

Model 1 (Linear regression)

$$\text{Rate of LFO payment within 4 years} = \beta_0 + \beta_1 \text{Attorney Representation}_i + \beta_2 \text{Amount Assessed}_i + \beta_3 \text{Paid in a single payment versus in installments}_i + \beta_4 \text{Person's race}_i + \beta_5 \text{Court jurisdictional level}_i + \varepsilon_i$$

Figure 9

Model 1 results

Variable: observation	Percentage paid
Attorney representation: Public defender	-0.138*** (0.004)
Amount assessed (log)	-0.077*** (0.002)
Paid in installments	0.063*** (0.004)
Race: Other races or person or color	-0.013*** (0.005)
Race: Refused or unknown	0.006 (0.010)
Court type: Municipal	-0.021*** (0.004)

Constant	1.383*** (0.013)
Observations	25,799
R^2	0.079
Adjusted R^2	0.078
Residual standard error	0.309 (df = 25792)
F statistic	366.829*** (df = 6; 25792)

Note: *p < 0.1; **p < 0.05; ***p < 0.01

Model 1 interpretation

According to Model 1, whether a person is represented by a public defender has an inverse relationship with the rate of LFO payment, meaning that having a public defender is associated with lower payment rates. More specifically, a person represented by a public defender has about a 14 percent on average lower rate of LFO payment within four years (β = -0.138) compared to someone represented by private counsel, and this estimate is statistically significant (p < 0.01). Although the magnitude of 14 percent may seem small, it is statistically significant and greater than the associations estimated between the outcome variable and the other variables included in the model. The larger the amount assessed (β = -0.077, p < 0.01), whether the convicted person with LFOs is a person of color (β = -0.013, p < 0.01), and whether the case was sentenced in municipal court (β = -0.021, p < 0.01) all have inverse relationships with LFO payment rates, whereas whether the person paid in installments and whether the person's race was refused/unknown have a positive relationship with the payment rate. Note, however, that the regression coefficients for these predictor variables are in the hundredths, signaling a much smaller magnitude of the association between variable and outcome.

Model 2 (Linear regression)

$$\text{LFOs fully paid within 4 years} = \beta_0 + \beta_1\text{Attorney Representation}_i + \beta_2\text{Amount Assessed}_i + \beta_3\text{Paid in a single payment versus in installments}_i + \beta_4\text{Person's race}_i + \beta_5\text{Court jurisdictional level}_i + \varepsilon_i$$

Figure 10

Model 2 results

Variable: observation	**Fully paid**	
	Logistic (1)	*OLS (2)*
Attorney representation: Public defender	-1.031*** (0.037)	-0.180*** (0.006)
Amount assessed (log)	-0.664*** (0.018)	-0.110*** (0.003)

Paid in installments	-0.038 (0.032)	-0.006 (0.006)
Race: Other races or person of color	-0.078** (0.034)	-0.013** (0.006)
Race: Refused or unknown	0.018 (0.080)	0.006 (0.014)
Court type: Municipal	-0.170*** (0.033)	-0.026** (0.006)
Constant	6.129*** (0.125)	1.562*** (0.018)
Observations	25,799	25,799
R^2		0.086
Adjusted R^2		0.086
Log likelihood	-13,936.420	
Akaike information criterion	27,886.850	
Residual standard error		0.427 (df = 25792)
F Statistic		405.254*** (df = 6; 25792)

Note: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Model 2 interpretation

According to Model 2, people with public defenders are on average 18 percent less likely to pay in full compared to people represented by private attorneys, and this estimate is statistically significant ($\beta = -0.180$, $p < 0.01$). The other variables that significantly predict whether someone pays in full are the amount assessed ($\beta = -0.110$, $p < 0.01$), being a person of color ($\beta = -0.013$, $p < 0.05$), and being convicted in a municipal court ($\beta = -0.026$, $p < 0.05$). Furthermore, the estimates associated with each significant variable are negative, meaning that there is a decreased likelihood of full payment. The relatively larger magnitude of the estimate for the variable of whether a person is represented by a public defender demonstrates that this variable is a stronger predictor of full payment in relation to the other statistically significant variables.

Limitations

The findings of this study are qualified by a set of limitations. As outlined in the Data section on page TK, the data is not the product of random sampling strategy, but rather was constructed through a set of narrow inclusion criteria due to missing and/or possibly erroneous data in the raw records. These inclusion criteria reduced the number of unique dockets captured in the dataset from 739,924 to 54,683, or 7 percent of the original set of dockets with information provided by AOC and SMC. Therefore, the lack of random sampling and further reductions in the sample size may possibly contribute to an incomplete or biased understanding of the data.

Because data from AOC do not include KCDC payment date data, researchers may have lost important information related to cases and convictions in Washington's most populous county.

KCDC possesses one of the highest caseloads among all of the state's courts of limited jurisdiction.[14] Additionally, because the data excluded information about restitution assessments (while including information for payments that would go toward restitution), Vera's findings actually underestimate the total amount and scope of LFOs assessed. Given that restitution assessments can amount to thousands of dollars and accrue interest when unpaid, the analysis underestimates the total financial burden on people who owe LFOs, and payment rates are actually even smaller than what the findings suggest.

The data also may not fully encapsulate the experience of paying or owing fines and fees because researchers excluded information for cases with more than one LFO assessment date. Cases with a single LFO assessment date typically include only conviction-related fines and fees, whereas cases with multiple LFO assessment dates tend to include fees associated with one-time or recurring costs for engaging with services as a part of diversion and community supervision programming. As a result, the sample may be underestimating total costs and ignoring assessments and payments related to pre-adjudication surveillance and monitoring fees.

Similarly, excluding cases with demographic, attorney representation, and charge information raises concerns about possible dilution of the sample data. For example, missing data about attorney representation may be the result of record-keeping errors—such as if a convicted person did have attorney representation, but it was not recorded—or the result of the person actually having no attorney representation. Unfortunately, the raw records provide no way to ascertain the reason for the incomplete attorney representation field. Deletion of cases with missing charge data or the exclusion of information for all superior court cases with underlying felony charges classified as anything other than "unranked" likely led to an especially narrow understanding of LFO assessments and payments. For example, because "ranked" charges are assigned levels of seriousness ranging from I to XVI and carry sentences with an average minimum of one year and up to life in prison, they are associated with greater LFO assessments and longer periods of confinement.[15] Deletion of these and other types of cases could possibly generate significantly different results, such as in the variable for payment patterns, from what researchers estimated using the final sample.

Credits

An electronic version of this report is posted on Vera's website at https://www.vera.org/publications/the-burden-of-court-debt-on-washingtonians.

The Vera Institute of Justice is powered by hundreds of advocates, researchers, and policy experts working to transform the criminal legal and immigration systems until they're fair for all. Founded in 1961 to advocate for alternatives to money bail in New York City, Vera is now a national organization that partners with impacted communities and government leaders for change. We develop just, antiracist solutions so that money doesn't determine freedom; fewer people are in jails, prisons, and immigration detention; and everyone is treated with dignity. Vera's headquarters is in Brooklyn, New York, with offices in Washington, DC, New Orleans, and Los Angeles.

For more information about this report, contact Maria Rafael, Research Associate, Fines and Fees Initiative at mrafael@vera.org.

Endnotes

[1] To avoid a sample size issue and possible overfitting, researchers used court jurisdictional level, rather than court, as a predictor variable. Overfitting occurs when a function aligns too closely to a minimal set of data points. Models based on limited data risk performing inaccurately against unseen data and can return with flawed results.
[2] Vera included all people whose ethnicity is recorded as "Hispanic" in the data as "other races" for purposes of this analysis. The Washington State Commission on Hispanic Affairs uses the terms "Hispanic" and "Latino" interchangeably. Washington State Commission on Hispanic Affairs, "Washington State at a Glance," https://perma.cc/JE8Z-8P9A.
[3] Because AOC data does not consistently include whether someone was represented by a public or private attorney, researchers manually collected data on the employment history of each lawyer to classify them as public defenders or private attorneys (data spans cases from 2015 to 2020, so former public defenders were only labeled as such if they were practicing during that time period). To do this, researchers cross-referenced data with existing Washington public defender staff directories and other public databases (for example, the membership list for the Washington Defender Association, an organization dedicated to public defender trainings and reform; the Vancouver Defenders; and different legal aid organizations like the Northwest Justice Project), but this was not exhaustive; only certain counties maintain their directories, and many rely on contracted law offices for their public defense. As such, researchers manually searched for each lawyer's employment history on sites like Avvo and LinkedIn, amongst others, to establish their status as public versus private attorneys. One limitation was the lack of information on firms contracted for public defense. To ameliorate this, researchers looked at client reviews, county budgets, and news announcements for signs of contracted work. Additionally, an unusually high caseload (greater than 1,000 cases) indicated that an attorney was either a public defender or a prosecutor, and the latter was easy to identify through an employment search. This resulted in the classification of most attorneys represented in the data as either public defenders or private attorneys, with some being classified as prosecutors, judges, or city attorneys, and few left unidentified (N/A). Some cases indicated multiple attorneys; when a person had at least one public defender represent them, researchers treated the case as a public defender case. This type of manual data collection was possible only for cases in the CLJs (not the superior courts).
[4] More than one LFO payment date signals payment in installments. In some instances, LFO payments appeared to have been made on dates preceding the associated LFO assessment. These entries were treated as erroneous, and researchers excluded all cases for which any payment was made on a date preceding assessment.
[5] Researchers use "white" as the reference category for race per convention but recognize that growing scholarship challenges using dominant groups as reference groups in part because they reify that dominant groups are the most "normal." See Sasha Shen Johfre and Jeremy Freese, "Reconsidering the Reference Category," *Sociological Methodology* 51, no. 2 (2021), 253-269, https://osf.io/preprints/socarxiv/yur7t/download.
[6] If LFOs for a particular case were assessed on three separate dates, for example 10/1/2016, 3/1/2017, and 5/1/2017, researchers excluded the case from the sample.
[7] For example, if a particular SMC case showed $100 assessed on 10/1/2016; $300, $175, and $50 assessed on 3/1/2017; and $50 assessed on 5/1/2017, researchers only included information corresponding with the assessments made on 3/1/2017. For instances in which the frequency of assessment was consistent across two or more dates (for example, $100 was assessed on 10/1/2016 and $500 was assessed on 3/1/2017, or $175 was assessed on 10/1/2016, 3/1/2017, and 5/1/2017), then they deferred to the earliest assessment date (in both examples 10/1/2016) and included only the information corresponding with that date.
[8] For example, if a particular case showed fines and fees were assessed at $100 and restitution was assessed at $50 and researchers observed a single payment of $125, they could only discern that $100 was assessed and $125 was collected. Researchers treat such payment as payment in full, even though there is an outstanding $25 in restitution. If for a different case, fines and fees were assessed at $100 and restitution was assessed at $50, and researchers observed two payments of $50 each (assuming the person meant for one payment to go toward restitution and the other toward their fines/fees), they could only discern that $100 was assessed and $100 was collected. They also treated these payments as payment in full, even though there was an outstanding $50 in fines and fees.
[9] Researchers did not include charge as a variable for analysis because of possible overfitting due to the number of unique charges being relatively large compared to the sample size.

[10] Researchers included only cases with LFO assessments during fiscal years 2016 and 2017 because LFO payment information was only available through fiscal year 2020 and researchers wanted to examine payment patterns for as large of a spread of cases as possible for a standard amount of time. By including FY 2016 and 2017 assessments, they could analyze payments for both cohorts over a four-year time period, using the data from AOC and SMC. Additionally, SMC already practices waiving discretionary LFOs when the convicted person meets the indigency standard and suspending LFOs when a person receives a carceral sentence in addition to financial sanctions.
[11] Washington State Caseload Forecast Council, *2020 Washington State Adult Sentencing Guidelines Manual* (Olympia, WA: Washington State Caseload Forecast Council, 2020), https://perma.cc/3G69-F3UF.
[12] Note that the increase in superior court payments during year two after assessment is likely the result of people who are sentenced in superior courts receiving carceral sentences in addition to owing LFOs. That is, the population represented in the superior court sample analyzed here could have been incarcerated for up to a year after judgment and sentencing, meaning that they would only be able to start making payments toward their LFOs after being released, which would have occurred during year two.
[13] The researchers converted the outcome variable of "fully paid" to a numeric to test the binary outcome using a linear regression analysis. The result was then outputted as a probability rather than an odds ratio, which is preferred due to ease of interpretation.
[14] According to the Washington Courts of Limited Jurisdiction Annual Caseload Report for 2021, King County District Court had the third highest caseload of any Washington district court, possessing 3 percent of all caseloads in Washington's courts of limited jurisdiction. Washington Courts, "Caseloads of the Courts of Washington: Courts of Limited Jurisdiction, Cases Filed—2021 Annual Report," database (Olympia, WA: Washington State Administrative Office of the Courts, 2021), https://www.courts.wa.gov/caseload/?fa=caseload.showReport&level=d&freq=a&tab= &fileID=rpt01
[15] RCW 9.94A.510 (Table 1—Sentencing Grid).