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### **SUMMARY**

#### LEGAL AID SHOULD BE A CORE ANTI-POVERTY STRATEGY

Poverty and economic inequality have been persistent and growing features of American life over the last two generations. When aid foundations and governments consider poverty alleviation, the same few solutions are always put forth. Health care, education, job training, micro-finance, financial counseling, food, housing, and emergency services are some of the best known, and best funded, approaches. What is not included in virtually any anti-poverty institution's portfolio is legal aid. Yet our data shows that **legal aid is, dollar for dollar, more effective than all other anti-poverty interventions**. Without legal aid, low-income Americans are vulnerable to the deprivations of bad actors, who could illegally deprive them of housing, refuse to pay their wages, or defraud them of their savings, all without any fear of punishment.

#### LEGAL AID IS THE MOST COST-EFFECTIVE INTERVENTION

The Robin Hood Foundation has published a way to compare different interventions. Using an established methodology, agencies can determine their social return on investment (SROI) and quantity the short and long-term financial benefits they create for their clients, per dollar spent. For example, investing in education will increase the earning potential of students and this amount would be quantified in the SROI. Using data from the last three years we measured our inputs (money spent on services), and outputs (direct case outcomes). We also used deterrence theory to model the value of illegal activity we were preventing. **The results proved that we generate at between \$6.63 and \$21.39 in direct financial benefits for every dollar spent.** This ratio was much higher than all other interventions that we could obtain data for.



## THE LACK OF LEGALAID

#### LEGAL AID IS THE LEAST FUNDED HUMAN SERVICE IN THE UNITED STATES

As of August 2016, the state of California contained about 40,000,000 inhabitants, including almost 260,000 lawyers. Of those, only about 960 are funded to represent people who cannot afford it.<sup>1</sup>

#### RATIO OF ATTORNEYS PER CAPITA

1: 235 1: 8,382

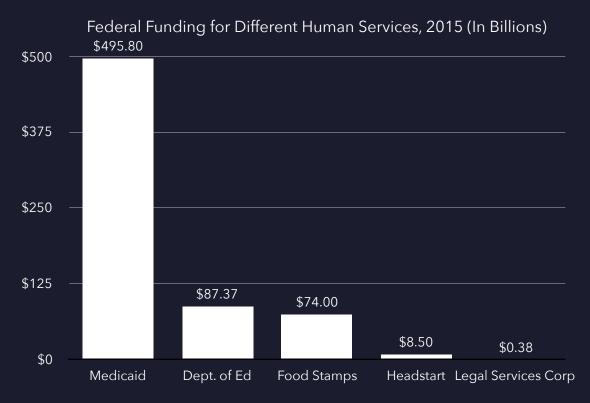
The general public The poor

This skewed ratio is the primary reason why the US ranks 64th worldwide in access to justice for the poor.<sup>2</sup> Countries that rate higher than us include El Salvador, Bulgaria, Serbia, and Ghana.



- Countries with better access to justice than the US
- Countries with equal or worse access to justice than the US
- Countries with no data

With data like this, it's easy to see the context of how underfunded legal aid is. Not only does the US spend far less per capita than all our per countries on legal aid, but when compared to the sums devoted to other important programs like health care, education, and food stamps - it barely even registers. Here's a comparison at the federal level.<sup>3</sup>



If you add in funding from state, local, and private sources, the funding disparity becomes even more pronounced. State and local governments provide a lot of funding for health care and education in particular. The data shows that legal aid is, by far, the least funded human service in the United States.



## WHAT IS SROI?

#### THE SOCIAL RETURN ON INVESTMENT

Any human-service agency should improve the economic well-being of their clients, either in the short or long term. A school should improve the earning potential of its students in the long term. A job-training agency should improve the earning potential of its clients in the short term. The same is true for micro-finance, health care, financial education, and direct cash transfers.

Social return on investment (SROI) analysis was created to help understand the impact of each nonprofit by measuring its inputs (money spent on services and overhead) against the short and long-term financial benefits it provides its clients, students, or patients. The long-term impact of each type of intervention is estimated using the help of social science research.

This estimation is not 100% accurate and may not even be possible for novel programs. Importantly, there aren't equations to model the impact of about 17% of our case load. For example, there are no known social science studies that demonstrate the long-term impact of obtaining back-tax relief.

Despite these shortcomings we feel that SROI is an important tool for understanding the antipoverty impact of an agency and especially comparing the impact of different interventions.

### EQUATION FOR SROI

#### ESTIMATING ANTI-POVERTY IMPACT

The Robin Hood Foundation has been a pioneer in estimating SROI, and they have developed a series of equations across different kinds of human services. There are four variables used in their standard equation for long-term impact and the basic equation is:<sup>4</sup>

#### Value (V) = X \* Y \* (1 \* Z) \*M

measures the number of cases that are opened for the given type.

measures the percentage of individuals that achieve the target outcome solely because of our program. This is more difficult to measure than X. To gather the calculations for Y, we looked into every single closed case checked if our work was the sole cause of clients' changed circumstances. We only counted the cases that we directly solved and did not consider referrals to outside attorneys or organizations to be a part of Y. Many of our clients do not have cases that directly involve winning monetary awards, but instead involve non-financial awards. For example, for consumer law cases, we would consider, "Stopped or reduced debt collection activity" as a contributor of Y and for family law, "Obtained divorce."

measures the successful outcome rate for the given case type. For full-scope cases, the outcome rate is determined by our internal data. For advice and counsel cases, the outcome rate is estimated to be 34% based on the work of Smith, Thayer & Garwold (2012). Cases that started as full-scope but terminated due to the client's disengagement are considered advice-and-counsel cases for the purposes of determining our SROI.

modifies the equation with an impact dollar amount. This modifier is determined by social science research. The modifiers for some case types are not available.

# SROI DATA

LONG-TERM IMPACT OF CASES, 1/7/2013 - 6/30/16

SUBJECT AREA	X	Y	Z	EQUATION (M)	RESULT (V)
Estate Planning (Full Scope)	35	0.51	1.00	V = X * Y (1* Z) * \$72,000	\$ 1,285,200.00
Estate Planning (Counsel)	30	0.51	0.34	V = X * Y (1* Z) * \$72,000	\$ 374,544.00
Consumer (Full Scope)	33	0.48	0.97	V = X * Y (1 * Z) * \$700	\$ 10,751.99
Consumer (Counsel)	28	0.48	0.34	V = X * Y (1 * Z) * \$700	\$ 3,198.72
Family Law (Full Scope)	68	0.58	0.99	V = X * Y (1 * Z) * \$6400	\$ 248,755.97
Family Law (Counsel)	41	0.58	0.34	V = X * Y (1 * Z) * \$6400	\$ 51,745.28
Orders of Protection	6	1	1.00	V = X * Y (1 * Z) * \$7800	\$ 46,800.00
Housing Law (Full Scope)	123	0.45	0.97	V = X * Y (1 * Z) * 12,200	\$ 654,066.52
Housing Law (Counsel)	104	0.45	0.34	V = X * Y (1 * Z) * 12,200	\$ 194,126.40
Evictions Prevented	49	0.63	1.00	V = [X * Y (1 * Z) (0.90 * 0.20 * 0.50) * \$5,000] + [X * Y (1 * Z) (0.90 * 0.20 * 0.50) (0.12 - 0.09) * \$20,000 * 0.22]	\$ 14,257.74
Immigration Law (Full Scope)	1	0.2	1.00	V = X * Y (1 * Z) * \$1,500	\$ 300.00
Immigration Law (Counsel)	4	0.2	0.34	V = X * Y (1 * Z) * \$1,500	\$ 408.00
Torts Law (Full Scope)	30	0.25	0.67	V = X * Y (1 * Z) * \$700	\$ 3,500.00
Torts Law (Counsel)	44	0.25	0.34	V = X * Y (1 * Z) * \$700	\$ 2,618.00
Entitlements Law (Full Scope)	9	0.31	0.89	V = X * Y (1 * Z) * \$5,000	\$ 12,399.88
Entitlements Law (Counsel)	19	0.31	0.34	V = X * Y (1 * Z) * \$5,000	\$ 10,013.00
Employment Law (Full Scope)	19	0.32	0.95	V = X * Y (1 * Z) * \$700	\$ 4,032.00
Employment Law (Full Scope)	13	0.32	0.34	V = X * Y (1 * Z) * \$700	\$ 990.08
Criminal Law (Counsel)	19	0.41	1.00	No equation created	Unknown
Criminal Law (Counsel)	28	0.41	0.34	No equation created	Unknown
Other Law (Full Scope)	28	0.48	1.00	No equation created	Unknown
Other Law (Counsel)	30	0.48	0.34	No equation created	Unknown



### OUR INITIAL RATIO

#### **OUTPUTS**

Our outputs are determined by adding in direct monetary outcomes (awards, debt cancelled) with long-term financial benefits, estimated thanks to the Robin Hood Foundation's equations.

OUTPUTS	
Total Awards (all areas)	\$ 482,050.00
Total Debt Cancelled (all areas)	\$ 265,080.00
Wills & Trusts Projected Value	\$ 1,659,744.00
Consumer Law Projected Value	\$ 13,950.71
Family Law Projected Value	\$ 300,501.25
Protective Order Projected Value	\$ 46,800.00
Housing Law Projected Value	\$ 848,192.92
Evictions Prevented Projected Value	\$ 14,257.74
Immigration Law Projected Value	\$ 708.00
Tort Law Projected Value	\$ 6,118.00
Entitlements Law Projected Value	\$ 22,412.88
Employment Law Projected Value	\$ 5,022.08
Estimated Projected Value for Case Types Without a Modifier (M)	\$ 467,011.12
Total Outputs	\$ 3,664,837.57

#### **INPUTS & RATIO**

Our inputs are determined by the money we spent on direct services, litigation, and allocated G&A during the period 1/7/2013 to 6/30/16. As is standard in SROI analysis, the money and staff time spent on fundraising was not included (this is typically 20% of our budget). The money and staff time spent on our community development program was also not included, as this program is still in start-up phase, meaning the Y variable and long-term modifier is unknown.

INPU	TS		RATIO				
Direct Legal Services Expenses	\$	470,190.46	Total Inputs	\$	552,410.69		
Operations & Mgmt. Expenses	\$	82,220.23	Total Outputs	\$	3,664,837.57		
Total Inputs	\$	552,410.69	Ratio of Outputs to Inputs		6.63		

By comparing our inputs and outputs we can generate the following ratio.

#### CONSERVATIVE NATURE OF ESTIMATE

This number was generated through a simple ratio of inputs and outputs that reflect the financial relationship between our organizational costs and the direct outcomes of our legal services. This number is also conservative for the following reason:

• Only the outputs (settlements, debt cancelled, etc.) for closed cases were considered, even though the input costs we have spent on open cases were factored into the analysis.

#### **COMPARISON TO PROGRAMS**

The ratio we've developed, even with the above caveats, is higher than all other anti-poverty interventions for which we could obtain data. It is, however, in line with other SROI analyses done by other legal aid nonprofits.<sup>6</sup>



# WHATIS DETERRENCE?

#### THE DETERRENCE VALUE OF LEGAL AID

In addition to the direct financial benefits that legal aid provides its clients, it has another important and unique anti-poverty effect: deterrence. We can use the legal system to punish bad actors, and in the process deter them from repeating their behavior against non-clients.

For example, imagine a landlord owns 100 units and rents them to low-income persons. He refuses to provide or repair heating in any unit, which is a violation of the civil code. Since it's not a violation of the penal code, the police and public prosecution service will not intervene.

In this situation, if only one tenant is able to file a lawsuit and collect damages for back-rent, the landlord could rationally write off the expense as a cost of doing business, as the damages from one case are likely less than the cost of repairing the heating in all 100 units. However, if 50 tenants are able to file lawsuits, the calculus changes. At that point, the landlord could decide its cheaper just to provide heating than continually defend civil lawsuits. Thus, the remaining 50 tenants who have their heating fixed are able to benefit from our services without even becoming a client. This kind of positive externality is unique to legal aid, because legal aid is the only human service that confronts human adversaries.

This section attempts to estimate the dollar value of the deterrence benefit received by non-clients using a formula derived from criminology studies. The formula predicts, and research supports, that the most important variable in deterring illegal activity is likelihood of punishment. This variable dramatically overwhelms other variables like severity of punishment and time delay between activity and punishment in its effect. This is also where our model shines: by ensuring universal access to legal aid, the likelihood of punishment dramatically increases for bad actors that operate predominantly in our service area.

This is also what differentiates us from existing legal aid models that have much broader catchment areas, but never reach the point of saturation. Their deterrent value would be much lower because the likelihood of punishing an individual actor will be smaller. Note that class action lawsuits aren't necessarily the answer to this problem. Class actions can dramatically increase the punishment value at the cost the of time delay, but the theory predicts that its deterrent effect would be small if the likelihood of punishment is not increased.

# EQUATION FOR DETERRENCE

#### THE DETERRENCE VALUE OF LEGAL AID

Deterrence theory suggests that illegal actions will occur when the expected benefits outweigh the expected costs, modified by a discounting factor for future costs. Illegal behavior will occur if:<sup>7</sup>

 $U_b > P * [\delta * (L_c + S_c)].$ 

is the financial or other benefits derived from illegal activity that we want to deter.

is the perceived risk of being sanctioned. A higher P connotes a higher chance of being sanctioned. Because we provide universal access in a small service area, our model will create a high P for any actors that operate *exclusively* in our service area. We estimate P using the following equation: P = D \* N, where D = the difference in rates of civil legal representation between inside and outside our service area, and N = the % of adverse party actions inside our service area.<sup>8</sup>

represents an actor's time discount. If there is a large lag time between the illegal action and the punishment, the immediate value of the punishment will be discounted. We estimate the discount rate using the following formula:  $\delta = 1/(1+i)^t$ , whereby t = the number of years over which onset of the sanctions is delayed and i = an individual's tendency to consider or not consider future consequences. A higher i connotes greater impulsivity. 9

are the legal costs that are incurred after the bad actor is found liable, plus the costs of defense. The liability costs are the same as U<sub>b</sub>, and the costs of defense are estimated as the average time our staff spend working a case \* the average rate of an attorney of \$400/hr (for represented parties) or an opportunity cost of \$30/hr (for unrepresented parties).<sup>10</sup>

are the social costs that are incurred after the bad actor is found liable. Nagin and Pogarsky (2000) found the monetary value of social costs to be about equal to the legal costs in criminal contexts. Since the embarrassment and shame from being found liable in a civil suit is considerably less than being found guilty in a criminal case, we estimate S<sub>c</sub> to be 1/3 of L<sub>c</sub>.<sup>11</sup>

This model predicts, and a variety of empirical studies have borne out, that the most important variable in deterrence is the likelihood of being sanctioned (P). This effect tends to overwhelm the the severity of sanctions effect ( $L_c$ )

Using this equation, we will estimate the value of  $U_b$  for all our case types and use this as a proxy for determining the social return of our added deterrence.

# DETERRENCE DATA

DETERRENCE EFFECT OF CASES, 1/7/2013 - 6/30/16

SUBJECT AREA	D	N	R	i	δ	L <sub>c</sub>	S <sub>c</sub>	RESULT (U <sub>b</sub> )
Estate Planning								N/A
Consumer	0.44	0.17	0.62	0.176	0.558	\$ 802,705	\$ 267,568	\$ 1,070,273.63
Family Law	0.44	0.79	0.18	0.264	0.542	\$ 704,924	\$ 234,975	\$ 939,898.52
Orders of Protection								N/A
Housing Law	0.44	0.59	0.72	0.157	0.562	\$3,161,867	\$1,053,956	\$ 4,215,822.07
Evictions Prevented								N/A
Immigration Law								N/A
Torts Law	0.44	0.34	0.62	0.176	0.558	\$ 974,424	\$ 324,808	\$ 1,299,232.07
Entitlements Law								N/A
Employment Law	0.44	0.17	0.88	0.125	0.568	\$ 468,453	\$ 156,151	\$ 624,604.21
Criminal Law								M/A
Other Law								Unknown

## OUR FINAL RATIO

#### **OUTPUTS**

Here are the final aggregated outputs

SUBJECT AREA	SROI	D	ETERRENCE	TOTAL
Total Awards (all areas)	\$ 482,050.00			\$ 482,050.00
Total Debt Cancelled (all areas)	\$ 265,080.00			\$ 265,080.00
Wills & Trusts Projected Value	\$ 1,659,744.00			\$ 1,659,744.00
Consumer Law Projected Value	\$ 13,950.71	\$	1,070,273.63	\$ 1,084,224.34
Family Law Projected Value	\$ 300,501.25	\$	939,898.52	\$ 1,240,399.77
Protective Order Projected Value	\$ 46,800.00			\$ 46,800.00
Housing Law Projected Value	\$ 848,192.92	\$	4,215,822.07	\$ 5,064,015.00
Evictions Prevented Projected Value	\$ 14,257.74			\$ 14,257.74
Immigration Law Projected Value	\$ 708.00			\$ 708.00
Tort Law Projected Value	\$ 6,118.00	\$	1,299,232.07	\$ 1,305,350.07
Entitlements Law Projected Value	\$ 22,412.88			\$ 22,412.88
Employment Law Projected Value	\$ 5,022.08	\$	624,604.21	\$ 629,626.28
Total Outputs	\$ 3,664,837.57	\$	8,149,830.51	\$ 11,814,668.08

#### FINAL RATIO RATIO

	SROI	DETERRENCE	TOTAL
Total Inputs	\$ 552,410.69	\$ 552,410.69	\$ 552,410.69
Total Outputs	\$ 3,664,837.57	\$ 8,149,830.51	\$ 11,814,668.08
Ratio of Outputs to Inputs	6.63	14.75	21.39

Using the foregoing methodology, we estimate that for every dollar we're spending on direct services and allocated G&A, we generate about \$6.63 in short and long term financial benefits for

our clients. We also estimate that we deter up to \$14.75 in illegal conduct for every dollar spent. Combined, we can estimate that the financial return on our work is up to \$21.39 for every dollar spent.

# OTHER PROGRAMS

THE SROI OF OTHER TYPES OF INTERVENTIONS,
AS REPORTED BY THE ROBIN HOOD FOUNDATION<sup>12</sup>

INTERVENTION TYPE	SROI F	RATIO
Micro Finance	\$	4.20
Financial Education	\$	1.90
Charter Elementary School	\$	4.10
Early Childhood Education	\$	5.00
Public Housing & Additional Services	\$	3.00
Public Health Clinic	\$	3.00
Food Kitchen & Additional Services	\$	6.00
Women's Shelter / Domestic Violence Intervention	\$	3.00

## CONCLUSION

#### THE ANTI-POVERTY IMPACT OF LEGAL AID

Here are the final aggregated ratios for legal aid and other anti-poverty interventions. The other agencies listed are all high-performing and are part of the Robin Hood Foundation portfolio.

In a comparison, our data shows that, dollar for dollar, our model of legal aid has more anti-poverty impact than any other intervention for which we could obtain data. This is true if you only consider our straight SROI. It's doubly true if you consider the value of harmful activity directed at the poor that we have deterred.

Our program model is very new and more research is needed to refine our SROI going forward. More work is needed to understand the value of certain case outcomes, such as preventing a client from being fired. We might be under or overvaluing our impact, but the general magnitude is clear.

Given all of the above data, the unanswered question of this paper is, if legal aid is the most effective anti-poverty intervention we have, why is it also the least funded?



#### **ACKNOWLEDGEMENTS**

This report was made possible in large part through the hard work of **Haiyen Truong** and **Amy Lim**, volunteers for whom we will forever be grateful.

#### **END NOTES**

¹The number of attorneys in California was pulled from the state bar's member demographics page found at <a href="https://members.calbar.ca.gov/search/demographics.aspx">https://members.calbar.ca.gov/search/demographics.aspx</a>. This figure includes inactive members. The number of legal aid attorneys is based on the number of attorneys who work at state iolta-funded nonprofits. Not all of these attorneys are engaged in direct service. Accessed from the state bar's website <a href="http://www.calbar.ca.gov/Portals/0/documents/">http://www.calbar.ca.gov/Portals/0/documents/</a> accessJustice/2015 JusticeGapFund FactsandFigures.pdf.

- <sup>2</sup> See the World Justice Project's Rule of Law Index Report, 2015. Factor 7.1, "People can access and afford civil justice." Available at <a href="http://worldjusticeproject.org/sites/default/files/roli\_2015\_0.pdf">http://worldjusticeproject.org/sites/default/files/roli\_2015\_0.pdf</a>. The dark-colored countries all rated higher than the US on factor 7.1.
- <sup>3</sup> Figures are based on the approved 2015 federal budget.
- <sup>4</sup> Formulas pulled from "Metrics." The Robin Hood Foundation. Available online at <a href="https://www.robinhood.org/metrics">https://www.robinhood.org/metrics</a>. The exact equations for each area of law, including the value of M, and a description of the methodology are available at <a href="https://www.robinhood.org/sites/default/files/user-uploaded-images/">https://www.robinhood.org/sites/default/files/user-uploaded-images/</a> Robin%20Hood%20Metrics%20Equations BETA Sept-2014.pdf.

There were not M values for all areas of law we practice in. We used the same metrics for torts legal services as we did for consumer legal services due to the similar nature of the subject areas. Robin Hood reports the average value of consumer legal services is \$700. We used the same metrics for employment legal services as we did for consumer legal services due to the similar nature of the subject areas. In our experience, however, this is likely an underestimate, as employment law cases tend to result in much higher returns for clients due to its inherent influence on financial status. For the remaining 14% of cases for which there are no relevant equations (for example, tax law), we decided to estimate their value using a per capita average. More research is needed to better model the impact of these cases.

- <sup>5</sup> Our Y values are lower than the values found in SROI reports of other legal aid nonprofits, but we feel they are more accurate. Many organizations simply estimate the negative impacts of their work and subtract the quantitative in their social return formula, Our organization, however, asked our clients directly to help us interpret outcomes, which is reflected in variable Y. We composed a list of 250 clients who represented the overall demographics of our clientele by race/ethnicity and legal subject area. We then called each client, and asked them to rate 4 simple statements on a scale from 1 to 5, where 1 means "strongly disagree" and 5 means "strongly agree." From this data we ran a regression to calculate Y.
- 6 The Arizona Legal Aid Services analysis can be found at <a href="https://www.azflse.org/download.cfm?">https://www.azflse.org/download.cfm?</a>
  <a href="mailto:filename=CSACO%20SROI%20Report%20reduced&type=pdf&loc=azflse">filename=CSACO%20SROI%20Report%20reduced&type=pdf&loc=azflse</a>. The Colorado Legal Services analysis can be found at <a href="http://legalaidresearch.org/wp-content/uploads/Colorado-Legal-Services-Social-Return-on-Investment-Legal-Services-Programs-Social-Return-on-Investment-Summary.pdf">http://legalaidresearch.org/wp-content/uploads/New-Mexico-Civil-Legal-Services-Programs-Social-Return-on-Investment-Summary.pdf</a>.
- <sup>7</sup> Our deterrence formula is based on the work of Nagin and Pogarksy, *Integrating Celerity, Impulsivity, and Extralegal Sanction Threats into a Model of General Deterrence: Theory and Evidence* (2000), available online at <a href="https://www.ssc.wisc.edu/econ/Durlauf/networkweb1/London/Criminology1-15-01.pdf">https://www.ssc.wisc.edu/econ/Durlauf/networkweb1/London/Criminology1-15-01.pdf</a>.

<sup>8</sup> The basic formula for P is D \* N. D represents the difference in likelihood of obtaining legal representation between people in our service area and people outside of our service area, but residents of California. To estimate the likelihood of obtaining representation outside of California, we used the 2010-2014 American Community Survey 5-Year Estimates, which estimated that 21.6% of the population lives below 125% the federal poverty line. (And thus qualifies for legal aid assistance). The California Center on Access to Justice estimates that there are 960 legal aid attorneys in the state (2015). <a href="http://www.calbar.ca.gov/Portals/0/documents/accessJustice/2015\_JusticeGapFund\_FactsandFigures.pdf">http://www.calbar.ca.gov/Portals/0/documents/accessJustice/2015\_JusticeGapFund\_FactsandFigures.pdf</a>. That's about 1 attorney for every 8,382 eligible people. In our service area, we have a ratio of 1 attorney for about 2,624 eligible people (excluding other providers). Given that the number of eligible beneficiaries being served in California is 20%, using an inverse proportion we can estimate our local penetration to be 63.88%. The difference between these two numbers is 43.88%, thus D = 43.88%.

N represents the likelihood that bad actors will take action against someone in our service area and thus be eligible for our services. To estimate N, we reviewed a random sample of 20-60 cases in each practice area and calculated N for each adverse party based on the scope of their activities. So for example, if 25% of a landlord's tenants lived in our service area, they would have an N of 0.25. We then averaged N for each practice area.

Another and possibly more accurate approach to measuring P is to conduct surveys of potential bad actors. There are obvious logistical and bias-control issues in such an approach though.

<sup>9</sup> The variable *i* is intended to represent the impulsivity of a bad actor. Non-impulsive actors are more responsive to time-delayed deterrents, such as lawsuits filed years after the fact. We assume that actors who are represented by counsel are less impulsive than self-represented actors because lawyers help inform their clients of the long-term consequences of their actions. We assign an *i* value of 0.3 to self-represented actors and 0.1 to represented actors.

To calculate *i* we had to create a new variable. R. R represents the proportion of actors in the practice area that are represented. To estimate R, we reviewed a random sample of 20-60 cases in each practice area and checked whether adverse parties were represented. We then averaged this for each practice area. To find the final value of *i* we then did a linear regression of R for values between 0.1 and 0.3. 0.1 representing an *i* where all adverse parties were represented and 0.3 representing an *i* where all adverse parties were not represented.

We assume T to be 0.75, or 9 months between the illegal behavior and sanctions. This is based on case data showing the average time delay between the start of a client's problem and when we close their case. This estimation for T may be high, but we thought it would be safer to be conservative.

<sup>10</sup> We do not keep hourly track of our attorney's time, so we decided to create an average estimate for how much time an attorney spends on a case and times that by the case volume in each practice area. Each staff attorney manages, on average, 36.75 cases at one time. Which means they spend 0.217 hours per day on a case. The average case is open 168.98 days. So the average case has 36.7847 hours spent on it. We then did a linear regression using the variables R and the difference in hourly costs for represented vs. non-represented parties. We then assumed that self-represented parties need to spend in twice the amount of work as represented parties, because they are not as efficient.

The final formula for  $L_c$  is (avg hours spent on case)\*(# of cases)\*([self rep modifier] -R+2)\*([cost of time] 370\*R+30)

 $^{11}$  Supra note 7 at 25-31. Nagin and Pogarsky label the social costs as 'extra legal costs.' A survey of bad actors would provide a more accurate determination of  $S_c$  but there are obvious logistical and bias-control issues in such a survey.

<sup>12</sup> Weinstein, Michael M., and Cynthia Esposito Lamy. Measuring Success: How Robin Hood Estimates the Impact of Grants. New York, NY: Robin Hood Foundation, 2009. February 27, 2009. Available online at <a href="https://www.robinhood.org/sites/default/files/2009\_Metrics\_Book.pdf">https://www.robinhood.org/sites/default/files/2009\_Metrics\_Book.pdf</a>.

Microfinance data based on MicroLoan, Ibid, 51-54.

Financial Education data based on MoneySmart, Ibid, 54-57.

Charter Elementary School data based on LEARN, Ibid, 68-70.

Early Childhood Education data based on FirstKid Preschool, Ibid, 74-81.

Public Housing & Additional Services data based on Helpful Housing, Ibid, 85-90.

Public Health Clinic data based on Feelbetter Clinic, Ibid, 91-98.

Food Kitchen & Additional Services data based on Noodles, Ibid, 99-104.

Women's Shelter/ DV Intervention data based on New Options for Women (NOW) Ibid, 105-114.