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The Welfare Effects of Civil Forfeiture

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ABSTRACT

Using a laboratory experiment we explore competing claims on the welfare effects of civil forfeiture. Experiment participants are tasked with making trade-offs in allocating resources “to fight crime” with and without the ability to seize and forfeit assets. It is an open question whether the societal impact of reducing crime is greater in a world with or without civil forfeiture. Proponents of civil forfeiture argue that the ill-gotten gains of criminals can be used by law enforcement to further fight crime. Opponents claim that the confiscation of assets by law enforcement distorts the prioritization of cases by focusing attention, not on cases with the largest societal impact, but on those with the highest valued assets that can be seized. We find that the public is better off in a world without civil forfeiture.

Keywords: Civil asset forfeiture, Experimental economics, Law and Economics

JEL Codes: C90, K39

1 Introduction

Civil asset forfeiture is a legal procedure that allows law enforcement to seize property allegedly used in the commission of a crime—without ever charging the property owner with a crime. Needless to say, the use of civil forfeiture has led to controversy. Indeed, the most contentious aspect of civil forfeiture is that most forfeiture statutes authorize law enforcement, including police departments and district attorneys’ offices, to keep a percentage, if not all, of

*We thank the editor and two reviewers for suggestions that have improved the paper. We also thank Megan Luetje for recruiting our experiment participants and Jeffrey Kirchner for his professional software programming. Finally, we gratefully acknowledge research

the proceeds obtained from a successful forfeiture. On one hand, proponents of civil forfeiture contend that its use gives law enforcement the incentive to target large-scale criminal organizations, that it has allowed law enforcement to dismantle criminal organizations, and that any instances of abuse have occurred only on a small scale. On the other hand, opponents of civil forfeiture contend that its use displaces legitimate law enforcement objectives: that law enforcement tends to focus on maximizing forfeiture revenue rather than reducing crime with the largest societal impact. That being so, opponents of civil forfeiture contend that the incentives created by it have led to systematic abuse.

As of this date, it is unclear which side is correct. Perhaps both are correct. Perhaps none. Proponents of civil forfeiture muster logical arguments to support their position, while opponents of civil forfeiture do the same. But these arguments can only do so much. What is needed is empirical evidence regarding the claims and counterclaims. Our empirical model evaluates whether the use of civil forfeiture allows law enforcement to bolster its fight against crime or whether it incentivizes law enforcement to maximize forfeiture revenue instead of providing public benefits that yield no revenue for law enforcement. This article addresses that gap.

Here we explore competing claims of efficiency for civil forfeiture using a laboratory experiment. Experiment participants are tasked with making trade-offs in allocating resources “to fight crime” with and without the ability to seize and forfeit assets. Our goal is to assess whether the societal impact of reducing crime is greater in a world with or without the financial incentives of civil forfeiture.

Based on the empirical findings below, we conclude that welfare is greater in a world without civil forfeiture than in a world with it.

2 A Brief Overview of Civil Forfeiture

Civil asset forfeiture is a legal doctrine that allows law enforcement to seize property used in the commission of a crime.¹ It is founded on the legal fiction that the forfeiture proceedings are brought not against the alleged criminal or property owner, but are rather brought against the property itself.² That is why forfeiture proceedings have such interesting names like *United States v.*

support from the Institute for Justice. This paper reflects the opinions of the authors and does not necessarily reflect the position of Buchalter, Chapman University, or the Institute for Justice.

¹For the purposes of brevity “civil asset forfeiture” will simply be referred to as civil forfeiture.

²Barnet (2001) discusses the general use of legal fictions in American jurisprudence, how legal fiction was used in forfeiture to justify the destruction of a “guilty” piece of property and then to its justification as a revenue-generating device for the English Crown.

434 Main Street, Twerksbury, Massachusetts³ or *United States v. \$671,160.00 in U.S. Currency*.⁴ By doing so, law enforcement can seize property without convicting—or even prosecuting—the property owner of a crime. And because civil forfeiture does not require a criminal conviction, the guilt or innocence of the property owner is irrelevant. All that is required is for the prosecutor to establish a statutory basis for forfeiture. Law enforcement only need to prove the property’s connection to criminal activity by preponderance of evidence standard or in some states under the lower probable cause standard—not the strict standard beyond a reasonable doubt required for criminal convictions.⁵ Once done, the burden often shifts to the property owner to prove his or her property’s innocence.⁶

Civil forfeiture is not to be confused with criminal forfeiture. Criminal forfeiture proceedings are brought *in personam* (against a person) and can only be enforced if preceded by a criminal conviction (Skorup, 2012). There, forfeiture is imposed upon a convict as part of his punishment, and the forfeiture order is imposed against the criminal himself, not his property (Cassella, 2008). More importantly, in a criminal proceeding, prosecutors must prove the defendant’s guilt beyond a reasonable doubt.⁷ Civil forfeiture proceedings, on the other hand, are brought *in rem* (against a thing), and forfeiture is imposed against the property owner’s property—not the property owner. And contrary to criminal forfeiture, prosecutors only need to prove that the property was associated with a crime through a low standard of proof. The burden is on the property owner to prove that the property was not involved in the crime. Further, criminal defendants are entitled to specific Constitutional rights. Not so in civil forfeiture (Chi, 2002). The Constitution only protects people, not inanimate objects.

In 1970, Congress passed the Comprehensive Drug Abuse Prevention and Control Act (“Control Act”), which allowed drug-related civil forfeiture by the federal government.⁸ Under this legislation, however, all forfeiture revenue was deposited into U.S. Treasury’s general fund. But in 1984, Congress amended the Control Act to allow federal enforcement agencies to keep the forfeited proceedings, and share forfeiture proceeds with state and local law enforcement through a program known as “equitable sharing” (Blumenson

³961 F. Supp. 2d 298 (D. Mass. 2013).

⁴730 F.3d 1051 (9th Cir. 2013).

⁵In Georgia, for example, the standard of proof law enforcement must meet to acquire property through civil forfeiture is based on a “probable cause” standard [see Ga. Code Ann. §16-13-49 (2014)].

⁶For a fuller explanation detailing the mechanics of civil forfeiture, see Pimentel (2012). For a great resource guide to civil forfeiture, see Edgeworth (2008). And for those just interested in learning more about civil forfeiture, see Gurulé *et al.* (2004).

⁷See e.g., *Apprendi v. New Jersey*, 530 U.S. 466 (2000) (criminal convictions require proof of guilt beyond a reasonable doubt determined by a jury).

⁸21 U.S.C. §881(f)(1), enacted originally in 1970 as Pub. L. No. 91-513, sec. 511, 84 Stat. 1236.

and Nilsen, 1998). Many states passed similar legislation.⁹ Since then, civil forfeiture has constituted a lucrative mechanism for federal, state, and local governments to finance the War on Drugs.

3 Reasons For Civil Forfeiture

When judiciously applied, forfeiture statutes permit law enforcement officers to seize assets that criminal organizations, large or small, need to continue and flourish in their operations. Criminal organizations, like legitimate business, must have operating capital and equipment to thrive. Without those assets, criminal organizations, like legitimate businesses, cannot afford to operate.

—Williams, 2002a.

Proponents of civil forfeiture recognize it as a tremendous power with the potential to be misused. But if prudently applied, proponents argue that it gives law enforcement the necessary power to combat crime. It does this in three broad strokes. Civil forfeiture hurts criminals where it counts: their wallets. The forfeiture proceeds are then used by law enforcement to supplement their own budgets, easing the tax burden on American taxpayers. Lastly, civil forfeiture allows law enforcement to punish criminals when they might otherwise be untouchable.

Contrary to opponents, proponents of civil forfeiture argue that statutes, which permit law enforcement to keep forfeiture proceeds, give law enforcement a proper incentive to decrease crime. This benefits society. With the knowledge that their police department is entitled to forfeited proceeds, or that their salary depends on it, police officers are more likely to focus their attention on crimes with the highest forfeiture yield rates. This translates into law enforcement focusing their attention on large-scale narcotic trafficking. Then once the illicit property is confiscated, the forfeiture proceeds are reinvested back into law enforcement to further crime reduction. And so on.

Indeed, the primary justification for civil forfeiture is that it deprives criminal organizations their working capital to engage in illicit activities (Williams, 2002a). Criminal organizations are hierarchical. Drug lords in the top echelons of these hierarchies are careful to shield themselves from any direct involvement with criminal activity, while low-level drug peddlers take all the risk in handling the contraband. As a result, law enforcement is often only able to arrest low-level drug peddlers, while the criminal masterminds roam free. The problem with criminal organizations, such as drug cartels, is

⁹See, e.g., Ala. Code §20-2-93 (2014); Fla. Stat. §932.704 (2014); Kan. Stat. Ann. §60-4105 (2014); W. Va. Code §60A-7-705 (2014).

that there is a surplus of able individuals ready to participate in the criminal enterprise. For every person law enforcement arrests, there are two more ready to take his or her place. That being so, focusing law enforcement's resources on arresting low-level criminals does nothing to thwart the criminal organization's overall operation.

Given that, proponents of civil forfeiture argue that the government's ability to seize criminal proceeds is a powerful economic weapon. Forfeiture statutes allow law enforcement to seize capital that criminal organizations need to operate. Similar to legitimate businesses, criminal organizations need capital investments, corporate infrastructure, and on-hand cash. Remove those assets, and the criminal organization will cease to exist. And in the long run, proponents infer that there should be a significant drop in the number of criminal organizations due to law enforcement's use of civil forfeiture.

Not only does civil forfeiture allow law enforcement to dismantle existing criminal organizations, proponents argue it deters future criminal organizations from arising. Although potential criminals may not be deterred by possible imprisonment, they may be sufficiently deterred from criminal activity if they are unable to recoup the proceeds of their capital investments. If criminal investors recognize the immense risk of civil forfeiture, they will avoid investment in criminal activity altogether. Civil forfeiture is therefore synonymous with the old police motto, "crime does not pay."

Proponents also claim civil forfeiture benefits American taxpayers. Let's face it. Law enforcement isn't cheap. And each year federal, state, and local governments spend billions of dollars to fund their respective enforcement agencies. This amounts to a heavy burden for American taxpayers. But civil forfeiture significantly eases this burden, because enforcement agencies across the Nation use forfeited assets to supplement their operating budgets, to build jails, or to fund education and rehabilitation programs. In 2012 alone, forfeiture proceeds at the U.S. Department of Justice reached an impressive \$4.2 billion [Stillman (2013) and U.S. Department of Justice (2014)].

Proponents also contend that civil forfeiture prevents corruption. As Williams (2002a) put it best, "[i]llicit money is power, and illicit power is corrupting." Criminal organizations can amass a tremendous amount of wealth. And this wealth attracts law enforcement, politicians, lawyers, bankers, and accountants who are willing work for the criminal organization and help launder illicit funds through legitimate sources. Indeed, this has become a significant problem in Mexico. According to Hildago (2014), the notorious Joaquín "El Chapo" Guzmán, leader of the Sinaloa Cartel, spent approximately \$1.2 billion dollars per year bribing law enforcement throughout Mexico. To put this staggering amount in context, the United States' aid package to Mexico to fight organized crime totaled \$1.6 billion. Illicit money also has the power to corrupt the judicial system by influencing witness testimony and judges. According to Buch (2013), for example, federal agents arrested two people

trying to bribe a federal judge with \$1 million dollars to reduce the prison sentence of a business owner who helped launder millions of dollars for the Zetas cartel.

Williams (2002a) also appears to make the argument that the use civil forfeiture stabilizes the economy. Given that criminal organizations can generate immense wealth from their illicit activities, they often launder their gains through legitimate businesses. By doing so, however, this floods capital into the marketplace and distorts the market. And legitimate businesses are unable to compete with tainted businesses backed by criminal subsidies.

Further, unlike lengthy criminal proceedings, forfeiture statutes offer law enforcement a quicker response to apprehend scammers and return the money back to victims. For example, when the government discovered a fraud scheme in 1996, it used forfeiture law to seize \$225 million dollars before the individual could transfer the funds overseas. If law enforcement were required to seek a criminal conviction against that individual before seizing those assets, the funds would have disappeared before his conviction. This only hurts victims. Since 2012, the Department of Justice has returned over \$1.5 billion dollars in forfeited assets to four hundred thousand crime victims (Stillman, 2013).

Further, proponents contend that prosecuting an alleged criminal's property through civil forfeiture is justified because it is significantly less expensive than prosecuting the alleged criminal (Skorup, 2012). Through civil forfeiture, prosecutors bring suit against the alleged criminal's property—not the criminal himself. This distinction is important. Unlike the alleged criminal, the property is not entitled to Constitutional protections. As such, the government can seize the property by showing that the property was involved with crime through a low standard of proof. This is defensible because 80% of forfeiture proceedings are uncontested (Cassella, 2008). If the forfeitures are uncontested in any event, the government saves resources by treating the forfeiture as an administrative matter against the property.

Proponents like Cassella (2008) argue that civil forfeiture is also justified when the wrongdoer is unidentifiable. Take drug couriers for example. Drug couriers are individuals who transport narcotics or cash on behalf of a criminal organization. Drug couriers have no ownership rights in the "packages" they transport, but get compensation by acquiring a fee for their transportation services. In this situation, law enforcement cannot bring criminal charges against the narcotic owners because they are unknown. Thus, civil forfeiture provides the only available option to confiscate the contraband.

Further, the use of civil forfeiture is sometimes preferable to other criminal punishments, and allows law enforcement to be lenient in particular circumstances. There are many situations, for example, where the interests of justice would not require a criminal conviction, and civil forfeiture would be sufficient to punish the wrongdoer. Think of the teenager who uses his home computer to counterfeit currency. Here, the appropriate law enforcement response would

be to confiscate the computer, rather than incarcerate the teenager. Or think of the terminally ill woman smoking marijuana to ease her pain in a state that does not recognize medical marijuana. Clearly, incarcerating the woman would be severe where simply seizing her narcotics would be appropriate.

In brief, proponents believe civil forfeiture is law enforcement's greatest weapon in its fight against crime. Where sometimes criminal law can come up short, civil forfeiture goes the distance.¹⁰

4 Reasons against Civil Forfeiture

When asked why a search warrant would not be served on a suspect known to have resale quantities of marijuana in his apartment, one officer replied: "Because that would just give us a bunch of dope and the hassle of having to book him (the suspect). We've got all the dope we need in the property room. Just stick to rounding up cases with big money and stay away from warrants".

—Miller and Selva, 1994.

Opponents of civil forfeiture argue that its most pervasive defect occurs when legislation gives law enforcement a direct financial stake in forfeited proceeds. When such legislation is implemented, law enforcement has a direct incentive to maximize forfeiture proceeds. And as a result, law enforcement agencies tend to focus their activity on obtaining more forfeited proceeds rather than on reducing crime.

Although civil forfeiture statutes vary across the United States, many give law enforcement a financial stake in forfeiture proceeds. Currently, 26 states allocate 100% of forfeiture proceeds to their respective law enforcement—while only 8 states allocate 0% to law enforcement (Murphy, 2011). The percentage of allocation varies across jurisdictions. For example, Wisconsin's forfeiture statutes distribute 50% of forfeiture proceeds to law enforcement, California's law enforcement is entitled to 65% of forfeiture proceeds, while Texas's forfeiture statutes allocate 90% to law enforcement (Williams *et al.*, 2010). Forfeiture allocation also varies throughout counties. In one Texas county, officers can obtain bonuses of up to \$26,000 a year from forfeiture proceeds (Stillman, 2013), and in another Texas county, forfeiture proceeds pay the assistant district attorney's entire salary.¹¹ Moreover, although state

¹⁰For a quick summation of all the main reasons given for implementing civil forfeiture, Cassella (2013).

¹¹Controversy has arisen over how local governments allocate and document forfeiture proceeds. In some jurisdictions no records are kept. In others, the records are vague as to what the forfeiture proceeds were actually spent on. In Philadelphia, for example, Thompson

forfeiture laws vary, state law enforcement can circumvent their own laws by cooperating with the federal government. Through a federal program known as equitable sharing, if local law enforcement seizes property with any connection to a federal crime, federal law enforcement can seize the subject property and then return up to 80% of the proceeds back to the local agency—circumventing any state forfeiture statute.¹² Opponents of civil forfeiture contend that such an incentive has led to questionable law enforcement conduct and abuse.

A major source of income for law enforcement is through the civil forfeiture of real property. This is common practice in Philadelphia. According to one statistic, 2,000 cases were filed against Philadelphia houses from 2008 to 2012 (Thompson, 2013). During that time, the Philadelphia District Attorney's Office had a 98% success rate. In a typical year the District Attorney's Office raises more than \$1 million dollars in annual real estate sales alone. Not surprisingly, these tactics have led to controversy. In one case, a woman lost her house because her son sold twenty dollars' worth of marijuana off her porch.

But the story of Donald Scott is the most troubling. In 1992, Donald Scott was shot and killed at his Malibu ranch by a twenty-seven-person police task force (Chi, 2002). Executing a warrant, the police planned to arrest Scott for allegedly running a 4,000-plant marijuana plantation. No drugs were found. In fact, a subsequent investigation discovered the search warrant was based on false evidence. The reason for the raid? The National Park Service made several attempts to purchase Scott's two-hundred-acre Malibu ranch, but Scott rebuffed their offer each time. Seeing an opportunity to finance their operations, the police intended to seize the ranch through civil forfeiture and sell it to the National Park Service.

Law enforcement is also allowed to forfeit property used in the commission of a crime, even if the property belongs to an innocent third party. In *Bennis v. Michigan*, Mr. Bennis was caught having sex with a prostitute in his car, which was jointly owned with his wife, Mrs. Bennis.¹³ The State of Michigan forfeited the car since it was used in the commission of a crime. Mrs. Bennis challenged the forfeiture, arguing it deprived her due process because she was not allowed to defend the forfeiture proceedings. But the Supreme Court upheld the forfeiture since Mr. Bennis used the car in the commission of a crime; Mrs. Bennis's innocence was irrelevant.

Suffice it to say, the Supreme Court's decision in *Bennis* has led to various examples of overzealous law enforcement and abuse. Indeed, even though

(2013) reports that "[t]he records show that the bulk of Philadelphia's forfeiture money goes to 'salaries' (the report does not say whose), and 'municipal task force support.' The reports include a line-item for money spent on 'Community Based Drug & crime Fighting Programs' and 'Witness Relocation and/or Protection Expenses.' In recent years, both of those lines read '\$0.00.'"

¹²See 21 U.S.C. §881(e)(1)(A) and 19 U.S.C. §1616a(c).

¹³*Bennis v. Michigan*, 516 U.S. 442 (1996).

forfeiting property (like a car or cash) from an innocent owner can be troubling, the situation is exacerbated when law enforcement forfeits an innocent owner's house.

Rochelle Bing's story is typical (Thompson, 2013). Bing is a forty-two year old health assistant in the city of Philadelphia. She owned a row home in North Philadelphia. She purchased the home as an investment for her and her family's future. By all accounts, she is a productive member of society. However, in 2009, police raided her house and charged her son, age 24, with selling eight packets of cocaine to an undercover officer. Bing was not present at the raid and had nothing to do with her son's crime. Bing's son sold illegal drugs in her house without her knowledge or consent. Although Bing was innocent, her son had sold drugs from inside Bing's house, and for that reason alone the police had authority to seize and forfeit her house.

Opponents stress that the use of civil forfeiture results in a distortion of law enforcement objectives. Civil forfeiture has been criticized because it motivates law enforcement to focus on assets and their seizures (for financial reward) instead of targeting crime. This has been apparent in police roadblocks, stops, raids, and reverse sting operations. In New York, for example, the New York City Police Department imposes roadblocks on the southbound lanes of I-95 toward New York City. That is because the southbound lanes contain drug buyers with large amounts of cash, while the northbound lanes only contain drivers who already purchased their drugs. As a result, the police are able to seize the southbound drivers' cash, which is forfeited to the police, whereas the drivers on the northbound lanes are free to import drugs into the city (Chi, 2002). Law enforcement in Tennessee has taken a similar approach (Balko, 2013). In Nashville, police officers have a choice. They can stop cars on the eastbound lanes, which would contain illegal drugs coming from Mexico, or they can stop cars on the westbound lanes, which contain the illegal drug money going back to Mexico. According to a television news investigation, police officers were ten times more likely to focus their attention on the westbound lanes than the east. "For police coffers, it was better to let the drugs come into Nashville, be sold and then seize the cash as the dealers left town" (Balko, 2013).

Similar to roadblocks, there is also evidence that law enforcement has delayed making raids on suspected drug houses until most of the drug supply had been sold. In one example, police had knowledge that \$7,000 to \$13,000 dollars' worth of cocaine was being stored in a drug house. Yet, instead of implementing search and arrest warrants immediately, the police calculated the rate at which the cocaine was being sold. "Less drugs meant more cash, and the agent's objective was to seize currency rather than cocaine" (Miller and Selva, 1994). Only after enough cocaine was sold out of the house did the police conduct the raid, seize the drug assets, and more importantly, seize the illegal drug money.

Due to the financial incentives of civil forfeitures, opponents also contend that police sting operations have been turned upside down. In a traditional sting operation, the police pose as buyers. When the drug dealer agrees to sell the contraband to an undercover agent, the dealer is promptly arrested and the drugs are kept out of the community. But in a controversial and high-risk tactic known as a “reverse sting” the police now pose as sellers of large quantities of marijuana or cocaine (Miller and Selva, 1994). The goal is not to keep drugs off the street—but to confiscate as much drug money as possible, which is forfeited to the police department. In one example from Arizona, Flatten (2011) reports that the police agreed to sell five hundred pounds worth of marijuana for \$250,000 dollars. Unfortunately the deal went bad, and the undercover police agents were shot and killed. In the end, the police only recovered \$999 dollars in one-dollar bills. The rest was counterfeit. This practice has become such a big business for law enforcement that some police informants can earn a lucrative living. According to public records, one confidential informant was paid \$248,598 dollars in an 18-month period.

Although proponents of civil forfeiture contend that its use helps defund criminal organizations, opponents argue there is little empirical evidence to suggest it has made any statistical difference in reducing overall criminal conduct (Williams, 2002b).¹⁴ Instead of deterring unlawful activity, criminal organizations have simply included possible civil forfeitures as the cost of doing business. Moreover, there is some indication, at least at the local level, that law enforcement has little interest in extinguishing the crime in which they acquire forfeiture proceeds from. According to the *New Yorker*, law enforcement in Tenaha, Texas continually harassed so-called “smurfs,” individuals that carry money for criminal organizations and deposit it at banks in small amounts to avoid detection. Law enforcement confiscate the smurf’s illicit money, but then release them in hopes of stopping them for the same conduct in the future to acquire more forfeited proceeds (Stillman, 2013). Perhaps the old saying rings true here, “don’t bite the hand that feeds you.”

In short, opponents of civil forfeiture generally contend that its use has led to widespread and systematic abuse, and that any benefits derived from it are outweighed by its severe defects.

5 Experimental Design and Procedures

Given the debate about the merits and pitfalls of civil forfeiture, we designed a laboratory experiment to test some of the competing justifications and

¹⁴See also Blumenson and Nilsen (1998): “By more meaningful measures, however, the Drug War has been an extraordinary failure. Drugs are more available—at higher purity and lower prices—than they were at the start of the decade.”

criticisms. But (of course) it would be impossible to test all competing justifications and criticism at once. So instead, we focused on the most contentious component of civil asset forfeiture: statutes that allow law enforcement to keep 100% of forfeiture proceeds (or some variation thereof). Again, proponents contend that these laws incentivize law enforcement to focus their attention on crime with the largest societal impact, while at the same time alleging it allows law enforcement to use forfeiture proceeds to continually reinvest back into their crime fighting abilities. And again, opponents contend that these laws distort legitimate law enforcement objectives where law enforcement instead focuses on crimes with the highest forfeiture revenue rather than reducing crime with the largest public benefit. To date, it is an open question whether and under what conditions civil forfeiture increases or decreases welfare. We set out to test these competing claims.

Each observation of our virtual world consists of four people who control one of two types of avatars: red and blue. A single red avatar represents a law enforcement officer and the three blue avatars represent the citizens at large. The instructions for the red avatar are purposely succinct to leave the discovery and interpretation of the environment up to the participant:

<page 1>

Welcome

This is an experiment in decision making. The instructions are simple, and if you follow them carefully and make good decisions you can earn a considerable amount of money which will be paid to you in CASH at the end of the experiment.

In this experiment, you will be represented by the **Red** avatar you see in the middle of the screen. You and the other people in the experiment can move around the environment by *left* clicking on the spot you wish to move to. Do this now. Notice that a red circle marks the spot your avatar is moving towards.

<page 2>

Hammers and Walls

You can earn money two ways. The first is by knocking down walls with a hammer. Each wall that you knock down generates **15 cents** in earnings. Each period you are endowed with **2 hammers**.

To knock down a wall, right click on the wall. Do this now. Notice how your earnings in the bottom right of the screen have increased. Only you have the ability to knock down walls.

You will not be able to knock down walls for the first **15 seconds** of a period.

<page 3>

Tokens

Sometimes you may be able to collect tokens. Tokens may be used to produce more hammers *or* to generate earnings.

You can only collect tokens of certain colors. Blue avatars can also collect tokens. The colors that you and others can collect are listed above the avatar. Knock down the wall around the red tokens and pick up all of the tokens now by walking over the top of them.

To convert 7 tokens into a hammer, click on the button. Do this now.

To convert the remaining tokens into earnings, click on button. Do this now. Each token you convert generates **3 cents**. Unconverted tokens are wasted at the end of a period.

<page 4>

Conclusion

This is the end of the instructions. If you have any questions, please raise your hand and a monitor will come by to answer them. If you are finished with the instructions, please click the Start button. The instructions will remain on your screen until the experiment

begins. We need everyone to click the Start button before we can begin the experiment.

Each period lasts for 60 seconds. In every period a dividing wall separates the red avatar in the West from blue avatars in the East (see Figure 1). To give the red avatar time to explore what walls are available to knock down and the contents therein, the red avatar must wait 15 seconds before taking any action.

Figure 1: Bird's Eye View of World.

In this experiment, knocking down walls is analogous to fighting crimes.¹⁵ The red avatars are paid a 30¢ per period to knock down two walls, but only if they knock down both walls. Inside rectangular walls are three types of colored tokens: reds, pastels, and brights. Only red avatars can collect red tokens and only blue avatars can pick up pastels. Red tokens represent the proceeds of crimes that only law enforcement can claim with civil forfeiture—like cash. Pastel tokens represent the benefits to the public of fighting crime, like safer neighborhoods in which to be a shopkeeper. Each blue avatar is assigned one pastel color that only he or she can collect. Red avatars can sometimes collect any of three different bright-colored tokens and each blue avatar can pick up a unique bright-colored token. Bright tokens represent tangible property that the citizens can use, such as a car or house, but which law enforcement could also use or sell for cash. In other words, reds and pastels are non-rivalrous but brights with civil forfeiture are rivalrous.

During the first 40 seconds of every period, five tokens of each pastel color randomly appear in the East. These non-rivalous tokens guarantee minimum earnings of 15¢ per period and collecting them gives the citizens something to do early in a period. Their second page of instructions explains how to pick up tokens by walking over the top of them and that “a red avatar has the ability to knock down the walls.” Their third page of instructions explains how they can chat with each other but that “the red avatar cannot chat nor

¹⁵By knocking down walls (eliminating crime), the red avatar (law enforcement) provides a social benefit to the blue avatars (the public), represented by the tokens blue avatars can collect inside the rectangular “crime wall.”

Figure 2: The Four Baseline Sets of Tokens Behind Two Walls.

see chat.” These unguarded conversations are windows into how the blue avatars think about the world and what they think of the red avatar. (Their first and fourth pages of instructions convey the same information as reported above.) A 4-min video demonstration of the software is available for viewing at <http://youtu.be/xuFiC327C1c>.

Each replication of the world lasts for 35 periods. The first eight periods are intended to give the participants experience with collecting tokens under two different conditions, four periods when civil forfeiture is possible (Y) and four periods when it is not (N). We say that civil forfeiture is possible when red avatars can collect red and bright tokens and that civil forfeiture is not possible when red avatars cannot collect any tokens. Over these first eight periods we present four different sets of tokens, all behind a total of two walls. Figure 2 displays these baseline sets which were each presented once with and once without civil forfeiture, in random order without replacement. We used the same ordering in all replications.

The first baseline scenario in Figure 2 displays 6 bright green, 6 bright purple, and 6 bright brown tokens. Under the N condition only the citizens can pick up these tokens, but for the law enforcement to earn 30¢, he or she must break down the dividing wall and the wall surrounding the tokens. Under the Y condition either the citizens or the law enforcement can collect the bright tokens (6 green, 6 purple, and 6 brown). If law enforcement first breaks down the rectangle wall, then he or she can pick up all 18 tokens before the citizens can get to them, or leave some or all of them for the citizens to collect. In the second baseline condition the tokens are non-rivalous pastels, one color per citizen (6 pink, 6 gray, and 6 yellow). In both the Y and N conditions, only the citizens can collect the pastel tokens. Since law enforcement only earns 30¢ by breaking down both walls, law enforcement generates 18¢ of benefits for each citizen. The third and fourth baseline scenarios replicate the first two with an additional 3 red tokens. Only under the Y condition can law enforcement collect these 3 red tokens.

These baseline scenarios create the common experience that under the Y condition, law enforcement is collecting money from real human beings (as opposed to hypothetical people or inhuman robots).¹⁶ It also creates the

¹⁶As McCabe *et al.* (2001) show, it matters whether people are interacting with humans or robots. Our avatars fall somewhere in between, but they don't act like robots. Because

common experience that only law enforcement can break down walls to supply citizens with additional benefits. Or not.

The next 27 periods present four different scenarios designed to explore the implications of Y and N . These 27 periods are broken down into three regimes of 9 periods. In half of the replications, denoted as YNY , participants experience 9 periods of Y , followed by 9 periods of N and conclude with 9 more periods of Y . The other half, denoted as NYN , face 9 periods of N , followed by 9 periods of Y and conclude with 9 more periods of N . A switchover design reduces the error attributable to differences in particular groups and paired comparisons increase the power of the test.

Within each regime of 9 periods we present four different scenarios. We initially randomized order of the scenarios without replacement in each regime and then used the same order of scenarios for all replications in both the NYN and YNY sequences.

The first scenario, which we call the *Critic's Supposition*, is presented in Figure 3. When faced with the choice of acquiring that which the public can use privately or not doing so, law enforcement will acquire it. Notice that there are three tokens for each person in the virtual world, 9¢ for everyone under the Y condition. Critics of civil forfeiture suppose that the public would be benefit under the N condition because enforcement will take the bright green, purple and brown tokens under the Y condition. Each regime contains three trials of the *Critic's Supposition*.

As the name suggests, the *Competing Suppositions* scenario, displayed in Figure 4, has a different prediction depending upon whether one is a proponent or critic of civil forfeiture. Critics claim that when faced with a choice of which crime to pursue, one that involves the cash proceeds of a crime and one that does not, law enforcement will choose the former. In Figure 4, this is the rectangular wall containing 10 red tokens and not the wall containing 30 pastel tokens for the public. Since earning 30¢ per period entails breaking down two walls, critics suppose that law enforcement under the Y condition will choose the wall with red tokens and one other wall, neither of which will benefit the public.

Proponents of civil forfeiture, however, argue that taking the proceeds of the crime allows law enforcement to fight more crime. This is possible if law enforcement in this scenario foregoes 6¢ to provide benefits to the public (by purchasing a third hammer for 7 tokens or 21¢ and breaking down a third wall to receive only 15¢). That is, proponents argue that the public is no worse off with civil forfeiture than without. Notice that if critics argue that law enforcement will not “do the right thing” with civil forfeiture, there is no reason to believe in this scenario that they will “do the right thing” either under the N

humans are controlling them and they know that other people are controlling them, the avatars appear to act with purpose.

Figure 3: The *Critic's Supposition* Scenario.

condition, for with only two hammers a red avatar could break two rectangular walls that would do nothing to benefit the public. In other words, we cannot assume that without civil forfeiture that law enforcement would fight crimes that benefit the public, i.e., break down the dividing wall and the walled-in pastel tokens. It is thus an empirical question whether the public is better off with or without civil forfeiture in the *Competing Suppositions* scenario. Each regime of 9 periods contains two trials of the *Competing Suppositions* scenario.

To vary the cost of fighting more crime with the proceeds of civil forfeiture, each regime contains one trial called the *Competing Suppositions*² scenario, which is displayed in Figure 5. In this scenario if law enforcement breaks down both rectangular walls with the red tokens, the net cost to the red avatar of opening up pastel tokens to the public is 12¢ instead of the 6¢ in the *Competing Suppositions* scenario (there are instead two additional walls to break down to allow the citizens to collect pastel tokens).

In the *Competing Suppositions* scenario, the public cannot be made better off with civil forfeiture; the public can only be made worse off with civil forfeiture. Our final scenario is an environment in which civil forfeiture could make the public better off against the alternative of being not any worse off without it. Figure 6 displays what we call the *Proponent's Supposition* scenario. The best case for the public in the N condition is that law enforcement breaks down the

Figure 4: The *Competing Suppositions* Scenario. Figure 5: The *Competing Suppositions*² Scenario.

dividing wall and one of the two walls. Inside both rectangular walls are 10 tokens per citizen. The top wall contains brights and the bottom reds and pastels.

Since red tokens are not collectable by law enforcement in the N condition, the public is equally well off if either rectangular wall is broken down, provided,

Figure 6: The *Proponent's Supposition* Scenario.

of course, that the dividing is knocked down. But under the *Y* condition civil forfeiture can make the public better off. By breaking down the bottom rectangular wall and collecting the red tokens, law enforcement can buy a third hammer to break down the top rectangular wall and open 10 bright tokens per citizen, thereby making the public better off vis-à-vis the *N* condition. Or law enforcement can seize the bright tokens. Or law enforcement can only break down the two rectangular walls and collect all the reds and brights. Relative to the previous scenarios, though, civil forfeiture has the potential in the *Proponent's Supposition* scenario to make the public better off by fighting an additional crime thereby providing additional benefits for the public. Each regime of 9 periods contains three trials of the *Proponent's Supposition* scenario.

Over the course of three consecutive days in February, 2014, we conducted 10 one-hour sessions of 24 undergraduate participants (60.8% women, 39.2% men) at Chapman University. Each volunteer only participated in one session. We blocked the switchover designs within each session, i.e., half of the participants were in the *NYN* and the other half in *YNY*. Thus, we have a total of 30 independent observations of red avatars in both the *NYN* and *YNY* sequences. At the beginning of a session the experiment monitor seated the participants in visually-isolated carrels containing a computer terminal. The participants

then read the instructions at their own pace and were free to ask questions at any time. Once everyone completed the instructions, the experiment began at the same time for everyone in the room. A participant received \$7 for showing up on time plus what he or she earned in the experiment. Excluding the show-up payment, mean earnings for red avatars was \$19.09 ($\sigma = \3.10) and for blue avatars \$9.52 ($\sigma = \1.91).

Before we present our results, we anticipate a couple questions critical of our project. First, are we simply learning something specific to this experimental exercise? Yes, as does every other empirical study on any topic. That is the nature of empirical inquiry. It is specified, peculiar, and particular—But are we merely learning something about how undergraduates behave in a crude video game? How can we compare an undergraduate's actions as a red avatar in the laboratory with that of a law enforcement officer in the naturally occurring world?—If by “compare” you mean compare the knowledge, experience, and professional training of a 45-year old sheriff with that of a 19-year old sophomore who paints his chest for the big conference football game, then, yes, obviously these stereotypes are not comparable on these dimensions. The inputs and outputs of a sheriff's decision making process clearly differ from those of our typical undergraduate participant in this virtual world, but how they both go about making their decisions involves *analogous trade-offs*. The policy question that is debated and that our experiment addresses is whether or not civil forfeiture benefits the public. Both the sheriff and our undergraduate participant weigh the private benefits of using acquired assets for one's own interest against the alternative of further benefiting the public. The social calculus is the same. In this respect, our results cannot be casually dismissed.

6 Results

We present the results of our experiment as a series of four findings. Each unit of observation is one replication of the virtual world with four people. Specifically, for citizen data we sum the tokens collected for all three individuals and within a regime of 9 periods we also sum the tokens over all n trials for a scenario, i.e., our results are conservatively presented. Each figure then presents as a bar the average of those sums across each independent observation, including the 95% confidence interval about that mean.

We begin by assessing the *Critic's Supposition* with the average number of bright tokens collected by citizens. The maximum number of bright tokens that the citizens in total can collect in three trials is 27. As Figure 7 reports, the data strongly support the supposition of the critics. Under civil forfeiture, the citizens only collect on average, from left to right, 0.8, 3.5, and 1.3 of the 27 rivalrous bright tokens. In stark contrast the citizens collect 22.8, 23.4,

Figure 7: Average Number of Bright Tokens Collected by Citizens in *Critic's Supposition* Trials.

and 24.1 bright tokens in the N conditions. The treatment effects are clearly robust to the ordering of the conditions, which is our first finding:

Finding 1. *With the simple decision of seizing or not seizing rivalrous assets in Critic's Supposition, law enforcement overwhelmingly chooses to seize the assets.*

Law enforcement may seize rivalrous assets for themselves, but if given the opportunity will they use the proceeds to the benefit of the public? Or will law enforcement, when faced with the decision of helping the public *or* seizing assets for their own use, simply seize the assets? Figure 8 reports the results for the *Competing Suppositions* scenario. The answer is some of both, but in the final analysis:

Finding 2. *The public is better off without asset forfeiture in the Competing Suppositions scenario.*

To take advantage of the paired comparisons, the same red avatar with and without civil forfeiture, let the subscript $i = \{1, 2, 3\}$ denote the position of treatment condition, Y or N , within a switchover design. For example, N_2 is the N regime in the YNY switchover. Using a Wilcoxon signed-rank test, we reject the null hypothesis of no difference in the treatment conditions, Y_1 vs. N_2 ($W = -88$, $z = -2.26$, p -value = 0.0238, two-tailed test) and N_2 vs. Y_3 ($W = 84$, $z = 2.37$, p -value = 0.0178, two-tailed test).¹⁷ Between switchover designs, the difference between Y_1 vs. N_1 is also statistically different using a Mann-Whitney test ($U_{30,30} = 583$, p -value = 0.0502, two-tailed test). The return to baseline in both sequences also indicates that there are no hysteresis effects of the order in presenting the treatment conditions to the participants.

¹⁷The difference in treatment conditions is not as statistically robust in the NYN switchover design: N_1 vs. Y_2 ($W = 55$, $z = 1.71$, p -value = 0.0873, two-tailed test) and Y_2 vs. N_3 ($W = -64$, $z = -1.64$, p -value = 0.1010, two-tailed test).

Figure 8: Average Number of Pastel Tokens Collected by Citizens in *Competing Suppositions* Trials.

How do the red avatars make out in this scenario? There are a total of 1,200 red tokens in Y_1 and Y_3 and 600 in Y_2 . Respectively, law enforcement collects 1,190 (99.2%) and 560 (93.3%) of them.

Recall the design in Figure 4 and decision facing the red avatars in N . To earn 30¢ they must knock down two walls. But which two walls? We find that the red avatars in N are inclined to help the blue avatars when there is nothing to gain for themselves, *but put that impulse into conflict with their own gain in Y and those same red avatars think of themselves first and aid the blue avatars much less.*

The difference in the treatment conditions appears to further separate in the *Competing Suppositions*² trial (see Figure 9).¹⁸ As collected by the public, the mean number of pastel tokens as a percentage of the total available drops from 42% (25.2 of 60 in Y_1) in the *Competing Suppositions* scenario to 29.3% (8.8 of 30 in Y_1) in *Competing Suppositions*², but we fail to reject the null hypothesis of no difference in the number of pastel tokens collected as a percentage of the total available ($U_{30,30} = 533$, p -value = 0.2247, two-tailed test). As before, law enforcement does not forego the opportunity to collect the twice as many red tokens that are available in a period. They collect 96.7% of the total 1,800 available in Y_1 , Y_2 , and Y_3 . This small sensitivity test (it costs 12¢ instead of 6¢ to help the public in *Competing Suppositions*²) appears not to matter. In sum:

Finding 3. *Even though the cost of helping the public increases in *Competing Suppositions*² vis-à-vis *Competing Suppositions*, law enforcement does not help the public less.*

The scenarios for *Critic's* and *Competing Suppositions* do not provide an opportunity for law enforcement to fight another crime that benefits the public.

¹⁸Using a Wilcoxon signed-rank test, we also reject the null hypothesis of no difference in the treatment conditions, Y_1 vs. N_2 ($W = -89$, $z = -3.09$, p -value = 0.0020, two-tailed test) and N_2 vs. Y_3 ($W = 65$, $z = 2.53$, p -value = 0.0114, two-tailed test).

Figure 9: Average Number of Pastel Tokens Collected by Citizens in *Competing Suppositions*² Trial.

Figure 10: Average Number of Total Tokens Collected by Citizens in *Proponent's Supposition* Trials.

The scenario for *Proponent's Supposition* does. Figure 10 reports the total number of pastel and bright tokens that the public collects in the *Proponent's Supposition* scenario.

At best, the public is sometimes not worse off under Y and sometimes the public is worse off. Using a Wilcoxon signed-rank test, we cannot reject the null hypothesis of no difference in Y_1 vs. N_2 ($W = -58$, $z = -1.00$, p -value = 0.3173, two-tailed test) but we can reject the null hypothesis for N_2 vs. Y_3 ($W = 116$, $z = 2.16$, p -value = 0.0308, two-tailed test). For the other switchover design, we cannot reject the null hypothesis of no difference in N_1 vs. Y_2 ($W = 73$, $z = 1.35$, p -value = 0.1770, two-tailed test), but we can reject the null hypothesis for Y_2 vs. N_3 ($W = -80$, $z = -2.26$, p -value = 0.0238, two-tailed test). Using a Mann-Whitney test, there is no difference between Y_1 and N_1 ($U_{30,30} = 534$, p -value = 0.2193, two-tailed test) or N_2 and Y_2 ($U_{30,30} = 458$, p -value = 0.9115, two-tailed test), but we can reject the null hypothesis of no difference between Y_3 and N_3 ($U_{30,30} = 640$, p -value = 0.0045, two-tailed test).

What is quite clear in this scenario is that law enforcement consistently collects the bright tokens in *Y*. Of the 5,400 bright tokens in *YNY*, red avatars sweep up 5,365 (99.4%) of them and in *NYN* they collect 100% of them. Law enforcement also collects 97.4% of the red tokens in all three *Y* regimes.

Finding 4. *When an additional crime involves rivalrous assets, law enforcement claims them, and so at best the public does not benefit from civil forfeiture in Proponent's Supposition and at worst the public is worse off with civil forfeiture.*

7 Discussion and Conclusion

What has our experiment added to what we know about civil forfeiture? In the zero sum world of civil forfeiture, the temptation for law enforcement personnel to benefit themselves at the expense of the public is indeed strong and clearly evident in our data. Seizing rivalrous assets is not a rare occurrence. It is overwhelmingly what people do.¹⁹ And this does not go unnoticed. Indeed, the red avatar's use of civil forfeiture provokes tremendous resentment in the blue avatars. What do the blue avatars think of the conduct of the red avatars? Here is a sample of the comments to each other in the heat of the moment:

- omg hes stealing them all
- he has too much power
- red has no incentive to help us
- were his peasants
- If they're doing this just to be greedy; that's messed up...
- trying to determine just how misanthropic the red guy can be
- the red is really heartless
- i feel so powerless!
- some reds just wanna see the world burn
- im personally offended

¹⁹To date, participants in stylized dictator games have only overwhelmingly taken all the money from another participant if the experiment was conducted with double anonymity and/or they have earned the stakes. See, e.g., Hoffman *et al.* (1996) and Cherry *et al.* (2002). It would seem that process matters. Our red avatars took the money with single anonymity protocols when the decision is embedded in a task of knocking down walls and picking up tokens. Perhaps they felt they earned it through work.

- he knows exactly what he's doing
- not cool red
- we are a metaphor for the 3 little pigs/and he is the big bad wolf
- k thanks for eating our coins red
- red will steal them from you
- red can take all of our colors
- this is one of those examples where greed isnt good
- why be so mean?
- totally not cool
- there is no incentive for him to help us, it is all whether or not he wants to be nice
- antisocial red
- red person is the worst
- this fool sucks
- he just ate all our things
- thief!
- I hate red.
- dick move
- SO NOT COOL AT ALL
- not a homie
- die avatar

The key to understanding the conduct of the red avatars is that this is a zero sum and not a positive sum environment. Participants from the same subject pool regularly exhibit high levels of trust, trustworthiness, and intertemporal reciprocity in other economic experiments.²⁰ If it is you *or* me who is going to profit in the experiment, as it is in this experiment, then people choose “me.”²¹ But if it is you *and* me, a “we” who can profit, then people find a way

²⁰See, e.g., Smith and Wilson (2017), Osborn *et al.* (2015), and Kaplan *et al.* (2012).

²¹See Pecorino and Van Boening (2010) for another experiment on litigation disputes in which participants consistently choose “me.”

to make each other better off with personal social exchange. Mutual benefits from acting jointly serve as an external incentive to do the right thing, to do right by each other. In both the naturally occurring world and in our virtual world, civil forfeiture creates a zero sum problem. As a blue avatar above recognizes, “there is no incentive for him to help us, it is all whether or not he wants to be nice.” Both law enforcement and our red avatars are removed from the positive sum world of sociality; neither can create mutual benefits with the public.²² With a monopoly on the legitimate use of force, law enforcement personnel operate above the plane of ordinary human intercourse and the rules that govern it, which is why civil forfeiture invites zero sum thinking and zero sum conduct.

At the beginning of this article we presented an open question: does civil forfeiture allow law enforcement to bolster its fight against crime or does it incentivize law enforcement to maximize forfeiture revenue rather than reducing crime with the largest public benefit? We find that the public is better off in our virtual world without civil forfeiture.²³ Given the choice of using civil forfeiture to benefit the public at large or to maximize forfeiture revenue for themselves, people choose themselves. Civil forfeiture is not a problem of “bad apples,” but of bad laws that encourage bad conduct.

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²²Fighting crime is a benefit, but it doesn’t create benefits; it prevents harm, the destruction of benefits.

²³At least as civil forfeiture relates to statutes that allow law enforcement to keep a portion, if not all, of the proceeds they forfeit.

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