The Problems With the Private Enforcement of CERCLA: An Empirical Analysis

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In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA")[1] in response to the Love Canal incident.[2] CERCLA was designed to "provide authorities to respond to releases of hazardous waste . . . to establish a Hazardous Waste Response Fund . . . to establish prohibitions and requirements concerning inactive hazardous waste sites, [and] to provide for liability of persons responsible for releases of hazardous waste at such sites."[3]

Under CERCLA, Congress first granted the executive branch[4] the authority to use the Superfund to cleanup hazardous substances posing a substantial threat when consistent with the National Contingency Plan ("NCP").[5] Congress also created a public right of action to enforce the liability of responsible parties and the Environmental Protection Agency ("EPA") became the executive branch agency responsible for enforcing CERCLA and administering the Superfund.[6]

CERCLA has been an exercise in trial and error. In 1986,[7] Congress created a private right of action and allowed the recovery of "any other necessary costs of response incurred by any other person consistent with the national contingency plan."[8] Under this clause, private parties have filed numerous suits and recovered damages from responsible parties.

This private right of action overlaps with the public right of action under CERCLA.[9] Policymakers would hope that these two causes of action would complement each other to optimally deter potential polluters and that these actions would incentivize these polluters to act optimally (i.e., exercise the socially optimal activity level and take the optimal level of care). However, this Article argues that the public and private causes of action compete with one another and government suits do not lead to more private filings. In other words, the public cause of action does not free up the resources of private individuals to pursue another private cause of action under CERCLA.

Furthermore, the public cause of action nefariously affects the private cause of action. This Article looks at the strategy employed by these competing plaintiffs and answers whether the plaintiff's identity affects the settlement decisions of defendants. CERCLA's procedures allow the EPA to select which suits to pursue. This "first option" creates a selection bias: the EPA selects "winnable" cases whereas private parties, who can only pursue the cases where they are victims, are left to pursue tougher cases. This selection bias should lead to a higher favorable resolution rate for public actions.[10] Since the EPA is a repeat player with more means than traditional private parties, it can commit to a litigation strategy and the polluter can observe this strategy and discern that EPA only selects more winnable cases. These characteristics lead defendants of public cases to be more *ex-ante* incentivized to settle than defendants of private cases.

1. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended at 42 U.S.C. §§ 9601-9675 (2012)).
2. *See generally* E.C. Beck, *The Love Canal Tragedy,* EPA J. (Jan. 1979), http://www2.epa.gov/aboutepa/love-canal-tragedy (detailing the EPA's response to the pollution of the Love Canal in upstate New York).
3. H.R. 7020, 96th Cong. (1980), *reprinted in* 1 Legis. History of the Solid Waste Disposal Act Amended Together With a Section-by-Section Index, 1980, at 1128 (1991).
4. The President delegated executive authority under 42 U.S.C. § 9615 to use the Superfund to cleanup hazardous substances posing a substantial threat when consistent with the National Contingency Plan and to enforce CERCLA to the Environmental Protection Agency and other agencies through executive orders. Exec. Order No. 12,580, 52 Fed. Reg. 2923 (Jan. 29, 1987).
5. 42 U.S.C. § 9604(a)(1).
6. 42 U.S.C. §§ 9606(a), 9606(c).
7. Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, § 101, 100 Stat. 1613 (codified as amended at 42 U.S.C. § 9601).
8. 42 U.S.C. § 9607(a)(4)(B) (2012).
9. 42 U.S.C. § 9607(e) (2012).
10. In general, this Article assumes that a settlement constitutes a positive outcome for the plaintiff even if it could be construed as a negative under certain circumstances.

This Article confirms both these hypotheses and finds that in CERCLA suits, public suits tend to compete with private suits, and that having a government plaintiff increases the likelihood of reaching a settlement. To reach this conclusion, this Article proceeds in three parts. Part I discusses CERCLA's history, provides an overview of the procedures under CERCLA, highlights the differences between the two causes of action, and discusses how those factors theoretically impact settlement rates. Part I also presents the data and summary statistics. Part II presents a model explaining the relationship between private and public suits at a macro level. It then presents the results and shows that private and public causes of action are more of a substitute than complement. Part III finally shows at a micro level that public causes of actions settle at a much higher rate than private causes of actions. The selection bias created by the EPA procedures puts private suits at a disadvantage and leads to suboptimal deterrence.

I.   Public and Private Causes of Action

This Part first looks at the evolution of CERCLA suits since its enactment from a procedural standpoint. This Part then presents summary statistics for the CERCLA suits brought between 1994 and 2007.

A.   CERCLA Amendments and a Three-Part Process

In many respects, CERCLA has been marked by trials and errors. Since its enactment in 1980, Congress has amended CERCLA numerous times. First, in 1986, Congress made several changes in the Superfund Amendments and Reauthorization Act[11] ("SARA") that reflected the EPA's experience with administering the Superfund and created a National Priorities List, which enumerates the sites to which the EPA gives high priority.[12] More importantly, the SARA amendments add the statutory authority for private suits under CERCLA.[13]

Subsequently, in the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996,[14] Congress clarified the definitions of "potential responsible parties" and "participating in management"[15] that the Eleventh Circuit had left open to interpretation in *United States v. Fleet Factors Corp.*[16] The 1996 amendment specifically restricts liability and narrows the definition of "participating in management."[17]

In 2002, after recognizing that previously polluted land became undevelopable brownfields,[18] Congress passed the Brownfield Amendment[19] to ensure that both prospective buyers and lenders avoided liability and liability exposure when purchasing or financing an already polluted property. This amendment modifies CERCLA again[20] and creates a "bona fide prospective purchaser" defense.[21]

While SARA focuses on EPA procedures and administrative hurdles, later amendments focus on the potential responsible parties ("PRPs"). All these amendments, nonetheless, impact how the EPA and private parties recover damages under CERCLA. In a 2009 report, the U.S. Government Accountability Office ("GAO") studied the EPA's decision to sue.[22] Since its enactment, the EPA has brought the majority of litigated CERCLA cases. Between 1994 and 2007, the percentage of all CERCLA suits brought by the EPA increased from 51% in 1994 to 77% in 2007.[23] It has recovered through litigation and settlement almost thirty billion dollars under CERCLA since 1980.[24] Thus, the EPA's decision process warrants an explanation.

The EPA has three options to enforce CERCLA and to pass the cleanup cost onto PRPs. The first option is akin to an out-of-court settlement. Following an EPA investigation, the PRPs agree to perform the remedial investigation and feasibility study. The second option is a unilateral administrative order that the EPA can issue following a determination "that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from

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U.S.C. § 9601(20)(F)(i)(II) (2002).

18. *See* Spencer M. Weigard, *The Brownfields Act: Providing Relief for the Innocent or New Hurdles to Avoid CERCLA Liability?*, 28 Wm. & Mary Envtl. L. & Pol'y Rev. 127 (2003). In particular, confusion relating to previous exemptions as well as confusion about the definition of "all-appropriate inquiry" were key reasons for the clarification in the amendment. *Id.* at 148.

19. Small Business Liability Relief and Brownfields Revitalization Act of 2002, Pub. L. No. 107-118, 115 Stat. 2356 (codified in scattered sections in 42 U.S.C. §§ 9601–9675 (2002).

20. "This amendment to CERCLA appears to provide greater comfort to lenders although they may still have residual liability concerns, as well as understandable reluctance to finance some brownfields purchases because of the possibility of losing all collateral value on a contaminated site that is later determined to be required for cleanup." Stefanie Sommers, *The Brownfield Problem: Liability for Lenders, Owners, and Developers in Canada and the United States*, 19 Colo. J. Int'l Envtl. L. & Pol'y 259, 269 (2008).

21. A bona fide prospective purchaser is "a person (or a tenant of a person) that acquires ownership of a facility . . . [who] establishes . . . by a preponderance of the evidence: [a]ll disposal of hazardous substances at the facility occurred before the person acquired the facility and who made all appropriate inquiries into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices." 42 U.S.C. § 9601(40)(A)–(B)(i) (2002). The innocent landowner differs from the bona fide prospective purchaser because the latter is aware of prior contamination, discloses the existence contamination to the EPA, and may receive funds in order to clean it up.

22. *See* U.S. Gov't Accountability Office, GAO-09-656, Superfund: Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements 1, 3 (2009) [hereinafter GAO Report] (GAO report meant to "(1) identify the outcomes of EPA's enforcement actions, and the factors federal and private parties consider in reaching these outcomes; (2) examine the trends, if any, in litigation to resolve Superfund liability; and (3) determine the status and implementation costs of the Superfund program.").

23. *Id.* at 39.

24. *Id.* at 29.

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11. Pub. L. No. 99-499, § 101, 100 Stat. 1613 (Oct. 17, 1986) (codified as amended at 42 U.S.C. § 9601(35)).

12. The updated list can be found at http://www.epa.gov/superfund/sites/npl/index.htm (last visited June 14, 2014).

13. Schalk v. Reilly, 900 F. 2d 1091, 1093 (7th Cir. 1990).

14. Pub. L. No. 104-208, 110 Stat. 3009-462 (codified as amended at 42 U.S.C. §§ 9601, 9607(n)).

15. "Largely in response to the perceived overbreadth of the Fleet Factors rule, Congress amended CERCLA in 1996, narrowing somewhat the sweep of lender liability under CERCLA." Monarch Tile, Inc. v. City of Florence, 212 F.3d 1219, fn. 2 (11th Cir. 2000).

16. 901 F.2d 1550 (11th Cir. 1990), *cert. denied*, 498 U.S. 1046 (1991).

17. "Participation in management . . . does not include merely having the capacity to influence, or the unexercised right to control, vessel or facility operators." 42

a facility . . . ."[25] If the PRPs do not comply with the order, they may face penalties;[26] if they do comply, the PRPs may seek reimbursement from the Superfund assuming that the PRPs are able to prove that they are not liable.[27] The third option involves the EPA performing the cleanup and suing PRPs for recovery.[28]

Since 1980, the EPA has used the Superfund to cleanup hazardous substances posing a substantial threat when consistent with the NCP.[29] First developed in 1968, the NCP outlines the national response guidelines and procedures to oil spills and hazardous substance releases. The NCP was broadened to cover the release and removal of hazardous substances in accordance with CERCLA.[30]

After a hazardous substance is released and identified, EPA follows the procedures put in place under the NCP to assess whether an immediate action is necessary.[31] If the substance poses a substantial threat, EPA first notifies PRPs about the need for action and for a remedial investigation and a feasibility study.[32] The PRPs can then agree to undertake the remedial investigation and feasibility study.[33] By doing so, PRPs enter into a consent decree. Based upon the investigation findings, EPA prepares an alternative mode of action and elects which course of action is most appropriate under the risk, the urgency, the current Superfund, and the expected future needs.[34] The course of action is referred to as remedial design and remedial action.

If the PRPs do not enter into a consent decree, then EPA can request a unilateral administrative order from a district court after determining "that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility"[35] to abate the danger. In addition to this court order, the EPA can issue administrative orders "as may be necessary to protect public health and welfare and the environment."[36] If the PRPs do not comply with the EPA's orders, the PRPs may face penalties.[37]

Because these penalties create an incentive for innocent parties to comply (false positives), PRPs who enter into a consent decree do not admit liability and they may seek reimbursement from the Superfund assuming they are able to later prove they are not liable. However, the PRPs may also admit liability within the consent decree and negotiate an out-of-court settlement that must be later approved in court.[38]

The EPA can undertake the necessary removal according to the NCP and file an action against the PRPs to reimburse the Superfund.[39] The PRPs risks having to argue that the Remedial Design and Remedial Action elected by the EPA is inconsistent with the NCP. The Superfund gets replenished through these suits, in addition to the funds collected from taxes on the chemical and petroleum industry.[40]

If the EPA elects to go forth with the suit, the private individual cannot influence the process until the lawsuit begins by joining the suit as a plaintiff.[41] For instance, in *Pakootas v. Teck Cominco Metals, Ltd.*,[42] the EPA issued a unilateral administrative order following a private request to investigate a spill into the Columbia River. The PRP, Teck Cominco Metals, did not comply with the order. Two private individuals filed a suit to enforce the order and the State of Washington joined the private suit. In the meantime, the EPA settled the claims with Teck Cominco Metals but never demanded the penalties payment, which could have reached over twenty million dollars.[43] The private individuals were unable to collect these penalties. This case exemplifies the intricacies between the EPA and private individuals. It also shows that private individuals do not have access to the consent decree mechanism and cannot collect the penalties, both of which provide incentives for PRPs to settle suits with the EPA.

In other words, these procedures allow the EPA to exercise a first option to take on any spill. The EPA can choose between two strategies (or a combination of both). First, the EPA could select the easier cases and leave the harder cases to the private victims. As such, the EPA would have a higher success rate and would maximize its resources. Second, the EPA, knowing that it has the full weight of the government behind it, could focus on the hard cases that private parties are less likely to pursue because they are not privately optimal but are socially optimal (e.g., because of budget constraints on private parties or transaction costs in large scale torts). As such, the EPA would assure that PRPs internalize the full cost of their activity, which assures the optimal activity level.

Anecdotal evidence from a 2009 GAO report supports that the EPA prefers to focus on the low-hanging fruit and high reward suits.[44] The EPA focuses on suits that involve better evidence and claims that involve higher damages (above $200,000).[45] This Article first tests whether the two private causes of action are more substitutes or more complements before evaluating the impact of this selection process.

B.   Dataset and Summary Statistics

This Section explains how the dataset was constructed. Then it presents some summary statistics and shows that without

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25. 42 U.S.C. § 9606 (a).

26. 42 U.S.C. § 9606 (b)(1).

27. 42 U.S.C. § 9606 (b)(2)(A).

28. Jerome M. Organ, *Superfund and the Settlement Decision: Reflections on the Relationship Between Equity and Efficiency*, 62 Geo. Wash. L. Rev. 1043, 1056–57 (1993).

29. 42 U.S.C. § 9604(a)(1) (2012).

30. *Id.*

31. 40 C.F.R. § 300.415 (2015).

32. 42 U.S.C. § 9604(a)(1).

33. *Id.*

34. *Id.* § 9604(c)(2-3).

35. 42 U.S.C. § 9606(a).

36. *Id.*

37. 42 U.S.C. § 9606(b)(1).

38. 42 U.S.C. § 9622(g)(4).

39. 42 U.S.C. § 9607(a).

40. 42 U.S.C. § 9607(d); U.S. Gov't Accountability Office, GAO-08-841R, Superfund: Funding and Reported Costs of Enforcement and Administration Activities (2008).

41. 42 U.S.C. § 9613 (h).

42. 452 F.3d 1066 (9th Cir. 2006).

43. Pakootas v. Teck Cominco Metals, Ltd., 646 F.3d 1214, 1221 (9th Cir. 2011).

44. GAO Report, *supra* note 22, at 32.

45. *Id.*

further econometric analysis it remains difficult to draw any definitive conclusions.

The data used here was gathered by the GAO for a report the agency wrote in 2009.[46] I obtained the data through a Freedom of Information Act request filed with the GAO. This data was gathered to provide Congress with information related to CERCLA suits and Superfund.[47] The GAO searched the Public Access to Court Electronic Records ("PACER") system for cases filed for fiscal years 1994 through 2007.[48] The data covers all cases filed under CERCLA in eighty-nine out of the ninety-four federal judicial districts.[49]

The resulting database contains 2281 cases and includes information such as the filing year, closing year, and whether the case was settled, went to trial, removed, or remanded.[50] The GAO classified plaintiffs, defendants, and third parties[51] into one of the following categories: (1) federal government, (2) state government, (3) local government, (4) private party, (5) other party,[52] and (6) unknown party.[53] The database includes NPL and non-NPL data.[54]

The gross domestic product ("GDP") and income data comes from the Bureau of Economic Analysis publicly available data at the U.S. Department of Commerce[55] and the World Bank.[56] The consumer price index comes from the Bureau of Labor and Statistics.[57] The data for the EPA

budget and spending comes from the publicly available EPA budget.[58]

Figure 1 shows how the number of private and public suits has changed from 1994 to 2007. While the number of private suits decreased over the period, federal suits remained steady at about sixty suits per year.[59] During this time period, just three joint suits, those between private and federal entities, were filed. Figure 1 also seems to indicate that the number of federal and private CERCLA suits are inversely correlated. Based on this figure, the 1996 Amendment seems to have negatively impacted private suits.

Figure 1. Federal and Private CERCLA Suits From 1994 to 2008
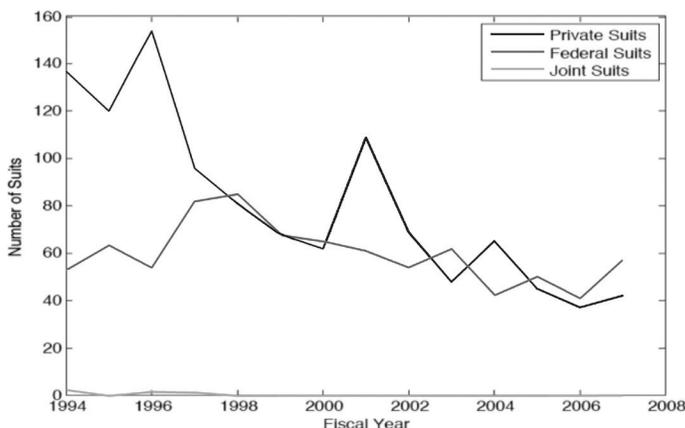
Source: Freedom of Information Act request from Gov't Accountability Office to author (Mar. 29, 2011) (on file with author) [hereinafter FOIA request].

Table 1 shows that the number of private and federal suits varies greatly over the years: the mean for private suits is 80.9 and its standard deviation is 37; the mean for federal suits is 59.8 and its standard deviation is 12.8. This shows that the number of private suits vary more than public suits. The numbers for other types of suits vary even less. On average, 49% of the suits filed were filed by private parties and 51% were filed by public parties.

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46. U.S. Gov't Accountability Office, GAO-09-656, Superfund Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements (2009).

47. *Id.* at 5.

48. GAO notes the following limitation in their data gathering: "When a federal party or any other party files a complaint, it cites the cause of action—that is, the legal theory—it believes provides the legal basis for its claim. Cases filed under a CERCLA cause of action include cases filed to resolve liability for [National Priority List (NPL) site cleanups, as well as to resolve liability for cleanups of sites not on the NPL. We excluded cases filed in the four district courts for the U.S. territories, as well as cases filed in the U.S. Federal Claims Court; [GAO was] also unable to obtain any data for one additional court. We limited our analysis to fiscal years 1994 through 2007 because data from earlier years were not consistently available through the PACER system. In addition, [GAO] could not obtain complete data for all U.S. district courts directly through the PACER system for fiscal years 1994 through 2007. For three district courts, [GAO] obtained data on case filings from the Administrative Office of the U.S. Courts, which administers the PACER system. For one district court, [GAO] obtained data from court officials. For one other court, [GAO] could only obtain data starting in July 2002." *Id.* at 3–4.

49. *Id.* at 3.

50. *Id.* at 92, 94–95.

51. Specifically, the GAO indicates in its report "whether parties in the case filed a third party complaint against other parties." *Id.* at 93.

52. GAO used the term in Table 16, "other party" for "Native American groups; parties that appeared to be nonprofit organizations; multi-jurisdictional and/ or quasi-public parties, such as regional transportation, sanitation, water or sewerage districts, ports and airports; [and] educational institutions, religious groups, hospitals, and landfills, among others." *Id.* at 94.

53. GAO used the term "unknown parties" for "parties listed as John Doe or Jane Doe" and "parties listed as ABC or XYZ corporation." *Id.*

54. *Id.* at 4.

55. U.S. Dep't of Commerce, Historical Income Tables: People, https://www.census.gov/hhes/www/income/data/historical/people/ (last visited June 14, 2014).

56. The World Bank, GDP Per Capita, http://data.worldbank.org/indicator/NY.GDP.PCAP.CD (last visited June 14, 2014).

57. U.S. Dep't Of Labor, Consumer Price Index, http://www.bls.gov/cpi/data.htm (last visited June 14, 2014).

58. *See* U.S. Envtl. Protection Agency, EPA's Budget and Spending (Feb. 12, 2016), http://www2.epa.gov/planandbudget/budget; *see also* U.S. Envtl. Protection Agency, Superfund, http://www.epa.gov/superfund/accomp/budgethistory.htm (last visited June 14, 2014).

59. Note that the data only shows Federal suits, but this study assumes that the Federal suits are EPA suits for simplicity. The Department of Justice files suits on behalf of the EPA. The distinction is germane to this Article.

Table 1. Number and Percentage of CERCLA Cases Filed by Type of Plaintiff, FY 1994 to FY 1997

Filing Year	Filed Suits	Federal Gov't	State Gov't	Local Gov't	Private Party	Other Party	Unknown Party	Jointa Suits
1994	214	53	22	9	137	6	1	10
1995	204	63	11	15	120	7	0	11
1996	230	54	22	5	154	5	2	12
1997	209	82	29	4	96	6	0	9
1998	187	85	23	3	81	5	0	9
1999	180	68	31	12	68	8	0	6
2000	149	65	22	8	62	6	1	14
2001	197	61	26	7	109	7	3	16
2002	142	54	21	2	69	6	0	8
2003	125	62	14	3	48	3	0	5
2004	124	42	16	4	65	4	1	8
2005	118	50	18	10	45	3	0	7
2006	91	41	16	4	37	3	0	8
2007	111	57	15	2	42	2	0	5
Total	**2,281**	**837**	**286**	**88**	**1,133**	**71**	**8**	**128**
Average	162.9	59.8	20.4	6.3	80.9	5.1	0.6	9.1
Standard Error	45.1	12.8	5.8	4	37	1.8	0.9	3.2
Ratio of Total		36.70%	12.50%	3.90%	49.70%	3.10%	0.40%	5.60%

a. Joint suits involve multiple types of defendants and ignores suits with multiple defendants of the same type.

Source: Freedom of Information Act request from Gov't Accountability Office to author (Mar. 29, 2011) (on file with author) [hereinafter FOIA request].

Table 2 presents the summary statistics for the outcomes of the CERCLA suits filed between fiscal years 1994 and 2007. The number of case filed decreases over the period.[60] This decrease could be explained by fewer infractions because of the greater polluter deterrence. Moreover, since CERCLA was a retroactive law, the number of older cases filed likely decreases over time as the pool of efficient cases to file is exhausted.[61]

Some suits remain pending for many reasons: they may have been appealed, remanded, consolidated, or parties are attempting to settle or are waiting for a trial to start. Over the period, about 8% of suits remain pending; but for the period from 2005 through 2007, the ratio of pending suits is much higher (above 20%).[62] Table 2 shows that almost half of the suits filed during that period were settled. A suit takes about two fiscal years to settle on average. For instance, a suit filed in 1997 will on average settle in 1999. It takes even longer for suits to be dismissed or for a trial to reach a conclusion. No suit filed in 2007 had gone to trial by the time the data was collected in 2008.

Table 2. CERCLA Outcomes FY 1994 to FY 2007

Filing Year	Number of Cases Filed	Fraction Pending	Fraction Settled	Fraction Dismissed	Fraction Trialed
1994	214	0.005	0.425	0.079	0.042
1995	204	0.005	0.451	0.059	0.044
1996	230	0.013	0.374	0.078	0.052
1997	209	0.019	0.526	0.048	0.033
1998	187	0.005	0.599	0.043	0.059
1999	180	0.028	0.578	0.072	0.044
2000	149	0.027	0.584	0.034	0.074
2001	197	0.030	0.452	0.122	0.015
2002	142	0.106	0.458	0.120	0.021
2003	125	0.088	0.520	0.072	0.032
2004	124	0.105	0.500	0.073	0.073
2005	118	0.203	0.441	0.085	0.025
2006	91	0.264	0.462	0.066	0.033
2007	111	0.640	0.270	0.027	0
Ratio of Means		0.080	0.477	0.071	0.040

Source: FOIA request.

Part II focuses on the macro-level data and looks at the relationship between public and private suits. Part III investigates in further details the suit outcomes at a micro-level.

II. Substitutes or Complements

This Part examines whether private actions complement or compete with government enforcement actions. In this context, complement means that private parties sue when the

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60. Gov't Accountability Office, GAO-09-656, Superfund Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements (2009).
61. *Id.*
62. *Id.*

government does not and vice-versa; a substitute means that private parties compete with the government to bring the same suits and hence race to file a suit.

Substitution and complementary effects likely act in unison but this section hypothesizes that private and public suits are more substitutes than complements. To discuss this issue, this Part first discusses the limited, but important, literature about the substitutability and complementarity of public and private suits. Then this Article presents a model to explain the relationship between public and private suits. Finally, it tests this model on CERCLA suits and confirms the hypothesis.

A.   Private Suits Are Often More Substitutes Than Complements for Public Suits

Having both private and public causes of action impacts policies. Specifically, policymakers may be concerned about a race to the courts or the potential waste of judicial resources. Previous papers have delved into this problem and specifically looked at this question in the context of environmental suits.

First, Naysnerski and Tietenberg[63] studied the public and private enforcement of environmental laws.[64] Both tested numerous hypotheses including the effects of remedies and attorney's fees upon private suits.[65] Naysnerski and Tietenberg also argue that private and public suits can be substitutes for each other.[66] Despite observing that when public enforcement of environmental laws declined in the early 1980s, private enforcement increased, they argued that public and private suits were not perfect substitutes because public agencies could request different remedies and public enforcers were reluctant to sue public entities that infringed environmental laws.[67]

More recently, Langpap and Shimshack empirically estimated the impacts of private suits on the public enforcement of the Clean Water Act.[68] This study focused on water treatment facility infringements.[69] Using plant level data, Langpap and Shimshack made three findings. They first found that private suits increase the probability of regulatory inspection but the statistical significance varies with the econometric specification. Also, they concluded that private suits act as a monitoring device for public authorities, and this conclusion supports that public and private suits

are complements.[70] Next, they found that the likelihood of regulatory sanctions decreases when a private suit is filed.[71] Finally, the likelihood of regulatory fines decreases when a private suit is filed.[72] The magnitude of the fine also decreases when a private suit is filed.[73] They concluded, based on these latter two findings, that public entities do not intervene when private citizens do;[74] hence, private and public entities tend to act as substitutes. Interestingly, because wrongdoers do not face the same remedies depending on who files the suits, wrongdoers face inconsistent enforcement and hence may be inconsistently deterred.[75]

The next Section builds on these two papers and considers the aggregate number of suits filed. It then explains how the aggregate number of suits relates and explains the hypothesis that as public suits are filed, the resources freed by these public suits are not used to file separate private suits against another wrongdoer.

B.   Estimation Model and Potential Endogeneity Issues

This Section models how litigation levels of private and public entities relate and how the filing of public suits impacts the filing of private suits. Let A_t be the pool of accidents at time t. After an accident a, the EPA and private entities consider whether to file a suit s. S_t is the set of cases filed, and NS_t is the set of accidents that do not result in a suit. A_t, S_t, and NS_t relate in the following way: $A_t = NS_t + S_t$.

If the set G_t is the set of cases filed only by the government entities, P_t is the set of cases filed only by private entities, and J_t is the set of joint cases, then $S_t = G_t + P_t + J_t$ such that: $A_t = NS_t + G_t + P_t + J_t$.

The number of suits an entity can bring depends on the budget constraints this entity experiences. If government and private suits are complements, when the government brings a suit, private entities can bring another case.[76] Consequently, if this hypothesis is correct, P_t does not depend on G_t.

If government and private suits are substitutes, these entities compete for the same suits. If the government files a suit, the private party does not file that suit but the private party does not file another suit either. Consequently, if this hypothesis is correct, P_t is negatively correlated with G_t.

The following equation tests for the second hypothesis:

$$P_t = VS_t + \beta G_t + \gamma X_t + \varepsilon_t$$

Equation 1: Estimation Equation.

63. Wendy Naysnerski & Tom Tietenberg, *Private Enforcement of Federal Environmental Law*, 68 Land Econ. 28 (1992).

64. Beside CERCLA, they studied the Clean Air Act, Clean Water Act, Marine Protection, Research and Sanctuaries Act, Noise Control Act, Endangered Species Act, Deepwater Port Act, Resource Conservation and Recovery Act, Toxic Substances Control Act (TSCA), Safe Drinking Water Act, Surface Mining Control and Reclamation Act, Outer Continental Shelf Lands Act, Emergency Planning and Community Right-to-Know Act, Hazardous Liquid Pipeline Safety Act. *See id.* at 29.

65. *Id.*

66. *Id.*

67. *Id.* at 35.

68. Christian Landpap & Jay P. Shimshack, *Private Citizen Suits and Public Enforcement: Substitutes or Complements?*, 59 J. Envtl. Econ. & Mgmt. 235, 238 (2010).

69. *Id.*

70. *Id.*

71. Landpap & Shimshack, *supra* note 68, at 243–44.

72. *Id.* at 244.

73. *Id.*

74. *See id.* at 236, 239, 248.

75. *See id.*

76. Since the model aggregates all private parties together, it is easier to think of private parties as one society and acting together. Nonprofit entities can often pick their suits much like the EPA and thus if the EPA files one suit, the nonprofit entities would not file that suit but their resources are still available for investigating other accidents and filing another suit. Individual private parties may, however, lack standing, but the individual party's resources may be more linked than it appears: plaintiffs often sue on a contingency fee, thus if a lawsuit is filed by the government and the private party does not sue, his "to-be-lawyer" has resources to find and bring another comparable suits.

Where VS_t is the number of suits that are rational to file, X_t are budget constraint variables, β and γ are the parameters to be estimated, and ε_t is the error term. VS_t is unobserved, only the filed numbers of suits P_t and G_t are observed.

This equation can be estimated by using an ordinary least square regression. However, an ordinary least square regression assumes that the errors ε_t are temporally uncorrelated. In the case of CERCLA suits, if, at time t, a possible suit s is not filed, it remains possible to be filed at time $t+1$. Temporal correlation is therefore likely. To address this issue, the regression will also contain a time trend for certain estimation.

A few endogeneity issues may arise. First, Equation 1 implicitly assumes that private individuals and public actors have the same cost function; however, the EPA is likely to have lower litigation costs, since the EPA has lawyers on staff who represent a fixed cost—the EPA lawyers are paid regardless how many suits are filed.[77] Second, Equation 1 implicitly assumes that costs are case independent; however, having more plaintiffs or more defendants involved in a case is likely to require higher costs because of the additional transaction costs. Using first difference or fixed effect regressions addresses some of these endogeneity issues about the private and public actors.

Finally, one other endogeneity may arise. If private plaintiffs decide to sue under CERCLA, they must first notify the EPA of its decision.[78] The EPA then decides whether to intervene before a private entity files a suit.[79] Private entities' decision to sue depends on the public interest protected within the zone of interest under CERCLA because of the administrative sequence. When the agency knows that private individuals want to sue, this knowledge may also affect the agency's decision to sue. As the public enforcement impacts private enforcement, it is important to note that private enforcement also impacts public enforcement. The causation may not be unidirectional and the simultaneous decisions can bias the end results. To remedy this endogeneity, the estimations in the following section present results of a two-stage least square, which uses instrumental variables estimations, estimated by the following equation:

$$G_t = \alpha + \delta Y_t + \mu_t$$

Equation 2: First Stage of the Two Stage Least Square.

Where Y_t are budget constraint variables, α and δ are parameters to be estimated, and μ_t is the error term.

The following Section presents the results of Equation 1 using different estimation methods including a two-stage least square estimation where Equation 2 act as the first stage; however, the estimations for Equation 2 are not shown for shortness of exposition.

C. Private and Public CERCLA Suits Are More Substitutes Than Complements

This Section looks beyond the summary observations presented in Figure 1. In general, private and public suits may respond to business cycles or other economic shocks. Private suits are likely more sensitive to economic shocks than public agencies; however, public enforcement is usually more sensitive to political changes. To control for budget constraints and economic shocks, the regressions use GDP, GDP per capita, and income per capita as proxy for private budget constraints. The regressions also include population variables to adjust for the number of individuals that may monitor and bring suits.

Table 3 shows the results of ordinary least square regressions. Specification 1 looks at the effect of all government suits on the filing of non-government suits. Specification 2 looks at this same effect but controls for joint suits.

Specification 3 looks at the effect of all government suits on the filing of private suits only. This private suit variable ignores suits that were filed by "other parties" (e.g., non-profit organizations) because these suits usually resemble public suits rather than private suits. For example, both government organizations and nonprofit organizations advance different goals (e.g., deterrence) than private individuals and they can decide which suits to bring regardless of standing.[80] On the other hand, because of standing, private citizens are bound to one accident, and when they sue, they focus on compensation.[81] Furthermore, both nonprofit organizations and government entities tend to select similar cases. Nonprofits need private donations to survive and hence target cases that draw more publicity; while government agencies also target high profile cases because of their potential to attract goodwill.[82] Unknown parties (e.g., anonymous parties) are also left out because their intents cannot be clearly attributed to either government type actions or private party type actions.

Specification 4 looks at the effect of federal suits on the filing of private suits, whereas specification 5 looks at the effect of federal suits on the filing of non-federal suits in order to test whether non-federal filings more closely resemble private or public suits.[83] Specification 10 looks at the same regression but the estimation includes a time trend.

Specifications 6 and 7 look at the effect of federal suits on the filing of private suits but the regression uses different explanatory variables: income per capita and total popula-

77. U.S. Envtl. Protection Agency, *Salaries and Benefits* (Feb. 2, 2016), http://www.epa.gov/careers/salaries-and-benefits.

78. 42 U.S.C. § 9613(l).

79. 42 U.S.C. § 9659(g).

80. Nonprofit organizations select the cases they want to pursue. The Supreme Court held that "an association has standing to sue on behalf of its members 'when (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.'" New York State Club Ass'n v. City of New York, 487 U.S. 1, 9 (1988) (quoting Hunt v. Washington Apple Advert. Comm'n, 432 U.S. 333, 343 (1977)).

81. *See* Naysnerski & Tietenberg, *supra* note 63, at 33–34.

82. *Id.*

83. Non-federal government agencies do not benefit from the same administrative procedures; as a matter of a fact, if a non-EPA agency wants to file a CERCLA suit, it must follow the same procedures as followed by private entities.

Table 3: Effects of Public Filings on Private Suit Filings Using Ordinary Least Square ("OLS") Regressions

	Non-Government Filings[1]	Non-Government Filings[1]	Private Filings	Private Filings	Non-Federal Filings[3]	Private Filings	Private Filings	Private Filings	Private Filings	Private Filings
Constant	271.05** (50.41)	251.35** (42.64)	248.48** (45.33)	252.45** (40.08)	276.16** (39.50)	274.60** (41.62)	1468.82** (669.57)	269.04** (41.76)	1177.68** (513.28)	184.80** (61.83)
Governmental Filings[2]	-0.76* (0.41)	-0.70* (0.36)	-0.72** (0.38)							
Federal Filings				-0.98* (0.46)	-0.86* (0.48)	-0.85* (0.44)	-1.07** (0.42)	-0.98* (0.46)	0.99** (0.42)	-0.85* (0.45)
Real GDP (trillions)	-14.19** (2.49)	-13.07** (2.18)	-12.74** (2.28)	-12.87** (2.08)	-14.43** (2.17)					-10.66 (11.52)
Real GDP per capita (thousands)								-4.08** (0.65)	1.15 (3.01)	
Real income per capita (thousands)						-7.65** (1.20)	5.42 (7.40)			
Population in millions							-5.08 (2.85)		-3.83 (2.16)	
Controlling for										
• Joint Suits	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Time Trend	No	No	No	No	No	No	No	No	No	Yes
Number of observations	14	14	14	14	14	14	14	14	14	14

Standard deviation in parentheses
Real values in 2007 dollars
* significant at the 10% level
** significant at the 5% level

[1] Includes private, other, and unknown parties filings
[2] Includes federal, state, and local government filings
[3] Includes private, other, and unknown parties, as well as state and local government plaintiffs

tion. Specification 8-9 uses real GDP per capita and total population as independent variables.

Specifications 1–3 look at the effects of government filings. These filings have a negative effect on non-government filings and private filings, and are statistically significant at the 10% level. Specifications 4–10 look at the effects of federal filings. Federal filings also have a negative effect on private filings and non-federal filings, and are statistically significant at the 5% level and 10% level depending on the included explanatory variables. Federal filings decrease private filings by almost one (specifications 4 & 6–10). This finding supports the conclusion that private and federal suits behave like substitutes.

In specifications 1–5, real GDP has a negative impact on the number of suits used as dependent variables. This effect is unexpected: higher GDP should encourage more suits because higher GDP should translate into higher budgets and higher budgets should allow citizens to file more suits. However, the effect of real GDP is not statistically significant when controlling for time (specification 10); hence, the GDP picks up the same variations as the time trend and these variations could be linked to decreasing of valid CERCLA suits as new suits are filed.

In specifications 6 and 8, income per capita and real GDP per capita also have negative and statistically significant effects. However, in specification 7 and 9, these effects are

not statistically significant once the regression includes population levels. In these specifications, the size of the population has a negative but not statistically significant effect upon the number of private suits. These results are also unexpected but they could also mirror the time trend issue discussed with real GDP.

One alternative is that these unexpected negative effects of GDP, GDP per capita, and income per capita could come from an indirect effect. For example, as GDP increases, tax revenues increase as well, causing an increase in the CERCLA budget. Moreover, as the EPA budget increases, more EPA suits are filed thus decreasing the number of private suits.

To control for some of these endogeneity issues, Table 4 presents estimations using different estimation technics. Specification 1 presents the results of a first difference regression in order to control for some unobservable factors that may only affect private entities. The results show that a federal filing decreases private filings by more than one, and this effect is statistically significant at the 10% level. The GDP effect, however, is not significant. Specification 2 presents the results of fixed effect regression, which avoids the loss of one observation associated with first different estimations. The results show that a federal filing decreases a private filing by almost one, and this effect is statistically significant at the 5% level. The GDP effect is negative and statistically signifi-

cant. Both these regressions support the finding that public and private suits are more substitutes than complements.

Table 4 specifications 3–5 display the results of the regressions using different instruments as described in Equation 2. Specification 3 uses the EPA budget enacted and the size of the EPA workforce, measured in full-time equivalent as proxy for the EPA litigation budget. Specification 4 uses the size of the requested CERCLA funds and workforce, whereas specification 5 uses the size of the enacted CERCLA funds and workforce.

Since the EPA budget and workforce are inaccurate proxies for the CERCLA budget and workforce, specification 3 is expected to be the least accurate. Specification 4 yields what the EPA perceives will be its needs in the following year. Specification 5 ought to yield what Congress perceives the EPA's needs to be in the following year. Therefore, specification 4 should yield the most interesting results if the EPA files suits without regard for its budget. Specification 5 should yield interesting results if the EPA files suits based on its budget constraint.

While the results are not shown for shortness of exposition, the first stage of the two-stage least square estimation are not conclusive for the EPA enacted budget and CERCLA enacted budget. Only the requested CERCLA budget and the requested workforces returned statistically significant results. Thus, the EPA may focus on the suits that may be brought during that year, file the viable ones, and then request funds accordingly instead of limiting its action based on its budget when filing.[84]

In specification 3 and 4, the regressions show that federal filings decrease private filings and the effect is significant at the 5% level. The effects are nonetheless much larger than expected: one public suit discourages more than one private suit. Deterrence and the administrative process may explain why one EPA suits deters more than one private suit. One suit may encourage PRPs to clean before the private party can sue, hence encouraging settlements with the government before private parties can sue.

In specification 5, federal suits also decrease private filings but the results are not statistically significant.[85] To ensure

Table 4: Effects of Federal Filings on Private Suit Filings Using Non-OLS Regressions

	First difference	Fixed effects	EPA budget enacted	CERCLA budget requested	CERCLA budget enacted
			Private Party Filings as Dependent Variables		
			Two-stage least square Instrument: Budget and Workforce[1]		
Constant			417.58** (86.70)	327.57** (66.99)	506.98** (190.23)
Federal Filings	-1.04* (0.54)	0.98** (0.44)	-3.08** (1.08)	-1.94** (0.82)	-4.21 (2.40)
Real GDP (trillions in 2007 dollars)	-7.94 (9.66)	-12.87** (2.00)	-17.47** (2.89)	-14.96** (2.53)	-19.95** (5.61)
Controlling for:					
• Joint Suits	Yes	Yes	Yes	Yes	Yes
Number of Observations	13	14	14	14	14

Standard deviation in parentheses   ** significant at the 5% level
* significant at the 10% level   [1] In Full Time Equivalent

that the EPA does not plan its suits a year ahead of time, I ran a regression using enacted CERCLA budget and workforce lagged by a year (results not shown), but this regression does not return statistically significant results either.

All these results support that private suits are more substitutes for public suits than complements. The results are robust to changes in specification. Part III examines that not only the administrative process has rendered public and private suits substitutes but also that this process means that private suits are poor substitutes for public suits.

III. A Selection Process That Leads to Higher Settlement Rates

This Part investigates in further detail the relationship between cause of action and the identity of the plaintiff. This Part finds that not only are private causes of action substitutes for public causes of action—instead of complements—but also as a substitute these private causes of action suffer because the selection process of the public causes of action reveals something about the causes of action they did not decide to pursue. In other words, affording a first right of refusal to the public agent makes the cases it does not select harder to pursue.

To reach this conclusion, Part III proceeds in three parts. It first presents previous studies that have dealt with the impact of plaintiff identity on the suit outcome. Part III then discusses an empirical model and then presents the results of the model on CERCLA suits.

A.   Public and Private Entities do Not Settle at the Same Rate

Previous studies have investigated the impact of plaintiffs' identity on various litigation characteristics. Eisenberg and

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84. On top of the regressions presented in this Article, two stage least square regressions were run using as instrument the enacted EPA budget, the requested CERCLA budget, and the enacted CERCLA budget per capita. The results remain consistent and confirm that substitutability effect is robust to specifications (results not shown).

85. As explained, the first stage of the two-stage least square does not yield any significant results. Thus, EPA suits are not affected by its enacted budget and workforce and using these variables as instruments will not provide further insight.

Farber looked at how the identity of plaintiffs has affected trial and win rates among other issues.[86] First, in 1997, they developed a theoretical model to explain the suit selection process.[87] Eisenberg and Farber empirically tested their model on various types of civil cases (e.g., frauds, foreclosures, tort suits, etc.) filed between 1986 and 1994.[88] Using a probit model,[89] they estimated how the identity of plaintiffs and defendants affected the trial and win rates contrasting corporations with private individuals.[90] They found that private individual plaintiffs are more likely to go to trial than corporate plaintiffs and that private individual defendants are less likely to go to trial than corporate defendants.[91] They also tested the impact on the time parties took to settle a case and found that private individual defendants had a statistically significant and negative effect on the time required to reach a settlement.[92] They finally tested the impact on win rate and found that private individual plaintiffs have lower win rates than corporate plaintiffs and individual defendants have lower win rates than corporate defendants.[93]

Second, in 2003, Eisenberg and Farber furthered their hypothesis to compare government entities to individual private parties.[94] They built a theoretical model to explain how plaintiffs decide whether to file a suit, and hypothesized that the suit decision depends on damages, perceived winning probability, and litigation costs.[95] They contrasted how the government and individual parties differ—as plaintiff and defendant—along these variables and tested this model using tort and employment discrimination cases between 1979 and 2000.[96] Using probit estimations, they found that for personal injury and employment discrimination cases, the presence of a government entity had a positive and statistically significant effect on the trial rate. For personal injury cases, they also found that the presence of a government entity had a positive and statistically significant effect on the win rate, but it had a negative and statistically significant effect on the win rate in employment discrimination cases. In these cases, they found that the presence of a government entity as plain-

tiff had a positive and statistically significant effect on the win rate, but it had a negative and statistically significant effect on the trial rate.[97]

This Article uses the analysis provided by this 2003 Eisenberg & Farber paper and applies the same analysis to CERCLA suits. CERCLA procedures have peculiarities that favor the EPA as compared to private parties. This Article looks at this impact in more details.

B.   The Decision to Settle

This Article uses the decision model presented by Eisenberg and Farber in 2003. This section explains the intuition behind the model but, for greater details, refer to Eisenberg and Farber's article.

A plaintiff decides whether to file a suit by comparing (1) the expected outcome from filing a suit to, and (2) the expected outcome from not filling a suit. If the plaintiff decides to file a suit, it usually proceeds in one of two ways: (i) plaintiff and defendant settle out of court, or (ii) the parties proceed to trial and let the judge or jury decide the case. Before he files, the plaintiff places different beliefs over the probability of settling or going to trial. Beliefs are the idiosyncratic probability that the plaintiff puts on each event occurring.

If (1) the plaintiff files a suit and (i) settles out of court with the defendant, the plaintiff still pays a settlement cost, but he receives the settlement amount with certainty.

If (ii) the parties proceed to trial, it usually ends in one of two ways: (a) plaintiff wins, or (b) plaintiff loses.[98] If the plaintiff files a suit and (a) wins the case in court, plaintiff must pay litigation costs, but may recoup the requested damages. If (b) the plaintiff loses, plaintiff must still pay litigation costs and does not recoup anything. The plaintiff, therefore, makes an *ex-ante* decision over the chances of winning or losing.

The expected payoff from filing a suit is the payoff from each outcome: (i) settling; (ii)(a) going to court and winning; and (ii)(b) going to court and losing, as amplified by the belief probability that the plaintiff places upon each outcome occurring. Figure 2 depicts an extensive form game representation of the plaintiff's choices. The three actors (plaintiff, defendant, and judge/jury) are depicted with their respective decision. Using this diagram and working backward, a plaintiff can visualize whether to accept the settlement or not and whether to sue or not.

For a risk-neutral rational plaintiff, if the expected payoff of filing a suit is greater than the outside opportunity of not filing a suit, then the plaintiff will file. Similarly, if the expected payoff of settling is greater than the plaintiffs' expected payoff going to trial, then the plaintiff will settle. This comparison exercise can also be used for the plaintiff to

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86. Theodore Eisenberg & Henry S. Farber, *The Litigious Plaintiff Hypothesis: Case Selection and Resolution*, 28 Rand J. Econ. 92 (1997).

87. *Id.*

88. *Id.* at 99.

89. A probit model is a regression model where the dependent variable takes one of two values. For example, an event such as whether a case settles can be transferred into a variable with only two values: did not occur (0) and occurred (1). A probit model helps address some of the biases that would result from using an ordinary least square model to estimate an equation when the dependent variable is binary.

90. Eisenberg & Farber, *supra* note 86, at 102–03.

91. *Id.* at 106.

92. *Id.* at 106–07.

93. *Id.* at 109.

94. Theodore Eisenberg & Henry S. Farber, *The Government as Litigant: Further Tests of the Case Selection Model*, 5 Am. L. & Econ. Rev. 94 (2003).

95. *Id.* Although Eisenberg & Farber made the further link between litigation costs and parties' identity, other papers have previously focused on the damages and litigation costs. *See generally* Gary M. Fournier & Thomas W. Zuehlke, *Litigation and Settlement: An Empirical Approach*, 71 Rev. Econ. & Stat. 189 (1989). They developed a theoretical decision model whether to file a suit and estimated how damages and attorney's fees affected the settlement decision on a broad range of suits between 1979 and 1981. They found that damages had a positive and statistically significant effect on the settlement probability, whereas awarding attorney's fees had a negative and statistically significant effect.

96. Eisenberg & Farber, *supra* note 94, at 115–16.

97. *Id.* at 121–27.

98. A plaintiff may win the case but be awarded lower than requested damages, which could also be construed as a loss; however, this paper ignores this possibility for simplicity.

Figure 2. Extensive Game Representation of the Plaintiff's Decision to Sue
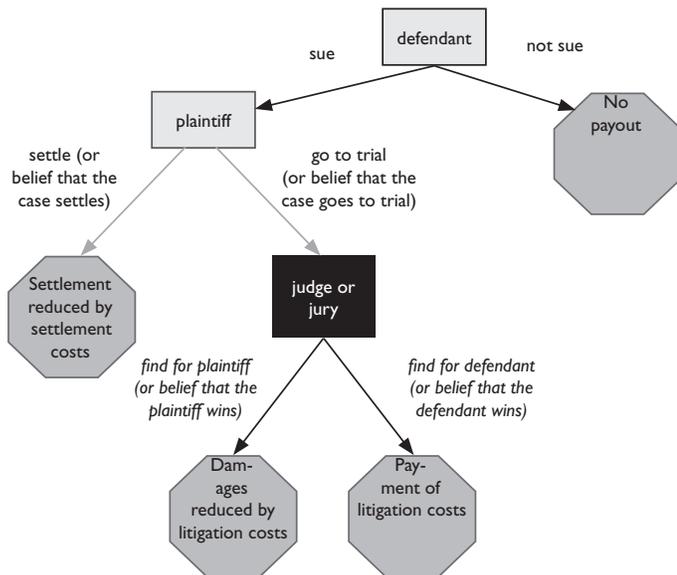
decide what settlement amount to accept, referred to as the threat value.

Once the plaintiff files the case, the defendant decides between (1) settling out of court, and (2) fighting the case in court. If the defendant wants to (1) settle, the defendant must pay the settlement costs and must, with certainty, pay the settlement. If the defendant (2) goes to court, two outcomes may occur: the defendant may (i) lose or (ii) win the case. If the defendant goes to (2) court and (i) loses, the defendant must pay both the damages and the litigation costs. If the defendant goes to (2) court and (ii) wins, the defendant only has to pay the litigation costs. The defendant forms and *ex-ante* belief about the probability of winning or losing the case. Figure 2 also depicts this decision and shows how the defendant can work backwards in order to decide whether to settle and, if so, what to offer. This is referred also as the threat value.

Whether the parties settle will depend upon the defendant's and the plaintiff's threat values. These threat values depend on the damages requested, the litigation costs, the settlement costs, and each party's belief about the probability that they will win the case.

Eisenberg and Farber found that each variable (damages, costs, and belief) has a direct and indirect effect on the trial rate.[99] For instance, if a plaintiff requests higher damages, going to court is more attractive to the plaintiff because there is more to win, but the defendant will prefer to settle because the defendant has more to lose. Eisenberg and Farber assume that the direct effect dominates the indirect effect. Based upon these assumptions, they hypothesize that, for a given suit, the trial rate will be lower when the plaintiff is a government entity for two reasons.[100] First, government entities have lower case valuation than private parties, as private parties

can have non-pecuniary reasons for suing.[101] Second, government entities select "high quality" cases, whereas private entities can only pursue cases for which they have standing.[102]

Eisenberg and Farber also hypothesize that the trial rate will be higher when the defendant is a government entity because: (1) government entities have lower litigation costs than private entities, since government entities have lawyers on staff that are paid at a lower rate than lawyers on an hourly rate or with a contingency fee;[103] (2) government lawyers are repeat players, who are able to learn-by-doing;[104] and (3) whereas private individuals are more fearful of litigation because the damages may bankrupt the defendant.[105]

This Article relies on the same assumption to test multiple hypotheses. In CERCLA cases, the procedures increase the settlement and trial rate in two ways. First, these procedures (such as the penalties in case of non-cooperation) increase the pre-filing settlement rates.

1. **Hypothesis 1**: *Having the EPA as plaintiff leads to higher likelihood of the parties reaching a pre-filing settlement.*

Second, other procedures (such as the first option to sue, civil penalties, etc.) assure that the EPA selects more winnable suits and hence has a higher settlement rate post-filing as well.

2. **Hypothesis 2**: *Having the EPA as plaintiff leads to higher likelihood of the parties reaching a settlement.*

Third, assessing whether a plaintiff wins a case is complicated if the plaintiff is awarded only a small portion of the damages sought. Instead, the data shows whether a case was dismissed voluntarily or involuntarily. As such, since the EPA selects more winnable suits, having the EPA as plaintiff should lead to fewer involuntary dismissals.

3. **Hypothesis 3**: *Having the EPA as plaintiff leads to lower likelihood that court dismisses the case.*

Finally, in CERCLA cases, private parties can sue the EPA to recoup the funds expended to clean a site. If the EPA selects cleanup options to optimize the Superfund use, it will not select the option that maximizes every single site. Therefore, the EPA as a defendant will likely have a higher trial rate to argue against unnecessary cleanup.

99.   Eisenberg & Farber, *supra* note 94, at 105–06.
100. *Id.* at 109, 113–14.

101. *Id.*
102. *Id.* at 107, 113–14 (using the context of the EEOC cases).
103. *Id.* at 109. The lower government litigation cost argument also implies that the government has a lower trial rate because the threat value is lower and hence they are more likely to reach a settlement.
104. *Id.*
105. *See id.*

4.   **Hypothesis 4**: *Having the EPA as defendant leads to higher likelihood that the case will be decided in court.*

The next section presents the results from the econometric analysis.

C.   Results

Table 5 shows the impact of the EPA as plaintiff on the likelihood of filing and reaching a concurrent settlement. A concurrent settlement is defined as a settlement filed or reached within a week of the case filing. A settlement that has been filed concurrently does not mean that it will be reached concurrently because, for instance, the court may reject the settlement if it is not in the best interest of the public. A case that has been filed without a settlement can also be settled concurrently if the parties and the court find a solution quickly.

These regressions show probit estimations using the marginal effects of the independent variables calculated at the mean. Specifications (1) and (2) show the effect of having the EPA as plaintiff on the likelihood that the parties filed a concurrent settlement. Specifications (3) and (4) show the effect of having the EPA as plaintiff on the likelihood that the parties reached a concurrent settlement. Specifications (1) and (3) do not include year dummies[106] whereas (2) and (4) include year dummies. Note that contrary to Eisenberg and Farber's estimates, the analysis in this Article does not include district dummies because there are fewer CERCLA suits filed than the employment or torts suits that they investigate. As a result, only a single CERCLA suit is filed in too many districts, and the results fail to converge when these dummies are included.

Table 5. Effect of Plaintiff Identity on the Likelihood of Concurrent Settlement, and Concurrent Settlement Filing (Normalized Probit Estimations)

	Filing a Concurrent Settlement		Reaching a Concurrent Settlement	
	(1)	(2)	(3)	(4)
ΔEPA Plaintiff	0.437**	0.422**	0.408**	0.398**
	(0.018)	(0.018)	(0.017)	(0.017)
Year of Filing	No	Yes	No	Yes
Number of Observations	2281	2281	2281	2281

Standard deviation in parentheses
** significant at the 5% level

Having the EPA as plaintiff has a positive and statistically significant effect on the likelihood of filing and of reaching a concurrent settlement. At the mean, having the EPA as plain-tiff increases both the likelihood of filing and of reaching a concurrent settlement by about 0.40 (or, in term of percent, by forty points). Year dummies slightly decrease this effect, but the difference is marginal. These results show that the EPA settles cases early in the lawsuit cycle. These results support Hypothesis 1.

Since concurrent settlements are observed, the analysis in Table 5 includes all the observations. However, the rest of the analysis focuses on the years 1994 to 2004 because, since the data was collected in 2008, a large portion of suits filed in or after 2005 remained pending at that time. It takes, on average, almost two fiscal years for parties to settle a case; almost three fiscal years for the court to dismiss a case; and even longer for a case to go to trial. As such, including these suits would bias the results because a number of observations would appear as if they have not reached a settlement when they may later have. Therefore, these later observations have been omitted from the analysis. This is why the rest of the analysis will focus on suits filed in or before 2004. Eisenberg and Farber dropped the last three years of data in their analysis for the same reason.[107]

Table 6: Effect of Plaintiff Identity on the Likelihood of Settlement and Court Dismissals (Normalized Probit Estimations)

	All Settlement		Court Dismissal	
	(1)	(2)	(3)	(4)
ΔEPA Plaintiff	0.618**	0.567**	-0.241**	-0.265**
	(0.030)	(0.031)	(0.023)	(0.023)
Year of Filing	No	Yes	No	Yes
Number of Observations	1961	1961	1961	1961

Standard deviation in parentheses
** significant at the 5% level

Table 6 shows the impact analysis of plaintiff identity on the settlement rate and the court dismissal rate. Specifications (1) and (2) show the plaintiff's identity impact on the likelihood that the parties filed a settlement. Specifications (3) and (4) show the plaintiff's identity impact on the likelihood that the court dismissed the case. Specifications (1) and (3) do not include year dummies, whereas (2) and (4) include year dummies.

On the one hand, having the EPA as plaintiff has a highly positive and statistically significant effect on the likelihood of settlement. The EPA is more likely to settle its cases than not. This finding supports Hypothesis 2.

On the other hand, having the EPA as plaintiff has a negative and statistically significant effect on the likelihood that the court dismisses the case; it decreases this likelihood by almost twenty-five percentage points. This shows that either the EPA is better able to build cases and hence defeat summary judgment than a non-EPA plaintiff or that the EPA

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106. Dummy variables, also known as indicator variables, are binary variables taking on the value 0 if the observation does not belong to the group and 1 if the observation belongs to the group. In this context, the dummy variable takes the value 0 if the observation did not occur during a given year and 1 if it did.

107. Eisenberg & Farber, *supra* note 94, at 116.

selects better cases. This deduction will be later refined. This observation lends support to hypothesis 3.

Finally, Table 7 shows the impact of plaintiff and defendant identity on the likelihood that the court makes a final decision on the case, which means that the court dismisses the case or renders a nonconsensual judgment.[108] Having the EPA as plaintiff has a positive and statistically significant effect on the likelihood that the court renders a final decision; it increases this likelihood by almost twenty percentage points. However, this is not evidence that the EPA prefers to rely on courts. As a matter of fact, having the EPA as plaintiff has a negative and statistically significant effect on the likelihood that the court renders a final decision; it decreases this likelihood by over twenty percentage points. As such, it means that the EPA plaintiff does not rely as much as other parties on courts to decide a case. These two observations support Hypothesis 4.

Table 7: Effect of Plaintiff and Defendant Identity on the Likelihood of Reaching a Final Court Decision (Normalized Probit Estimations)

	Court Renders the Final Decision			
	(1)	(2)	(3)	(4)
ΔEPA Plaintiff	-0.210** (0.024)	-0.259** (0.025)		
ΔEPA Defendant			0.224** (0.040)	0.190** (0.039)
Year of Filing	No	Yes	No	Yes
Number of Observations	1961	1961	1961	1961

Standard deviation in parentheses
** significant at the 5% level

The previous results focus on the EPA as plaintiff. The effects of the EPA as plaintiff remain consistent and support Hypotheses 1–4. However, to ensure that the procedures explain the high level of concurrent settlements, Table 8 shows results including other plaintiff types, namely plaintiffs that are government entities at the state or local level (non-EPA government) and plaintiffs that are private parties (entities that appeared to be companies, businesses, or corporations; individuals that did not clearly belong in another category; pieces of property; etc.).

Note that the plaintiff types in Table 8 are not mutually exclusive. For instance, 41.5% of suits that have a non-EPA government plaintiff also have the EPA as a plaintiff. All of the regressions in Table 8 include year dummies. Specifications (1) and (2) respectively look at the likelihood of filing and of reaching a concurrent settlement and, as such, include all observations. Specifications (3), (4), and (5) respectively look at the likelihood of reaching a settlement, of having the court dismiss the case, and of having the court either dismiss

the case or render a final judgment; these regressions include only the suits filed on or before 2004.

In specification (1) and (2), having the EPA as a plaintiff increases the likelihood of filing a concurrent settlement of reaching a concurrent settlement in a statistically significant way. In comparison, other government entities also have a positive and statistically significant effect on these two likelihoods, but the EPA's effect is almost twice the magnitude of the other government entities.

Other government entities share many similar characteristics with the EPA: they can select the suit they wish to pursue (within limits); they are repeat players; they have lawyers on staff; and they have the resources to sue. Other government entities, however, do not have the same procedural safeguards as the EPA. The EPA has an expertise advantage, but the difference between the effect of the EPA and other government entities is likely attributable to the CERCLA procedures. These results support Hypothesis 1 and its reasoning.

Having a private entity as a plaintiff, however, decreases the likelihood that the parties will file or reach a concurrent settlement. There is no statistically significant effect on the likelihood of filing or of reaching a concurrent settlement when the EPA is a defendant. Comparing the EPA as plaintiff and as defendant shows that the EPA does not, in general, prefer to settle cases before filing; but that the EPA as plaintiff has more tools (case selection, leverage, penalties, etc.) to reach these settlements.

In specification (3), having the EPA as plaintiff almost guarantees that the case will be settled. EPA as plaintiff has a positive and statistically significant effect on the likelihood that the parties will settle the case at any point, and it increases this likelihood by eighty-two percentage points. This supports Hypothesis 2. While having another government entity as plaintiff also has a positive and statistically significant effect on the settlement rate, the effect is much lower than when the EPA is the plaintiff. While the EPA can be better than other government entities at selecting cases, as shown previously, it also has procedures that encourage settlement that other government entities do not have.

By contrast to the EPA, the marginal effect of having a private party plaintiff is less than a third of the EPA's effect. Contrary to the EPA, private plaintiffs do not select which claims they can file because of standing.[109] The EPA seems to select cases that are more likely to settle and, therefore, ends up with a quick resolution in its favor. These results support Hypothesis 2.

Looking at specification (4) shows that having the EPA as plaintiff does not have a statistically significant effect on the rate of court dismissal. Approximately 7% of the EPA cases are dismissed by the court, which is around the average in Table 2. However, by comparison, when other government entities are a plaintiff, the likelihood that the court dismisses the case increases. When a private party is the plaintiff, the court dismisses the cases twice as often. Having the EPA as

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108. Consolidations, remanding, etc. are considered non-final and hence are not included in these regressions.

109. Non-profit organization may be able to select which suits to pursue; however, these entities are included in the "Other" category, which are not used in these regressions.

Table 8: Effect of Plaintiff and Defendant Identity on the Likelihood of Certain Outcomes (Normalized Probit Estimations)

	(1) Concurrent Settlement Filed	(2) Concurrent Settlement Reached	(3) Settlement Reached	(4) Court Dismissal	(5) Court Final Decision
Plaintiffs†					
EPA	0.253** (0.035)	0.227** (0.032)	0.824** (0.058)	-0.010 (0.038)	0.035 (0.043)
Non-EPA Government	0.139** (0.026)	0.123** (0.024)	0.532** (0.059)	0.118** (0.037)	0.122** (0.043)
Private	-0.158** (0.026)	-0.165** (0.024)	0.239** (0.055)	0.287** (0.035)	0.348** (0.042)
Defendants					
EPA	0.012 (0.029)	0.008 (0.028)	0.078 (0.048)	0.090** (0.041)	0.104** (0.039)
Number of Observations	2281	2281	1961	1961	1961

Standard deviation in parentheses
** significant at the 5% level

†These categories are non-mutually exclusives
Years of Filing controlled for all estimations

defendant, however, has a positive and statistically significant effect on the rate of court dismissal. These results support Hypothesis 4.

The results in specification (5) are similar to the results in specification (4): the EPA as plaintiff does not have a statistically significant effect on the likelihood that the court decides the case; other government entities as plaintiff has a positive effect on this likelihood; private parties as plaintiff also have a positive effect, which is much stronger than the effect of other government entities as plaintiff; having the EPA as defendant has a positive and statistically significant effect on the likelihood of having the court decide the case. These results support Hypothesis 4.

Specifications (4) and (5) show that the EPA as defendant does not have an effect on the likelihood of settling the case but has an effect on the likelihood that the court decides the case. When the EPA steps in as a defendant, it is because a private party has cleaned up a site and is attempting to recoup the cleanup costs. The EPA has little incentive to settle: the EPA saves litigation costs by settling, but EPA attorneys are on staff regardless of an individual suit, and by pursuing the claim, the EPA gains from a reduction in damages paid out of the Superfund. These results indicate that, as a defendant, the EPA is more litigious and more willing to go to court than non-EPA defendants.

The next section looks at the results and interprets them within the context of CERCLA enforcement. Public and private suits are more substitutes than complements and are not created equal.

IV. Policy Implications and Conclusions

This Part investigates in more detail the policy implications of CERCLA's public and private causes of action. Particularly, this Part argues that private causes of action were supposed to act as complements to public causes of action, but failed to fully reach this goal. Instead, private causes of action are second-class causes of action and suffer from numerous inefficiencies. However, these inefficiencies can be addressed.

A private cause of action was considered in CERCLA although it never made it into the final bill.[110] The SARA amendments aimed to clarify certain issues with CERCLA and to encourage settlements.[111] By creating an explicit right of contribution, it also clarified that a private cause of action existed under CERCLA.[112] Some courts had already interpreted CERCLA to have created this right, but some disagreement among courts lingered.[113] Following SARA, it became explicit.

Policymakers include private suits to empower private citizens to act when the government fails to properly enforce the law.[114] Private suits would be a complement to public suits to reach a socially efficient level of enforcement and hence indirectly deter potential polluters.[115]

Moving toward efficient deterrence usually involves either an increase in the level of liability or an increase in the level of enforcement. Under CERCLA, responsible parties are already strictly liable to assure that the potential polluters internalize the costs to society and are properly deterred.[116] Therefore, increasing liability would require some form of fines or punitive damages. While fines[117] and punitive damages[118] are already available for the EPA, increasing damages on PRPs may not serve the intended purpose. CERCLA environmental cleanup can be costly, and environmental damage is usually not covered by insurance.[119]

110. Frederick R. Anderson, *Negotiation and Informal Agency Action: The Case of Superfund*, 1985 Duke L.J. 261, 270 n. 21 (1985) (discussing the legislative history of CERCLA and the removal of the private rights from the final bill).

111. Robert B. McKinstry Jr., *The Role of State Little Superfunds in Allocation and Indemnity Actions Under the Comprehensive Environmental Response, Compensation and Liability Act*, 5 Vill. Envtl. L.J. 83, 100–01 (1994).

112. *Id.*

113. Jeffrey M. Gaba, *Recovering Hazardous Waste Cleanup Costs: The Private Cause of Action Under CERCLA*, 13 Ecology L.Q. 181, 196-99 (1986).

114. Patrick Thomas Michael III, *Natural Resource Damages Under CERCLA: The Emerging Champion of Environmental Enforcement*, 20 Pepperdine L. Rev. 185, 211–10 (1992).

115. *Id.* at 213.

116. Lynda J. Oswald, *Strict Liability of Individuals Under CERCLA: A Normative Analysis*, 20 B.C. Envtl. Aff. L. Rev. 579, 598–603 (1993) (discussing courts' interpretation of CERCLA liability and the legislative history that lead to the strict liability standard including the concerns over cost internalization and deterrence).

117. CERCLA carries a number of possible fines and criminal implications. *E.g.*, 42 U.S.C. § 9603(c) (2012) (fines of not more than $10,000 or not more than one year imprisonment for knowingly failing to notify EPA of hazardous material treatment, storage, or disposal); 42 U.S.C. § 9606(b)(I) (2012) (fines "not more than $25,000 for each day in which such violation occurs or such failure to comply continues").

118. Allowing for up to treble punitive damages 42 U.S.C. § 9607(c)(3) (2012).

119. *See, e.g.*, George Pendygraft et al., *Who Pays for Environmental Damage: Recent Developments in CERCLA Liability and Insurance Coverage Litigation*, 21 Ind.

Therefore, another way to reach better enforcement and deterrence is by allowing more cases to be filed. Because government entities have budget constraints, opening up the courts to private individuals can help bridge this gap.[120] Furthermore, private parties can provide more consistent deterrence insulated from political changes.[121]

These two causes of action differ in a number of respects,[122] but they are similar in one salient aspect: they can be used to enforce the same claims. Therefore, having two causes of action opens the door to two suits and other types of inefficiencies. In the case of CERCLA, two suits cannot be filed because private plaintiffs must notify the EPA, who will then elect whether to enforce the claim or let the private plaintiff pursue the claim.[123] This notice avoids duplicate suits, but does not prevent dual investigations and its accompanying waste of resources.

More alarmingly, private suits do not seem to fulfill their intended purpose. The results presented in Part II support the position that private claims do not respond in a complementary way to public filings. Instead, private actions are competing for the same claims. Therefore, the level of enforcement may remain suboptimal.

These results have, however, two limitations. First, the time series only contains fourteen years of data and does not provide information on CERCLA suits over its whole existence; hence, the results should be interpreted with care. Second, the data does not contain information on the total number of incidents or the total number of viable suits. This information is, unfortunately, not obtainable because of the latent and observable nature of certain contaminations. These results are, however, valuable in their simplicity.

Beside quantitative evidence, qualitative evidence also supports that the EPA and private parties compete for the same suits. The EPA brings suits according to a set of criterion that point to both private and public suits competing for the same claims.[124] For instance, the EPA puts priority on suits with expected damages above $200,000.[125] Private parties suffering from pollution are more likely to overcome the transaction costs associated with suing[126] for

high damage claims than with low damage claims. That is, plaintiffs are more likely to get an attorney willing to file a case when larger damages, and therefore larger attorney's fees, are at stake.

The analysis does not show how many public suits were brought because private individuals filed a notice with the EPA, and the EPA decided to exercise its right of first refusal. This right of first refusal is a double-edged sword. On the one hand, it avoids inefficiencies but on the other hand it creates others.

In particular, if a private party files a case, it is because the EPA has decided to reject the case. The PRPs may read into the EPA's decision that the case was not worth pursuing. Because the EPA is able to select cases, it should rationally leave private parties with harder cases, and as a result, the PRPs may be more willing to fight the case in court instead of settling. The results in Part III.C show that the EPA settles more cases, both before trial and overall, than private parties. The results also show that private individuals are more likely to have their case dismissed by the court or to go through a trial than any other type of plaintiff.

Unfortunately, the data does not allow distinguishing between the impact of the EPA selection process and of the added remedies' incentives.[127] Anecdotal evidence supports that the EPA selects cases that have stronger evidentiary basis and are easier to prove.[128]

While the EPA should not follow hopeless cases, private individuals should be able to reach a satisfactory outcome if they were allowed to pursue the case with better evidentiary support. When the EPA does not exercise its first option, it sends a signal about the evidence. Since this signal can incentivize defendants to hardily contest the claim, private parties could benefit from the EPA following a mixed strategy.

Arguably, social welfare and CERCLA private causes of action would benefit from private parties having the right of first refusal in two ways. First, the EPA would no longer be sending a signal about the quality of the case. Second, the EPA could act as a complementary enforcer instead of the primary enforcer. As a centralized social planner,[129] The EPA could re-focus its resources where decentralized private

L. Rev. 117 (1988) (discussing insurance coverage of CERCLA damages under the Comprehensive General Liability clause of insurances in Indiana); Brette S. Simon, *Environmental Insurance Coverage Under the Comprehensive General Liability Policy: Does the Personal Injury Endorsement Cover CERCLA Liability?*, 12 UCLA J. Envtl. L. & Pol'y 435 (1993) (discussing insurance coverage of CERCLA damages under the personal injury section of the standard Comprehensive General Liability clause of insurances).

120. Jason M. Basile, *Still No Remedy After All These Years: Plugging the Hole in the Law of Leaking Underground Storage Tanks*, 73 Indiana L.J. 675, 688 (1998) ("Handled properly, a statutory private right of action can be a very powerful and efficient tool. For instance, when a [underground storage tank leak] victim has the capability of suing to enforce the provisions of an environmental statute, it lessens the burden on (and cost to) the government. The government can act as a referee, rather than the driving force, throughout the litigation.").

121. Michael, *supra* note 114, at 212.

122. For instance, private parties cannot recover the fines. *See* discussion of *Pakootas v. Teck Cominco Metals, Ltd.*, *supra* note 43.

123. 42 U.S.C. § 9659(d)(1) (2012).

124. GAO Report, *supra* note 22, at 31–36.

125. *Id.* at 32.

126. These costs can include the litigation costs, settlement costs, organization multiple plaintiffs, etc.

127. The EPA seems to prefer settling as a plaintiff, but when the EPA is a defendant, it is more likely that the case will be decided in court.

128. GAO Report, *supra* note 22, at 33.

129. In *The Social Versus the Private Incentive to Bring Suit in a Costly Legal System*, 11 J. Legal Stud. 333 (1982) and in *The Fundamental Divergence between the Private and the Social Motive to Use the Legal System*, 26 J. Legal Stud. 575 (1997), Steven Shavell explored the difference between the incentives for private individuals and for a social welfare maximizer to bring a suit. On the one hand, the state and federal governments enforce laws to maximize societal welfare. These governments pursue retribution, incapacitation, deterrence, rehabilitation, and restoration as proxy means to maximize societal welfare. The benevolent social planner may also pursue fairness. *See generally* Louis Kaplow & Steven Shavell, *Fairness Versus Welfare*, 114 Harv. L. Rev. 961 (2000). On the other hand, private actors are self-interested and focus on restoring their welfare instead of deterring future infringements. When a private party sues for compensation, this party may involuntarily deter polluters; however, to deal with issues of recidivism, a private actor has more informal enforcements, which are often more efficient because they avoid lengthy and costly litigations (e.g., reputational damage). These informal mechanisms have limitations if the polluter is a one-time participant or becomes judgment proof.

parties are not acting and where the long-term gains can be improved.[130] The EPA would still receive notice of the suits,[131] but would provide support to private claims instead of bringing its own claims against those parties. The resources freed by enabling private parties to enforce against spills could be used by the EPA in other cases or used simply to follow and support private actions.

Furthermore, having a private cause of action provides incentives for private individuals to monitor environmental spills and report them to the EPA. This monitoring is valuable. If the EPA keeps frustrating private parties and leaving them with only the cases that PRPs will fight in court, the EPA could be deprived of valuable monitoring. Private parties could also benefit from additional incentives, such as collecting the civil fines from the actions.

Even if the selection process plays an important role, the EPA, as a plaintiff, can draw from different remedies to increase the likelihood of reaching a pre-trial settlement or a settlement in general. Having such a difference between public and private enforcement can lead to inconsistent enforcement and unclear deterrence because the PRPs do not know whether they will face the full enforcement action from the EPA or the limited scope from the private parties. If including a private cause of action can improve social welfare, and if settlement is more socially efficient, then private parties could benefit from having access to the same remedies (e.g., penalties) and procedures (e.g., shifting the burden of proof) to help them enforce CERCLA.

Before the 1986 SARA amendments, Congress identified a gap in enforcement. To fill that gap, it expressly created a private right of action.[132] The extent to which this goal has been reached is questionable. The procedures combined with the EPA selection process mean that the level of enforcement will remain suboptimal. If anything, private parties add to the cost of enforcement without being given much help. In attempting to reach optimal enforcement, Congress may have encouraged inefficiencies. Congress should reconsider these procedures if it truly intended the private bar to act as a complement to public actions instead of leaving the private bar with the cases the EPA does not wish to pursue.

In general, policymakers must decide whether to include a private cause of action when they create a public cause of action and vice versa. When these causes of action are complements, they can increase social welfare by reaching a more efficient enforcement level.[133] When causes of action are substitutes, they can create inefficiencies (e.g., dual investigations and race to the court). CERCLA represents a single example, but the foray of similar places where private and public entities compete for cases warrants further attention.

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130. Since private plaintiffs are (generally) not repeat plaintiffs, they do not worry about precedential value or deterrence. These differences impact how each entity selects and pursue cases.

131. The alternative would be preclusion: the first party to file the suit becomes the plaintiff. Preclusion may, however, encourage race to the court and inefficiencies.

132. *See generally* United States v. Atlantic Research Corp., 551 U.S. 128 (2007) (holding that the plain language of CERCLA § 107(a)(4)(B) provides for a private right of action).

133. For more theoretical discussion on this issue, see Kaplow & Shavell, *supra* note 129, at 976-99.