AN ECONOMIC MODEL OF THE FIDUCIARY'S DUTY OF LOYALTY

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In fiduciary relationships, the beneficiary typically entrusts the fiduciary with control over an asset whose management involves risk and uncertainty. Two distinct types of wrongdoing can occur in the fiduciary relationship: (i) appropriating the principal's asset or some of its value, or (ii) neglecting its management. The former is controlled by the duty of loyalty and the latter is controlled by the duty of care. This paper develops an economic model of the duty of loyalty.

The beneficiary would like the relationship to be governed by rules that compel the fiduciary to manage the asset in the beneficiary's best interests. However, the acts and results required of the fiduciary cannot be specified completely in advance, so the fiduciary's obligations are necessarily open-ended. The economic character of the fiduciary relationship thus poses the question: "How can one party be induced to do what is best for another without specifying exactly what is to be done?"

Economists have faced the general problem of designing incentive structures so that self-interest compels one party to do what is best for another. In these models, "principal" refers to the beneficiary, and "agent"
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refers to the benefactor. Previous articles on the fiduciary relationship have referred to the principal-agent model or drawn upon it implicitly, but none have done so systematically. This article adapts the principal-agent model to explain the legal rules implementing the fiduciary's duty of loyalty. These rules are viewed as the solution to an incentive problem.

Fiduciary relationships have occupied a significant body of Anglo-American law and jurisprudence for over 250 years. The paradigmatic forms are trustee-beneficiary, corporation-director/officer, principal-agent, and partner-partnership, but courts have emphasized that the categories are not closed. Numerous other relationships have been held to have a fiduciary aspect. In spite of a long history, fiduciary relationships remain a source of confusion and dispute. The economic model of the duty of loyalty can

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4. The seminal case is Keech v. Sanford (1726), Sel. Cas. T. King 61; 25 E.R. 223.


6. Persons held to be fiduciaries include receivers, managers, joint venturers, public officials and civil servants, solicitors, religious advisers, doctors, insurers, guardians, parents, stockbrokers, investment counsellors, bankers, controlling shareholders, employees, children, siblings, executors, and administrators, franchisers, and bailees.

7. There are few legal concepts more frequently invoked but less conceptually certain than that of the fiduciary relationship. In specific circumstances and in specific relationships, courts have no difficulty in imposing fiduciary obligations, but at a more fundamental level, the principle on which that obligation is based is unclear. Indeed, the term "fiduciary" has been described as "one of the most ill-defined, if not altogether misleading terms in our law"... It has been said that the fiduciary relationship is "a concept in search of a principle"... Some have suggested that the principles governing fiduciary obligations...
may indeed be undefinable ..., while others have doubted whether there can be any “universal, all-purpose definition of the fiduciary relationship” ...:


reduce the confusion and provide a clearer understanding of how the law works.

Appropriation-Incentive Model

A particular form of the principal-agent model, which we call the appropriation-incentive model, is central to understanding the fiduciary relationship. It illustrates what we call the "principal's dilemma." Assume the formation of a consensual relationship in which the principal relinquishes control or management of his asset to the agent. The asset can be cash, stock, land, patent, valuable information, a business opportunity, or a business enterprise. The separation of ownership from control or management creates opportunities for the agent to appropriate the asset or some of its value. Taking advantage of these opportunities is disloyal.

If information were perfect, disloyalty could be precluded by contract. In fiduciary relationships, however, the parties are unable to foresee the conditions under which one specific act produces better results than another. Chance events and unanticipated contingencies require continual recalculation to find the most productive acts. Promising results imposes a risk on the agent which he may be unwilling or unable to bear. Rather than stipulating specific conduct or definite results, the best articulation of the agent's obligation in these circumstances is general and open-ended. To illustrate, the agent may explicitly promise "best efforts" or "prudence," and the law may require "good faith," but the exact meaning of these terms is uncertain.

In general, the agent chooses between other-regarding acts, which the

principal prefers, and self-regarding acts, which benefit the agent at the principal's expense. Some self-regarding acts by agents are difficult for the principals to observe, such as secretly appropriating the asset or part of its value. Direct monitoring of the fiduciary by the principal may be prohibitively costly or require expert knowledge that is lacking. Since the principal cannot observe these acts directly, he must infer them from outcomes. The inference is imperfect because outcomes depend not just upon the act, but upon chance. To model chance, imagine that nature chooses a state of the world that is either good or bad for the asset's productivity. The asset's subsequent value depends upon the agent's choice of an act and nature's choice of a state. The interaction of conduct and chance prevents the principal from inferring the agent's act with certainty. Instead, the principal must guess whether the agent's act was other-regarding or self-regarding.

Figure 1 uses a decision tree to reduce the appropriation-incentive model to its minimal elements. At the first branching of the tree, the parties decide whether or not to form a relationship, which may consist of an explicit contract or an informal undertaking. If a relationship is formed, the principal

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Fig. 1: Appropriation Incentive Model

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places an asset worth 1 under the agent's control. At the second branching, nature chooses between a good or bad state of the world, which determines the relationship's productivity. In a good state, the relationship yields a large product, whereas a bad state causes a loss. To be concrete, we assume that a good state of nature yields a product of 1, and a bad state causes a loss of 1/2. Thus the initial investment of 1 increases to 2 in a good state and decreases to 1/2 in a bad state. At the third branching, the agent decides whether to appropriate some or all of the asset and report falsely, or conserve the asset and report truthfully.

Assume the principal knows the results in good and bad states, but cannot directly observe which state occurs. The principal must try to infer actual results from the agent's report. We are assuming that the principal knows the structure of the decision tree, but his only information regarding the path through it comes from the agent. (His dilemma would be even greater if he were uncertain about the decision tree's structure.)

The numbers at the terminals of the decision tree in Figure 1 indicate asset values reported by the agent, and the truth or falsity of the report. When the reported value is 2, the principal correctly infers which path was taken through the tree: a good state of nature, no appropriation, and accurate reporting by the agent. When the reported value is 0, the principal correctly infers a bad state of nature, appropriation, and false reporting. However, when the reported value is 1/2, the principal cannot distinguish bad luck from appropriation. He cannot tell whether the agent accurately reported the results of a bad state of nature or falsely reported after appropriation.9

Figure 2 regroups the numbers for the agent's report to emphasize the principal's dilemma. The principal cannot distinguish between the diagonal cells with the same value.

**Figure 2: Reported Asset Value**

<table>
<thead>
<tr>
<th>Nature</th>
<th>Agent</th>
<th>Nature</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>good</td>
<td>bad</td>
</tr>
<tr>
<td>other regarding</td>
<td>2</td>
<td>1/2</td>
</tr>
<tr>
<td>self-regarding</td>
<td>1/2</td>
<td>0</td>
</tr>
</tbody>
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9. To keep the numbers simple, Figure 1 limits the amount that the agent can appropriate to discrete values. More generally, it would be a continuous variable.
Figures 1 and 2 provide a concrete example of opportunistic behavior, which gains an immediate advantage for the agent while jeopardizing the on-going relationship with the principal. Varieties of opportunistic behavior that manifest disloyalty include appropriation, theft, diversion, conversion, and trespass. These risks are inherent in the principal-agent relationship. Eliminating these risks would require dissolution of the relationship by having the principal sell the asset to the agent, so that the latter bears all the risk associated with its misuse. This solution to the principal-agent problem, which is discussed in the literature, is often undesirable or infeasible.  

Deterring Disloyalty

Figure 1 gives specific form to the interaction of the three general characteristics of the fiduciary relationship: (i) separation of ownership from control or management, (ii) open-ended obligations, and (iii) asymmetrical information concerning acts and results. The gain to the agent from wrongdoing is substantial, due to characteristic (i). The probability of detecting and proving breach of obligations described by characteristic (ii) is small due to characteristic (iii). These facts create a serious problem of deterring wrongdoing.

10. The general form of such a perfect contract permits the active party to keep the entire product in exchange for paying a stipulated price to the passive party. To illustrate, procurement contracts may require delivery of the good at a predetermined price. Thus the procurer keeps the difference between the contract price and the cost of procuring the good. Similarly, research and development contracts may call for the developer to supply a new product at a stipulated price. Finally, bond financing of a corporation permits it to keep all profits after paying the stipulated principle and interest to bond holders. These examples of contracts with perfect incentives seem more like anonymous exchange than a relationship. In any case, this solution is usually infeasible because the agent lacks the capital to purchase the principal’s asset or cover the risk of loss. When feasible, the solution may be undesirable because it places all risk upon the agent, rather than sharing it between them. For a theorem on the form of perfect principal-agent contracts, see S. Shavell, “Risk Sharing and Incentives in the Principal and Agent Relationship,” 10 Bell J. Of Economics 55–73 (1979).

11. Roberta Romano’s empirical research shows that derivative actions against corporate directors are very infrequent. This must be partly due to problems of proof. (It could also be due to the absence of wrongdoing.) For Romano’s work in progress, see “The Dynamics of Shareholder Litigation: An Empirical Study,” (xerox of work in progress presented at Berkeley’s Law and Economics Seminar, spring, 1990).
Disgorgement is the usual remedy when the fiduciary appropriates part of
the value of the principal’s asset. \(12\) Perfect disgorgement can be defined as a
sanction that restores the wrongdoer to the same position that he would have
been in but for the wrong. Perfect disgorgement thus leaves the injurer no
better or worse off than if he had done no wrong.

Deterrence generally requires the expected sanction to equal or exceed the
gain from wrongdoing. By definition, the expected sanction equals the
sanction’s probability multiplied by its magnitude. If the actual sanction
approximates perfect disgorgement, its magnitude will be similar to the gain
from wrongdoing. In most civil disputes, the plaintiff must prove the
defendant’s wrongdoing. If the principal has the burden of detecting and
proving the agent’s breach of duty, the sanction’s probability will be low.
Consequently, perfect disgorgement and imperfect enforcement cause the
expected sanction to be less than the gain from wrongdoing.

A simple mathematical restatement clarifies this argument. The severity
of punishment can be measured by the amount that the sanction exceeds
perfect disgorgement. To capture this idea, define the “punitive multiple,”
denoted \(m\), as the ratio of the total sanction to perfect disgorgement. Thus a
punitive multiple of one \((m=1)\) indicates no punishment, whereas a punitive
multiple of two \((m=2)\) indicates that the sanction is twice as large as perfect
disgorgement damages. \(13\) Perfect disgorgement implies that the punitive
multiple equals one \((m=1)\).

Let \(p\) indicate the probability of holding the injurer liable. If the principal
has the burden of detecting and proving the agent’s breach of duty, then
characteristic (iii) implies that the sanction’s probability is less than one
\((p<1)\).

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\(12\) The equitable remedies of constructive trust, tracing, and accounting are all designed to
completely deprive the fiduciary of all gains resulting from his wrongful conduct. Other
remedies include requiring indemnification for losses, setting aside an improper
transaction or objectionable act, granting injunctive and declaratory relief, and awarding
prejudgment interest. For a detailed discussion of fiduciary remedies, see Paul D. Finn,
*Fiduciary Obligations* (1977); J. C. Shepherd, *The Law of Fiduciaries* (1981); Mark Ellis,

\(13\) Note that this definition of punishment measures its extent relative to the injurer’s
well-being, whereas the law more often measures the extent of punishment relative to the
victim’s well-being. “Punitive damages” usually refer to damages exceeding the amount
needed to compensate the victim. To distinguish the two meanings, we say “super-
disgorgement” when liability exceeds the baseline or injurer’s well-being but for the
wrong, and “super-compensation” when liability exceeds the baseline of the victim’s
well-being but for the wrong.
Deterrence requires the expected liability from appropriating $1 to equal or exceed $1, or \( pm \geq 1 \). If the principal has the burden of proving appropriation by the fiduciary, and if the remedy is perfect disgorgement, then the product of \( p \) times \( m \) is typically less than one \( (pm<1) \).

In general, if perfect disgorgement is the only sanction for appropriation by agents, and if detection and proof of appropriation occurs in less than 100% of cases, then appropriation pays the agent more than conserving the principal’s asset. Consequently, the remedy of perfect disgorgement cannot deter an agent from appropriating the principal’s asset. Similarly, a thief cannot be deterred simply by requiring him to return the stolen goods whenever he happens to get caught.

Contractual incentive structures such as profit sharing are insufficient deterrents to appropriation. To illustrate, suppose the agent’s remuneration is a fixed wage plus a share of the profit from the enterprise. A share of the profit is less than 100% of it, so conserving the profit and reporting truthfully pays the agent less than appropriating all of it and reporting falsely.

**Duty of Loyalty**

The economic characteristics of the fiduciary relationship thus pose the question, “How can wrongdoing be deterred when the law’s usual burdens of proof and sanctions fail?” The special legal consequences of the fiduciary relationship provide an answer. Fiduciary law creates a cluster of duties compendiously described as the duty of loyalty. The specific obligations comprising the duty of loyalty concern conflicts of interest between the principal and the fiduciary. Three types of transactions involving this conflict can be distinguished in the law.15

First, the fiduciary may transact with the principal without its informed consent. These cases involve a conflict of interest, and often involve secret self-dealing. For example, the fiduciary in his capacity as agent may contract with himself. Or the fiduciary may fail to disclose that he owns a company that sells an asset to the principal. Traditionally, there was no defense in such cases. The fiduciary was strictly barred from self-dealing without the

14. The simplifying assumption of risk neutrality is implicitly made here. If the wrongdoer were averse to risk, a smaller sanction would deter. If the wrongdoer were a risk lover, deterrence would require a larger sanction.

principal’s informed consent. More recently, however, the strict rules have been relaxed somewhat with respect to corporations. Corporate directors in the United States may be able to justify a self-interested transaction by proving that it was fair. Thus, a fiduciary who is proved to have purchased his own asset on behalf of the principal without its consent is either held to be disloyal without defense or has the burden of proving that he was not disloyal (“rule against self-dealing”).

Second, the fiduciary may transact with the principal with his consent or the consent of the court. Disputes in these cases usually concern the quality of disclosure and consent. The fiduciary must disclose all materially relevant facts to the principal. Should a dispute arise, the burden is on the fiduciary to prove that he made full and frank disclosure of all material facts (“rule regarding ad hoc agreements”).

Third, the fiduciary’s transaction with a third party may affect the principal’s interests. For example, the fiduciary may appropriate an opportunity belonging to the principal, compete against the principal, use the principal’s property in transactions with others, or use his position to transact with others. Some such transactions are strictly forbidden. For example, a fiduciary who receives a secret commission from a transaction on behalf of the principal is conclusively presumed to have been disloyal (“rule against secret profits”). Other such third party transactions are only permitted with the principal’s informed consent.


18. “If dual interests are to be served, the disclosure to be effective must lay bare the truth, without ambiguity of reservation, in all its stark significance,”: Wendt v. Fischer, 243 N.Y. 439, 154 N.E. 303 (1926); per Cardozo J. See Bogert on Trusts, Paul D. Finn, Fiduciary Obligations, (1977); J.C. Shepherd, The Law of Fiduciaries (1981); Mark Ellis, Fiduciary Duties in Canada (1988).

19. Ibid.

20. Ibid.
The duty of loyalty can be understood as a set of special rules to solve the problem of deterrence. To overcome asymmetrical information, the law infers disloyalty from the appearance of it. The inferences of disloyalty are based on the premise that a fiduciary will appropriate the principal's asset when it is in his self-interest to do so. These inferences alter the usual rules of tort liability either by shifting the burden of proof from plaintiff to defendant, or prohibiting the act in question. The two types of rules are called rebuttable and irrebuttable presumptions of disloyalty, respectively. These presumptions dramatically increase the probability $p$ of liability, so that $pm$ more nearly approaches 1.

Even so, the probability $p$ will inevitably remain less than one. Even a small error in enforcement probability $p$ undermines deterrence when the sanction is perfect disgorgement. Thus the power of fiduciary law to deter wrongdoing derives not just from the presumptions comprising the duty of loyalty, but from imperfections in disgorgement remedies. Disgorgement remedies often include an element of punishment, so that the defendant is left worse off than he would have been but for the wrong. The elements of punishment are as follows:

(i) A fiduciary is liable to indemnify the principal for any loss which exceeds the fiduciary's disgorged gain. The obligation to indemnify for losses may not be limited by foreseeability, causation and remoteness.\(^2\) This liability is in addition to disgorgement, and is thus a punitive sanction.\(^2\)

(ii) In some cases, a fiduciary may appropriate property which he could have obtained lawfully, either in the marketplace or through a voluntary bargain with the principal. If so, the fiduciary's gain from appropriation is the savings of the cost of substitution (obtaining the asset through alternative lawful means). If the fiduciary is obliged to disgorge the entire profit resulting from the use of the appropriated asset, the difference between the gain disgorged and the actual benefit from appropriation (the savings of the cost

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22. To illustrate, suppose the fiduciary sells the principal's asset for 60, which the principal receives, in order to obtain a secret commission of 20, even though an alternative buyer would have paid 100. In this case, the court may require the fiduciary to pay damages of 40 as indemnification, whereas perfect disgorgement damages equal 20.
of substitution) is a punitive element. In some cases, the courts limit the fiduciary's liability to disgorgement of a portion of the profits, but this does not happen in the majority of cases.

(iii) A fiduciary may allocate valuable time or effort to effect and conceal his cheating. In these circumstances, cheating has an opportunity cost. If the gain is disgorged, the value of the opportunity cost is also lost. The magnitude of this punitive sanction is the opportunity cost of the agent's resources spent on cheating.

(iv) A disloyalty fiduciary may be deprived of his remuneration.

(v) A disloyalty fiduciary will likely be terminated. This may result in the loss of a significant capital investment. A fiduciary may have invested significant effort and human capital in the relationship with the principal which may not be easily transferred to another relationship: for example, developing a personal relationship with the principal, learning about the

23. See E. Allen Farnsworth, "Your Loss or My Gain? The Dilemma of the Disgorgement Principle in Breach of Contract," 94 Yale L.J. 1339, 1340-1350 (1985). For example, a fiduciary appropriates $100 from his principal instead of borrowing it from a bank at 10% interest. The fiduciary invests the $100 for a year and makes a profit of $25. The fiduciary's actual gain from disloyalty is not the entire $25 profit, but only $10 (the interest he would have had to pay). If the fiduciary is required to disgorge the entire profit of $25, he is penalized $15.

To illustrate, suppose the fiduciary sells a service for 200 that is provided by secretly using capital equipment belonging to the principal. Further, suppose the fiduciary could have rented the capital equipment for 125. The court may force the fiduciary to disgorge 200, even though perfect disgorgement damages equal 75.

24. Where the fiduciary's profits are a result of the combination of misappropriated assets as well as other factors, such as the fiduciary's own assets or his effort and skill, the general rule is that the profits are apportioned. The fiduciary is liable only for the portion of the profits attributable to the misappropriated property. The onus of proving apportionment is on the fiduciary: Edge v. Jarvis 1 W.L.R. 815 (1958). Similarly, a gain which must be disgorged is calculated net of reasonable expenses incurred by the fiduciary to obtain it: MacBlo, Lac Minerals, and Edgar T. Albers Ltd. v. Mountjoy 16 O.R. (2nd) 682 (H.C.) (1977).

25. For example, a fiduciary may invest 100 in labor to obtain a secret commission of 200, and this investment may preclude obtaining a public commission of 150. Thus perfect disgorgement damages equal 50, yet the court may require the fiduciary to disgorge 200. Disgorgement involves a punitive element to the extent that the fiduciary cannot retain the remuneration, opportunities, or resources involved in self-dealing.

principal's business, or developing skills and knowledge necessary to perform his undertaking to the principal.

(vi) A fiduciary's faithful fulfillment of her undertaking enhances her reputation, which may have a significant economic value. Conversely, a finding of disloyalty may adversely affect the fiduciary's reputation, which may result in significant economic loss. Loss of reputation may be a significant punitive sanction.27

(vii) An important extra-judicial sanction for deterring fiduciaries from opportunistic behavior is the moral condemnation for disloyalty. Commentators often remark upon the ponderous language of moral censure in fiduciary cases.28 A fiduciary's honest fulfillment of his undertaking is rewarded with praise and enhanced reputation. Conversely, breach of the fiduciary rules of conduct is condemned as immoral.29 "[A]n allegation of breach of fiduciary duty carries with it the stench of dishonesty — if not of

27. The deterrent effect of loss of reputation is most effective when business relationships are long run and the participants are well known. Conversely, loss of reputation is least effective when anonymous businesspersons make short run contracts with each other, or when businesspersons are mobile and can leave a bad reputation behind. See Charles J. Goetz and Robert E. Scott, "Principles of Relational Contracts," 67 Virg. L. Rev. 1089–1150 (1981).

28. One of the most often quoted dictum is that of Mr. Justice Cardozo in Meinhard v. Salmon 249 N.Y. 450, 464; 164 N.E. 545, 546 (1928) (N.Y.C.A.):

Many forms of conduct permissible in a workaday world for those acting at arm's length, are forbidden to those bound by fiduciary ties. A trustee is held to something stricter than the morals of the market place. Not honesty alone, but the punctilio of an honor the most sensitive, is then the standard of behavior. As to this there has developed a tradition that is unbending and inveterate. Uncompromising rigidity has been the attitude of courts of equity when petitioned to undermine the rule of undivided loyalty by the "disintegrating erosion" of particular exceptions. Only thus has the level of conduct for fiduciaries been kept at a higher level than that trodden by the crowd. It will not consciously be lowered by any judgment of this court.

Clark says that courts use moral rhetoric to "create feelings of guilt for violation of duty and rectitude for fulfilment of duty...". (p. 75) He says that "moral approbrium seems to attach to misdeeds for which the usual market and legal controls will not provide adequate deterrence." (p. 78) Hetherington says that moral rhetoric is necessary to deter marginal behavior which might violate the legal standard because the standard is imprecise and uncertain. (p. 11).

29. Disloyalty may be viewed as immoral for three reasons: i) it is a nonconsensual appropriation of assets, analogous to theft, ii) it is an exploitation of the principal's reliance, trust, and vulnerability, analogous to fraud; and iii) it has the effect of undermining the vitality and utility of fiduciary relationships, which results in harm to society as a whole. See Anderson, supra note 7 at 746–7.
It "raises the spectre of intentional misbehaviour approaching fraud and not simply human error." Judicial statements regarding loyalty, fidelity, faithfulness, honor, and the high standards of behavior required of fiduciaries serve to emphasize the immorality of opportunistic acts. This may create a sense of guilt or shame on the part of the fiduciary. Avoidance of shame and guilt is a significant incentive for right-doing, and effective deterrent against wrongdoing.

Courts have also begun to deprive disloyal partners or joint venturers of their share of the venture's profits. Older authorities permitted a disloyal partner to retain his share of the partnership profits notwithstanding his attempt to appropriate them all. The express reason for imposing this punitive remedy is to deter disloyalty.

The traditional reluctance of courts to give punitive damages in contract disputes tends to shield fiduciaries from explicitly punitive damages. However, this reluctance may be weakening in cases involving breach of the duty of loyalty, at least in some American jurisdictions. Punitive damages

34. If by breaching an obligation of confidence, one party is able to acquire an asset entirely for itself, at a risk of only having to compensate the other for what the other would have received if a formal relationship between them were concluded, the former would be given a strong incentive to breach the obligation and acquire the asset. ... The imposition of a remedy which restores an asset to the party who would have acquired it but for the breach of fiduciary duties or duties of confidence acts as a deterrent to the breach of duty and strengthens the social fabric those duties are imposed to protect. — Lac Minerals, supra note 7 at 47–48.
in America are currently lawless in the sense that their award or magnitude cannot be predicted from knowledge of the law and the facts of the case. Lawlessness has little to recommend it.

Punitive damages could become more predictable and effective if rules were adopted as commended by the economic theory of deterrence. Recall that deterrence requires the expected sanction for appropriating a dollar to equal (or exceed) a dollar: \( pm = 1 \). Rewrite this equation in the form \( m = \frac{1}{p} \). This equation asserts that deterrence requires the punitive multiple to equal the reciprocal of the enforcement error.\(^{37}\) For example, if 1/2 of wrongdoers are sanctioned, the punitive multiple required for deterrence equals 2/1.

The rule of the reciprocal sets punitive damages at the level required to offset enforcement error and achieve deterrence. The punitive multiple in this equation should be interpreted as the sum of all elements of punishment, including the implicit punishments discussed above. Thus the strongest case for punitive damages can be made when the enforcement error is large and implicit punishments are small.\(^{38}\)

**Punishing Disloyalty?**

Why not deter disloyalty by punishing it? Criminal law requires plaintiff to prove defendant's wrongdoing beyond a reasonable doubt, the usual rules of liability law require proof by the preponderance of evidence, and the special rules of fiduciary law only require proving the appearance of disloyalty. Thus the burden on the plaintiff is heaviest in criminal law, moderate for the usual rules of liability, and lightest for the fiduciary's duty of loyalty. Similarly, criminal law generally imposes punitive sanctions, the usual rules of liability law require compensatory damages, and the rules of fiduciary law require disgorgement.Compensatory damages in tort and disgorgement damages in fiduciary law often have a hidden element of punishment, and the hidden punitive element in compensatory damages in tort law is probably larger than for disgorgement.\(^{39}\) In any case, the plaintiff's

38. For example, carefully concealed self-dealing by the fiduciary may have a small probability of detection, and the implicit punishment in the event of detection will be small if self-dealing did not use defendant's resources and he is unconcerned with reputation.
burden of proof correlates roughly with the magnitude of punishment when contrasting these forms of law.

This rough correlation is no accident. Every judicial process is prone to errors. The error of not punishing wrongdoers is called a "false negative," and the error of punishing people who did no wrong is called a "false positive." Decision rules embody a trade-off between these two kinds of errors. False positives are tolerable when the punitive element in the sanction is negligible, whereas severe punishment makes them intolerable. For example, imposing the burden of proving innocence upon the plaintiff is more acceptable when the sanction is disgorgement rather than criminal punishment.

The special rules comprising the fiduciary's duty of loyalty cause the probability of false negatives (not punishing the guilty) to fall precipitously, but the probability of false positives (punishing the innocent) rises steeply. Fiduciary law tolerates false positives in order to lower false negatives. The duty of loyalty represents a policy decision to tolerate false positives while keeping punishment low.

An economic justification for this decision must be found in the market for fiduciaries. The special rules comprising the duty of loyalty increase legal liability faced by fiduciaries. Many fiduciaries will respond by avoiding questionable conduct, ensuring that compliance with fiduciary rules is apparent and incontestable, and obtaining the consent of the principal or the court for self-dealing transactions. The fiduciaries' defensive behavior may reduce their productivity or cause them to forego personally advantageous activities.

Additional liability and defensive behavior to avoid it raise the cost of fiduciary services. In return, the principal has more confidence that the fiduciary will behave correctly. The economic justification for the special rules of fiduciary law rests upon demonstrating that the gain to principals from the decrease in wrongdoing by fiduciaries more than offsets the increase in the cost of fiduciary services.

The balance of gains and losses is different for different fiduciary relationships. To illustrate, corporate directors in the United States can engage in self-dealing transactions that are forbidden for trustees. Holding trustees to higher standards than directors makes economic sense. The same legal rule that imposes a light burden on a trustee might impose onerous restrictions upon a director. If corporate directors were held to the same standard as trustees, they might be less productive, or some able businessmen
might demand higher compensation to serve on corporate boards, or refuse to do so. The law responds by relaxing the obligations of directors relative to trustees.

An alternative to the current legal system would impose severe sanctions for wrongdoing by fiduciaries, but only after difficult standards of proof were met. Several objections can be raised against such a change.

(i) Principles of retributive justice require the severity of punishment to be commensurate with the seriousness of the wrong. Deterring fiduciary wrongdoing would require very large sanctions, if the standard of proof were high, which may violate conventional morality.

(ii) The effectiveness of a sanction is limited by the wealth of the fiduciary. Once a sanction exceeds the wealth of the fiduciary, it has no further deterrent effect so long as the fiduciary is willing to escape liability through bankruptcy.

(iii) Smaller sanctions reduce the burden of erroneous liability. The fiduciary who bears this risk will require additional compensation from the principal. A risk-averse fiduciary will require less compensation for a greater risk of a small sanction than a small risk of a large sanction, even though the expected values of the sanctions are the same.\(^\text{40}\)

(iv) Disloyalty may be deterred more effectively when punishment increases in probability rather than severity. In other words, deterrence may be more effective when a greater number of wrongdoers are punished, rather than severely punishing a smaller number.\(^\text{41}\)

(v) Fairness may argue in favor of distributing smaller sanctions among a larger number of wrongdoers rather than imposing larger sanctions on a smaller number of wrongdoers. The unjust burden of erroneous liability may be less when sanctions are smaller.

In any case, a satisfactory economic argument must rest upon the claim that the fiduciary relationship creates a larger surplus when fiduciaries face the high probability of a modest sanction for wrongdoing, rather than a severe sanction with a low probability.

\(^{40}\) The expected value of the risk is the probability of the error times the magnitude of the sanction.

\(^{41}\) In economic jargon, disloyalty may be more elastic with respect to probability than severity of punishment.
Conclusion

The economic model treats the fiduciary relationship as the combination of a deterrence problem and its solution. When the principal relinquishes control over an asset, the agent’s gain from wrongdoing is large and the probability of the principal proving it is small. This incentive problem is ameliorated by presuming appropriation in situations with its appearance. Fiduciary obligations sanction not only actual appropriation, but also conduct which is irrebuttably presumed to result in appropriation. The fiduciary’s duty of loyalty is special because it departs from the usual liability rules so as to decrease false negatives while increasing false positives.

The language used in many cases suggests that the duty of loyalty requires the fiduciary to subordinate his own interests to the beneficiary’s, so his motive must be purely other-regarding.42 In contrast, relationships that are not fiduciary may conflate self-regarding and other-regarding aims. This article shows that the duty of loyalty, far from violating the postulate of self-interested behavior, is based upon it. The premise of self-interested rationality, consistent with common sense and axiomatized in economics, is the guiding principal behind the duty of loyalty. The duty of loyalty must be understood as the law’s attempt to create an incentive structure in which the fiduciary’s self-interest directs him to act in the best interest of the beneficiary.