

Reputational self-governance and the reform of legal service markets

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1 Introduction

Markets for legal services are almost universally characterized by restrictions on market structures, self regulation and perceived high economic rents. However, the unique relationship between the judiciary, lawyers and the constitutional process, and the associated “political” power of the legal profession, has protected lawyers from the type of modernisation that has occurred in most professional services - the moot question is whether this has been for good or ill? Although there is an intensifying debate in most advanced countries centring on the sometimes archaic apparently self protecting structures and the quality of legal services, governments have proved very wary of changing the long-standing traditional structures that characterise the market. However, in response to a finding that the current regulatory framework for legal services was “outdated, inflexible, over-complex and insufficiently accountable and transparent”¹, the UK has decided to embark on a fundamental restructuring of the regulation of legal services and ownership structures. This includes replacing the traditional self regulation structure and allowing new ownership structures. These changes will take the UK legal services market into un-chartered territory (it will be unique in the ownership and management structures that will be allowed)². While welcomed by consumer groups, these changes are extremely controversial and have met with almost universal criticism by legal associations around the world. For example, “both large and small member states condemned the proposals

¹Department of Constitutional Affairs (2003).

²For example, the American Bar Association’s House of Delegates (the ABA’s decision making body) recently ignored the recommendations of its own commission and rejected the introduction of new business models.

as posing a grave threat to lawyers' independence" at the 2005 plenary session of the Council of the Bar and Law Societies of the EU.³

To a large extent the dispute between the parties concerns the potential conflict between the "adherence to ethical principles"⁴, and "duty to serve the administration of justice"⁵, what we might call professional mores on the one hand, and the introduction of new ownership and new regulatory structures to "best promote competition, innovation and the public and consumer interest"⁶, on the other. Therefore, the debate hinges on the way that the market for legal services can operate to provide, or fail to provide, protection for consumers and value for money, hand in hand with adherence to professional mores. The aim of this paper is to provide a simple framework within which to structure the debate. We take the view that the governance and self-governance of transactions that are as complicated and elusive as legal services is multi-faceted. Explicit and implicit contracts, reputations, relationships, networks (by which important information is transmitted) all play a role in supporting the, sometimes limited, degree of efficiency achieved in real markets. Professions as a whole can and do carry reputations as do individual firms and individual workers but all these forces do not necessarily simply add up, some may countervail others. To understand the effect of changes in the regulatory environment it is first necessary to understand how the structure hangs together as a whole.

To be specific, since courts find it difficult to determine the quality of delivered services that may be in dispute, these services are to a large extent, non-contractible⁷. Furthermore, many clients (notably private as opposed to large corporate), enter the market infrequently which makes it hard for them to assess quality ex-ante⁸. Such factors indicate that some clients may get poor quality for money and this is certainly borne out by anecdotal evidence. For example, a recent survey of dissatisfied legal customers found that the primary concerns were costs ("we feel that we were misled over costs from the very start") and poor business service as much as poor advice⁹. One can think of the equilibrium between a lawyer and an uninformed client, who does not have the ability to infer the quality of the services provided by a lawyer, as the "low quality-low price" benchmark that both clients and lawyers have an incentive to avoid. One potential

³Law Gazette (2005).

⁴Bar Association (2004).

⁵Law Society (2004).

⁶Clementi (2004a).

⁷See for instance Office of Fair Trading (2001).

⁸See for instance Clementi (2004b) and Office of Fair Trading (2001).

⁹Consumer Association (2004).

solution is for legal professions to try to find mechanisms to discipline each other in an attempt to improve quality delivered and hence improve the market and rents. This is what Tirole (1998) calls delegated exclusion. Alternatively, or in conjunction, private clients may try where possible to use reputation, from other purchasers and elsewhere, as a guide. A survey of factors determining choice of solicitor by private clients found that almost half of those surveyed either said that the firm had been recommended to them or they had chosen primarily on other grounds of reputation.¹⁰

We believe that a simple but informative segmentation of the market for legal services can be made using two types of clients: (i) infrequent use client and (ii) frequent users, such as corporate firms. In reality, of course, frequent clients are bound to differ from infrequent clients both by the repeated nature of interaction and in that they are likely to be able to better observe what it is that lawyers actually do. In this paper, however, we distinguish client type only by the frequency of interaction. Improving the information available is treated as a policy change.

As indicated, one potential mechanism could be delegated exclusion where lawyers are punished if they fail to offer good quality. How successful this can be depends on the ability of the delegation mechanism to exclude ex-post. Alternatively, information could be made available to clients that would allow them to better observe lawyers' actions. In this latter case, the market may be able to achieve a similar or better outcome than that achieved through delegated exclusion. In the infrequent users market, this will introduce the possibility that a lawyer, when paid above the basic contract, will indeed offer more than basic effort in response because she wishes to retain her reputation, which will be damaged if she reneges on the implicit agreement. Therefore, using a trigger strategy equilibrium with collective punishment (or direct exclusion), infrequent clients and lawyers can achieve an equally good outcome than that which is warranted by delegated exclusion. We refer to this as a reputational contract (or equilibrium).

A central point about such an equilibrium is that the client has to pay (or, in practice, agree the rate per hour) before the lawyer chooses an effort level. This is because the lawyer supplies services regularly but the client is not a regular purchaser. The lawyer's reputation has value for this reason (i.e., a lawyer's future earnings can be damaged by a clients dissatisfaction) but a client would always choose to renege on any arrangement that attempted to reward a lawyer for specific extra effort. A particular feature of reputational contracts of this form is that the equilibrium is "propped-up" by the lawyer's discount rate. Indeed, lawyers earn rent both in the reputational and in the

¹⁰Law Society (2000).

delegated exclusion scenarios, since it is the protection of future rents that prevents a lawyer from deviating from the adherence to ethical principles.

In contrast to infrequent clients, a large (e.g., corporate) purchaser will enter the market frequently, and so has the extra advantage that he can have an ongoing relationship with a lawyer. This enables some of the payment from client to lawyer to be conditional on specific actions (i.e., the client can pay a bonus), and (using a “bonus trigger strategy” such as that used in Gibbons and Murphy (1994) and Dixit (2004)) the client will not renege on this providing it is beneficial to stay in the relationship. The possibility of rewarding lawyers by means of relational bonuses equips frequent clients with an additional tool for disciplining lawyers, and results in clients and lawyers engaging in so-called relational contracts. A particular feature of relational contracts of this form is that the equilibrium is “propped-up” by the client’s discount rate rather than the lawyer’s. Therefore, “professional mores” may emerge in a relational equilibrium even when lawyers have very low discount factors, whereas only those lawyers with ‘high’ discount factors can retain professional mores in a reputational equilibrium. Moreover, in the relational equilibrium, lawyers earn no rents, and are therefore worse off than in the delegated exclusion scenario. Consequently lawyers will favour delegated exclusion (i.e., self regulation) over other forms of regulation which may allow the emergence of relational contracts in the market for frequent clients. In the paper we first consider the markets for frequent and infrequent users separately and then discuss the additional effects that may come into play when both types of clients interrelate in a single market.

Central concerns in the policy debate over the regulation of legal services (and many other professional services) have revolved around two types of regulation: (i) changes in regulation that may raise or set standards (identified as part of the objectives for regulation of the legal sector in Clementi Report (2004a)), and (ii) changes in the method of supply, notably along the lines of changing the legally approved business models, an issue which has been particularly contentious in legal services. We consider comparative statics that speak to these changes. Regulation that raises or sets standards can be interpreted as an increase the minimum that is contractible when purchasing services. We refer to this as an increase in accountability. The effects of the second type of regulation are more complex. Many of the legal suppliers argue that allowing non-lawyers to own legal firms will lead to short-termism and too much reliance on immediate profitability. For example, the Law Society (2004) claim that “there could be pressures in owner-managed firms to compromise fiduciary standards in order to achieve a desired

level of profitability”. One could think of this as a change in the type of lawyers in the market, specifically a reduction in the discount factor of lawyers in the market place. However, there is a view amongst many other parties that the exact opposite would happen. For example, the Clementi Report (2004b), when considering well-known commercial companies, argues that “unlike most high street solicitors, companies such as these have nationally known brand names to protect, which may be a powerful incentive to operate in a proper manner”. That is, allowing well known commercial brand names to own companies that provide legal services may introduce stronger reputational concerns for legal service providers. In this case outside ownership may be analogous to a rise in the discount factor of lawyers. We have no way of choosing between these alternatives but we analyze how changes in the discount factors affect outcomes.

Our main result is that regulatory changes will have complex and different effects in different markets. In particular, regulatory changes that aid infrequent clients may have opposite effects in markets that work through relational contracts. Moreover, allowing the different sub-markets to interact may introduce additional elements of tension between protecting the interests of different types of user of legal services.

Central to the paper is the distinction and interaction between reputational and relational sub-markets. The importance of relational aspects in contracting was first highlighted by Macalay (1963) and Macneil (1974). Early formal models of relational (or implicit) contracts include Shapiro and Stiglitz (1984), Bull (1987) and MacLeod and Malcolmson (1989). Baker, Gibbons and Murphy (1994), Schmidt and Schnitzler (1995) and Dixit (2004) study the interaction between relational and formal contracts in the presence of asymmetric information, showing that in different circumstances these may be either complements, or substitute. The role of reputations in inducing provision of higher quality of goods or services is studied in Klein and Leffler (1981), Greif (1993), Kreps (1990) Tirole (1996) and Tadelis (1999, 2002). Empirical studies include Banerjee and Duflo (2002) on reputational effects, and Johnson, McMillan and Woodruff (2002) on the interaction between the effectiveness of courts, and the ability of parties to engage in relational contracts.

The layout of the paper is as follows. The next section provides an outline of the core problem and the underlying model. Section 3 outlines the basic “status quo” solution which will either be a minimum contractible level with low price or a delegated exclusion outcome. Section 4 addresses policy changes. We consider how improving information but not contractibility and then how changing regulation to improve contractibility and accountability affects the equilibrium. Section 5 considers how these effects interrelate

when the different client types operate in a single market. An Appendix that provides a detailed derivation of the main equilibria characterized in the paper is available from the authors on request (Note: the Appendix is attached to this version for the referee and editor).

2 The Baseline “Status Quo” Solution

The inefficiency identified above is a profit opportunity for any organisation which can solve it and we suppose that the current status quo is one where this problem has been solved by legal professionals mutually disciplining each other by a system of what Tirole (1996) has called delegated exclusion. Indeed, the emergence of a mechanism of discipline/self-regulation appears natural within this context and falls within the emerging economic discussions of “governance”. In the words of Dixit (2004) “There are two problems which must be solved by large populations trying to resolve prisoners’ dilemmas: collecting and conveying information about previous cheating, and erecting a credible structure of punishments to deter cheating. As usual in economics, these problems also offer profit opportunities for individuals who can solve them. ... Business associations often collect and provide such information to their members. ... Outsiders do this for profit.”

Just about the worst penalty that a profession can impose on one of its members and therefore the most effective in enforcing good behaviour is to have them “struck off”. In other words, there is a system of occupational licensing and the licence of deviant members can be revoked. Members still have short term incentives to act opportunistically, but the loss of future earnings if struck off can counterbalance the opportunistic temptation if the lawyer is sufficiently patient and the losses from being struck off are sufficiently high. Lawyers themselves are deemed able to observe what other lawyers do and strike-off any of their number who do not supply an adequate service. We model the idea of lawyers’ self-regulation by assuming that all practicing lawyers must belong to a “Lawyers’ Association” (we have in mind of course the Bar Council and the Law Society), that can freely observe through the natural network of their mutual interactions the effort level exerted by each lawyer in every interaction with a client. We assume that lawyers are infinitely lived and have limited liability. Each lawyer has a discount factor $\delta \in [0, 1]$, and is matched with a client once per period.

Suppose that in order to maintain her membership to the association, each lawyer must exert a level of effort \tilde{a} whenever the client offers an up-front payment \tilde{s} for the service. If a client offers anything else than \tilde{s} , the lawyer’s effort is not restricted. If

a client offers \tilde{s} and the lawyer puts in a level of effort different from \tilde{a} , the lawyer is automatically excluded from the association.

We are looking for a “self-regulatory” equilibrium, where all lawyers exert \tilde{a} (and all clients pay \tilde{s}). In order for such an equilibrium to emerge, three conditions must be satisfied:

(I) Lawyer’s Participation Constraint (PC henceforth): each lawyer must be willing to provide her services, rather than opting out of the market.

(II) Lawyer’s Incentive Compatibility constraint (IC henceforth): given the rules imposed by the association, each lawyer must not be tempted to deviate (by putting in effort level different from \tilde{a}).

(III) Client’s PC: Given the equilibrium strategy followed by the lawyer, each client must find it optimal to offer an up-front payment \tilde{s} .

It is easy to show that the lawyer’s participation constraint is always strictly satisfied whenever her incentive compatibility constraint is (see the Appendix). The lawyer’s incentive compatibility constraint requires that

$$\frac{1}{1-\delta}(\tilde{s} - 0.5\tilde{a}^2) \geq \tilde{s} \quad (1)$$

i.e.

$$\tilde{s} \geq \frac{0.5\tilde{a}^2}{\delta} \quad (2)$$

Client’s PC: each client’s payoff is $\tilde{a} - \tilde{s}$. Notice that if a client decides not to offer a contract specifying an up-front payment \tilde{s} , his best option is that of offering no up-front payment at all (as the equilibrium does not restrict the lawyer’s actions when she is offered anything other than \tilde{s}). The client’s PC constraint is therefore given by

$$\tilde{a} \geq \tilde{s} \quad (3)$$

Putting together conditions (2) and (3), we see that the effort levels that can be sustained in a self-regulatory equilibrium must satisfy

$$2\delta \geq \tilde{a} \quad (4)$$

We concentrate on the self-regulatory equilibrium that maximizes clients’ payoffs. This is obtained by having the lawyer’s IC constraint hold with equality. Each client’s

payoff is then

$$\tilde{a} - \frac{0.5\tilde{a}^2}{\delta} \tag{5}$$

The equilibrium effort level maximizes (5) subject to (4)¹¹ and is therefore given by $\tilde{a} = \delta$. At equilibrium, each client's utility is 0.5δ , while the lawyer's payoff per period is $0.5\delta(1 - \delta)$. Hence, lawyers earn positive rents at equilibrium. This is all very familiar. The presence of rents for a long-lived seller of legal services is necessary to ensure that the opportunity cost of defection is sufficiently high to induce her to respect the implicit agreement undertaken with the buyer¹². For convenience we record this supposed status quo outcome as

Result 1: *Under a system of collective reputation, supported purely by a system of delegated exclusion, clients receive a payoff of 0.5δ and lawyers receive rents of $0.5\delta(1-\delta)$ per period.*

3 Legal Services Reform

This simple, stylized, status quo gives us a baseline from which to consider the possible impact of various changes to the regulatory regime. These are inspired by the Clementi proposals in the UK and various similar discussions currently occurring throughout Europe.

First, we remark that legal services come in disparate forms and there are important heterogeneities between clients. At one extreme there are *isolated* users, isolated both in the sense that they only interact with the legal system on a single occasion, or very few occasions, and that they have poor information and understanding on how the law works (and so are isolated from the experiences of their predecessors in similar situations). At the other extreme, there are major corporations who interact routinely with the law and lawyers and who may take few decisions without first checking them with lawyers. Such clients differ from isolated clients both by the repeated nature of interaction and in that they are likely to be able to better observe what it is that lawyers actually do. Initially however, we distinguish client type only by the frequency of interaction. Improving the information available is treated as a policy change. This is unrealistic but is convenient as a unifying expository device. We turn therefore to policy interventions, which are discussed separately for both types of clients denoted I for isolated or infrequent, and C for corporate. It should be noted that in what follows we consider a stylized setting in

¹¹Plus a number of consistency and non-negativity constraints, see the Appendix.

¹²See for instance Klein and Leffler (1981).

which the two types of clients operate in entirely separate markets. Discussion of the additional features introduced by allowing the two markets to interrelate is postponed to section 5.

3.1 Policy I: Admitting new suppliers of legal services not subject to internal disciplines of legal professionals.

Policy Ia. Newcomers are indistinguishable from existing (proper) lawyers

For both I and C clients, the “new” lawyers have, hereby by assumption, no mechanism to prevent opportunistic behaviour. Because indistinguishable from “real” lawyers, these arrivistes can make positive profits so long as the market retains its status quo form. This will result in clients paying for services that they often do not receive and the in the long run will imply that the price that clients are willing to pay for lawyer services will fall. This will also destroy the sustainability of non opportunistic behaviour by real lawyers since if the market is in a process of collapse, the incentives to make short term gains predominate over the gains from retaining membership of a moribund profession.

Policy Ib. Newcomers are distinguishable from existing (proper) lawyers

Here clients learn that only proper lawyers provide a good service. One might expect a transitory period in which new lawyers do get some clients, but after an initial transitory period the market should revert to the status quo.

Overall, therefore, policy 1*b* might be described as a debacle, while policy 1*a* might be described as a disaster.

3.2 Policy II: Enhancing information by making lawyer actions observable by clients

We now consider the impact of a policy that is directed at improving information. In practice this might involve establishing benchmarks, league tables etc. The feedback ratings on many internet marketplaces such as e-bay is a good example. A lawyer acting opportunistically can therefore get a bad feedback rating and may find it hard to get repeat clients. We model the policy¹³ as rendering the lawyer’s actions perfectly observable to clients¹⁴. This information is currently assumed to be entirely non-contractible,

¹³Another way of interpreting this policy is that those applying to supply legal services must be of sufficient standing that they can support reputational equilibria as described below.

¹⁴This is a strong assumption, introduced in the interest of simplicity. Modifications of the theory can deal with situations where the true level of performance by lawyers is only observed imperfectly. Specifically, one can construct equilibria in richer models in which no trade punishments are applied

an assumption that will be relaxed separately in section 4.3.

I clients: Given the availability of information, an equilibrium exists in which the same equilibrium as the status quo can be supported by what Tirole (1996) calls *direct*, rather than delegated exclusion. More specifically, communication between I clients creates a potential role for lawyer reputation. That is, the lawyer and the I clients can engage in a “reputational” contract (a trigger-strategy equilibrium sustained by a mechanism of multilateral punishment). Formally, a “reputational” contract (or equilibrium) is characterized by the variables (\hat{a}, \hat{s}) – where \hat{a} denotes the effort level exerted by the lawyer and $\hat{s} \geq 0$ denotes the (fixed) salary received by the lawyers along the equilibrium path – and takes the following form¹⁵:

Each I client proposes an up-front contract $pay = \hat{s}$ (denoted as contract c^{good}) if the lawyer has a good reputation, while he offers $pay = 0$ (denoted as contract c^{bad}) if the lawyer has a bad reputation.

A lawyer with a good reputation selects \hat{a} if she has been offered a contract c^{good} and reverts to statically optimizing behaviour otherwise. A lawyer has a good reputation if she has never dealt with I clients before or if she has exerted $a = \hat{a}$ in all previous periods in which she has been dealing with I clients and has been offered a contract c^{good} . No requirement is imposed on the lawyer’s behavior when offered a contract other than c^{good} .

In the same manner as the “self-regulatory” equilibrium studied above, a reputational contract needs to satisfy three constraints:

(I) Lawyer’s PC: the lawyer must be willing to engage in the reputational contract rather than opting out of the market.

(II) Lawyer’s IC: given the equilibrium strategy followed by clients, the lawyer must not be tempted to deviate (by putting in effort level different from \hat{a}).

(III) Client’s PC: Given the equilibrium strategy followed by the lawyer, each client must find it optimal to offer contract c^{good} .¹⁶

The characterization of the reputational contract mirrors that of the “self-regulatory” equilibrium derived above. As in that case, we concentrate on the equilibrium that

when bad signals are observed but last for only a finite period of time, or are only imposed by a fraction of the population of clients. Cabral (2005) gives a discussion and further details.

¹⁵Here and in what follows, we restrict attention to stationary contracts; because the game we consider is one of perfect information, this is without loss of generality (Abreu 1988).

¹⁶Note that it is always in the client’s interest to offer c^{bad} to a lawyer with a bad reputation.

maximizes client payoff. This is obtained by setting $\hat{a} = \delta$. Hence, just as in the “self-regulatory” equilibrium, in the reputational contract each client’s utility is 0.5δ , while the lawyer’s payoff per period is $0.5\delta(1 - \delta)$. Notice however that, as already mentioned, in contrast with the self-regulation case, here lawyer discipline is achieved by the clients’ threat to ostracize deviating lawyers (direct exclusion), rather than by exclusion from the association (delegated exclusion). At this level of analysis, there is no reason to suppose that both kinds of organisation cannot coexist, implying that in the I market the existing market for lawyers need not be much disturbed by the introduction of an information-enhancing policy. Importantly, under either form of organisation, the suppliers of legal services require relational rents to sustain non-opportunist behaviour.

C clients: We assume that a type C client is infinitely lived. Each C client’s discount factor (denoted as ρ) is assumed to be greater than or equal to the lawyer’s discount factor δ . This assumption reflects the notion that C clients are stable, long-run customers in the market and is the most interesting case to support our discussion. Each C client requires legal support once per period. Hence, with respect to the market for I clients (who require lawyer services only once), the market for C clients possesses the advantage that the lawyer repeatedly interacts with the same client. This introduces the possibility of a trigger-strategy equilibrium whereby the lawyer is offered an implicit-contract bonus (what the literature calls a “relational” bonus) whenever she complies with the implicit agreement (or “relational” contract) undertaken with the client. As we will see, this contributes to making cooperation between lawyer and client more easily sustained than in the market for I clients.

A relational contract (or equilibrium) is characterized by the variables $(\hat{A}, \hat{S}, \hat{B})$ – where \hat{A} denotes the effort level exerted by the lawyer, $\hat{S} \geq 0$ denotes the base salary, and $\hat{B} \geq 0$ denotes the implicit-contract bonus along the equilibrium path – and takes the following form:

(i) if the lawyer has provided effort level $a = \hat{A}$ in all past interactions (or if the lawyer has never previously interacted with the client), the client offers her a contract with a base salary \hat{S} every time he needs the lawyer’s services. In addition, provided that the lawyer also puts in $a = \hat{A}$ in the present interaction, the client pays her a relational bonus \hat{B} .

(ii) if the lawyer has failed to provide $a = \hat{A}$ in any of the previous interactions, the client offers a contract with zero base salary, and zero relational bonus in every period.

(iii) the lawyer puts in $a = \hat{A}$ in every interaction so long as the client has offered her a contract with a base salary \hat{S} and has paid her the relational bonus \hat{B} in every

previous period (or if the lawyer and the client have never interacted before).

(iv) the lawyer puts in $a = 0$ in every interaction otherwise.

A relational contract needs to satisfy the following four constraints:

(I) Lawyer's PC: The lawyer must be willing to engage in the relational contract.

(II) Lawyer's IC: Given the equilibrium strategy followed by clients, the lawyer must not be tempted to deviate (by putting in effort level different from \hat{a}).

(III) Client's PC: Each client must find it optimal to enter the relational contract.

(IV) Client's IC: The client must find it optimal to pay the bonus \hat{B} .

Notice that constraint (IV) was not present when discussing reputational contracts in the market for I clients. The intuition is that, because clients of type I only interact with the lawyer once, they have no incentive to pay the lawyer a discretionary bonus whenever she puts in the desired effort level. Hence, discretionary bonuses cannot possibly feature in a reputational equilibrium. In contrast, here the lawyer interacts with the same C client all the time. In this case, therefore, fear of future retaliation by the lawyer can act as an incentive for the client. In turn, this provides an additional tool to sustain cooperation in the market.

It is easy to show that the lawyer's (respectively, the client's) participation constraint is always weakly (strongly) satisfied whenever her (his) incentive compatibility constraint is (see the Appendix). Hence, we only need to concern ourselves with incentive compatibility. The lawyer's incentive compatibility constraint requires

$$\frac{1}{1-\delta}(\hat{S} + \hat{B} - 0.5\hat{A}^2) \geq \hat{S} \quad (6)$$

i.e.

$$\hat{B} \geq 0.5\hat{A}^2 - \delta\hat{S} \quad (7)$$

Client's IC: the client prefers to pay the bonus \hat{B} rather than deviate from the relational contract if

$$\frac{1}{1-\rho}(\hat{A} - \hat{S} - \hat{B}) \geq \hat{a} - \hat{S} \quad (8)$$

i.e.

$$\rho(\hat{A} - \hat{S}) \geq \hat{B} \quad (9)$$

From (9) and (7) we see that the effort levels that can be sustained in a reputational contract must satisfy

$$\rho\hat{A} - 0.5\hat{A}^2 \geq \hat{S}(\rho - \delta) \quad (10)$$

For any given \hat{S} , and \hat{A} , the client's payoff is maximized by having (7) hold with equality. In that case, the client's payoff is given by

$$\hat{A} - 0.5\hat{A}^2 + \delta\hat{S} - \hat{S} \quad (11)$$

The client maximizes (11) subject to (10)¹⁷. The equilibrium effort level satisfies

$$\hat{A} = \begin{cases} 1 & \text{if } \rho \geq 1/2 \\ 2\rho & \text{otherwise} \end{cases}$$

Because $\rho \geq \delta$, it is easy to see that the effort level (and the total surplus) that results in the C market under policy II is always higher than that which results in the I market, and in the self-regulatory equilibrium. Moreover, in the relational equilibrium, the lawyer is kept onto her reservation utility (and therefore obtains less than in the I market equilibrium, where she earns positive rents). Intuitively, this is because the relational bonus softens the lawyer's incentive compatibility constraint. Hence, in the C market the lawyer can be disciplined while earning no rents. Together, these two results – namely that $\hat{A} > \hat{a}$ and that lawyers earn no rents in the C market – imply that the utility obtained by clients in the C market under enhanced information is strictly greater than that obtained in the I market, and is therefore also strictly greater than what clients obtain in the baseline “status quo” scenario. This suggests that with enhanced information, in the C market we should expect the relational equilibrium to overcome the self-regulatory equilibrium. In this case, enhanced information allows a form of “market discipline” to emerge, that improves the clients' position with respect to the “status quo”, self-regulatory scenario.

Importantly, it should be noted that while the reputational equilibrium that emerges in the I market and the self-enforcing equilibrium that emerges under the status quo are entirely characterized by the lawyer's discount factor δ , in the relational equilibrium achieved in the C market under policy II δ plays no role, and everything depends on the client's discount factor, ρ . This is because in the C market the lawyer is disciplined not by the threat of forgoing future business, but by the desire to receive the relational bonus \hat{B} in the present period.

¹⁷Plus a number of consistency and non-negativity constraints, see the Appendix.

3.2.1 Summary

The analysis above brings us to the following result:

First, facilitating entry is futile unless reputational mechanisms are sufficient to discipline those providing legal services. Second, when clients do have sufficient information, an important distinction emerges between I and C clients. While the availability of better information leaves the welfare of I clients unchanged, C clients benefit from being empowered with the superior information because this allows them to endogenously incentivise lawyers without having to provide them with reputational rents. This leads to a reduction in rents to lawyers. We summarise this in Result 1:

Result 2: *Facilitating entry will not increase client or lawyer welfare, and might in some cases decrease it (case Ia). Information about lawyer’s actions leaves the welfare of clients and lawyers unchanged in the I market. In the C market, information about lawyer’s actions improves client welfare and decreases lawyer welfare; total surplus also increases.*

3.3 Policy III: Enhancing the contracting basis

As indicated in the introduction, one way to think about modelling regulation that raises or sets standards is to interpret it as an increase in accountability and therefore an increase in what is contractible when purchasing services. We follow this route in this section. In this context accountability is equivalent to partial verifiability¹⁸ of the lawyer’s effort. This introduces the possibility for clients to write explicit contracts where the lawyer’s compensation is contingent on some verifiable measure of effort. We suppose that partial verifiability takes the form that a court of law can costlessly verify whether a is above or below a certain threshold level \underline{a} . An alternative, superficially more attractive way capturing the impact of increased accountability would be to allow for lawyer actions to be multidimensional and introduce a contractible measure of what lawyers do which is imperfectly aligned to (or is an imperfect measure of) the objectives of clients. This is along the lines of Dixit (2004). The results we obtain in the simple, one-dimensional case turn out very much the same as in the multidimensional, imperfect measure case. In both instances, what matters is how close the available measure of performance is to the implemented policy (as measured by the projection of the policy onto the linear set defined by the measure).

¹⁸In what follows, we will use the expressions “partial verifiability” and “raised accountability” interchangeably, as indicating the same concept.

We restrict attention to $\underline{a} < a^* = 1$, and consider the effect of verifiability for each type of client in turn. First, we disengage policy II and consider policy III in isolation. We then analyze the impact of implementing policy III in conjunction with policy II.

3.3.1 Policy III alone

When lawyer's actions cannot be directly observed by clients, raising accountability introduces the possibility of achieving cooperation by means of an explicit contract (denoted as c^E) Within this context, an explicit contract specifies a payment w offered to the lawyer whenever $a \geq \underline{a}$. The lawyer will select $a = \underline{a}$ whenever

$$w - 0.5\underline{a}^2 \geq 0 \tag{12}$$

i.e.

$$w \geq 0.5\underline{a}^2 \tag{13}$$

Given sufficient competition, (13) holds with equality. Clients will be willing to engage in the explicit contract (and pay $w = 0.5\underline{a}^2$) if

$$\underline{a} \geq 0.5\underline{a}^2 \tag{14}$$

Whenever condition (14) is satisfied, the explicit contract c^E allows clients to obtain non-negative utility.

In what follows, we restrict attention to situations where condition (14) holds (indeed, any \underline{a} less than the first best level suffices). When c^E is used, the equilibrium payoff for the lawyer is 0, while the payoff for each I client is $\underline{a} - 0.5\underline{a}^2$.

The possibility of utilizing an explicit contract affects the client's participation constraint when dealing with "self-regulating" lawyers. In particular, clients may now resort to c^E , instead of relying on the self-regulating mechanism implemented by lawyers. Recall that each client's payoff in the self-regulating equilibrium is 0.5δ . This brings us to our third result:

Result 3: *In the absence of information about lawyer's actions, improved accountability increases the client's utility (and decreases the lawyer's utility) if and only if $\underline{a}(1 - 0.5\underline{a}) > 0.5\delta$, and leaves client (and lawyer) utility unchanged otherwise.*

3.3.2 Policy II and III together

We now characterize the effect of introducing policy III in the presence of information about lawyer's actions.

I Clients: In the market for I clients, increased accountability introduces the possibility of implementing a modification of the reputational contract seen above. A reputational contract is now characterized by $(\hat{a}, \hat{s}, \hat{w})$, where $\hat{w} \geq 0$ denotes the explicit contract bonus paid whenever the lawyer's effort is $\geq \underline{a}$.

The explicit contract offered along the equilibrium path, c^{good} , is now given by

$$pay = \begin{cases} \hat{s} + \hat{w} & \text{if } a \geq \underline{a} \\ \hat{s} & \text{otherwise} \end{cases}$$

Here, we restrict attention to $\hat{w} \geq 0.5\underline{a}^2$ (as shown in the Appendix, this is without loss of generality). Also, we concentrate on characterizing reputational contracts that implement $\hat{a} \geq \underline{a}$. This is because any reputational contract implementing $\hat{a} < \underline{a}$ is necessarily strictly dominated by the explicit contract c^E .

Notice that if a N client decides not to offer c^{good} , his best alternative is that of offering c^E . Therefore, at equilibrium a lawyer with a bad reputation is offered an explicit contract c^E .

As in Section 4.2, the reputational contract needs to satisfy three constraints, namely (I) Lawyer's PC, (II) Lawyer's IC and (III) Client's PC.

The lawyer's PC constraint is always strictly satisfied whenever her incentive compatibility constraint is; hence, we only need to concentrate on the latter. Notice that, as $\hat{w} \geq 0.5\underline{a}^2$, a lawyer who decides to cheat on the reputational contract can maximize her present payoff by selecting $a = \underline{a}$. The lawyer's incentive compatibility constraint is therefore given by:

$$\frac{1}{1-\delta}(\hat{s} + \hat{w} - 0.5\hat{a}^2) \geq \hat{s} + \hat{w} - 0.5\underline{a}^2 \quad (15)$$

i.e.

$$\hat{s} + \hat{w} \geq \frac{\hat{a}^2 - \underline{a}^2(1-\delta)}{2\delta} \quad (16)$$

Comparing this with the equivalent constraint under non-verifiability:

$$\hat{s} \geq \frac{0.5\hat{a}^2}{\delta} \quad (17)$$

we see that the total lawyer compensation per period required to discipline the lawyer under raised accountability is strictly smaller than under non-verifiability. This is reminiscent of the findings of Baker, Gibbons and Murphy (1994), who in a model with asymmetric information and imperfect performance measure show that formal and implicit contracts may under some circumstances complement each other.

Client's PC: In contrast with the case in which effort is entirely non-verifiable, now the client's PC requires that each N client must prefer offering c^{good} (that is, engage in the reputational contract) to offering c^E (and only rely on an explicit contract). The client's participation constraint is therefore given by:

$$\hat{a} - \hat{s} - \hat{w} \geq \underline{a} - 0.5\underline{a}^2 \quad (18)$$

i.e.

$$\hat{a} - \underline{a} + 0.5\underline{a}^2 \geq \hat{s} + \hat{w} \quad (19)$$

Conditions (19) and (16) are mutually consistent if:

$$\hat{a} - \underline{a} + 0.5\underline{a}^2 \geq \frac{\hat{a}^2 - \underline{a}^2(1 - \delta)}{2\delta} \quad (20)$$

i.e.

$$2\delta - \underline{a} \geq \hat{a} \quad (21)$$

As in the previous section, we concentrate on the equilibrium yielding the highest payoff to clients. This is obtained by having the lawyer's IC constraint bind. When this is the case, each client obtains:

$$\hat{a} - \frac{\hat{a}^2 - \underline{a}^2(1 - \delta)}{2\delta} \quad (22)$$

The equilibrium effort level maximizes (22) subject to (21)¹⁹ and is therefore given by:

$$\hat{a}^v = \begin{cases} \delta & \text{if } \underline{a} < \delta \\ \underline{a} & \text{if } \underline{a} \geq \delta \end{cases}$$

¹⁹Plus a number of consistency and non-negativity constraints, see the Appendix.

Each client obtains:

$$U_{client} = \begin{cases} 0.5\delta + \underline{a}^2 \frac{1-\delta}{2\delta} & \text{if } \underline{a} < \delta \\ \underline{a} - 0.5\underline{a}^2 & \text{if } \underline{a} \geq \delta \end{cases}$$

The lawyer's per-period payoff is given by:

$$U_{lawyer} = \begin{cases} \left(0.5\delta - \frac{\underline{a}^2}{2\delta}\right)(1-\delta) & \text{if } \underline{a} < \delta \\ 0 & \text{if } \underline{a} \geq \delta \end{cases} \quad (23)$$

Recall that under the status quo we had $\hat{a} = \delta$, $U_{client} = 0.5\delta$ and $U_{lawyer} = 0.5\delta(1-\delta)$. It is straightforward to show that:

Result 4: *In the presence of information about lawyer's actions, in the I market enhanced accountability increases client utility (and total surplus), and decreases lawyer utility.*

In subsequent sections, we will consider more carefully the interaction between the sub-markets populated by different types of clients. In that case, the rents available to lawyers in one sector of the market can impact on what forms of implicit contracts are feasible in another part of the market. Before turning to this discussion, we consider how policy III impacts the market for C clients under enhanced information about lawyer's actions.

C clients A relational contract is now defined by $(\hat{A}, \hat{S}, \hat{B}, \hat{W})$, where $\hat{W} \geq 0$ denotes the explicit contract bonus paid whenever the lawyer's effort is $\geq \underline{a}$. As in the the previous subsection, we only consider $\hat{A} \geq \underline{a}$ and restrict attention to $\hat{W} \geq 0.5\underline{a}^2$ (shown in the Appendix to be without loss of generality).

As in Section 4.2, the reputational contract needs to satisfy four constraints, namely (I) Lawyer's PC, (II) Lawyer's IC, (III) Client's PC and (IV) Client's IC.

We only need to concentrate on the lawyer and the client's incentive compatibility constraints. The lawyer's incentive compatibility constraint requires:

$$\frac{1}{1-\delta}(\hat{S} + \hat{B} + \hat{W} - 0.5\hat{A}^2) \geq \hat{S} + \hat{W} - 0.5\underline{a}^2 \quad (24)$$

i.e.

$$\hat{B} \geq 0.5\hat{A}^2 - 0.5\underline{a}^2(1-\delta) - \delta(\hat{W} + \hat{S}) \quad (25)$$

In the same manner as Baker, Gibbons and Murphy (1994) and Dixit (2004), we assume that if the client cheats on the relational agreement, the lawyer would refuse to participate in any future implicit contract but would be willing to consider explicit contracts and would accept an explicit contract if it were sufficiently attractive (i.e. giving her utility at least as high as her reservation utility, here set at 0). The client's incentive compatibility constraint is therefore given by:

$$\frac{1}{1-\rho}(\widehat{A} - \widehat{S} - \widehat{B} - \widehat{W}) \geq \widehat{A} - \widehat{S} - \widehat{W} + \frac{\rho}{1-\rho}(\underline{a} - 0.5\underline{a}^2) \quad (26)$$

i.e.

$$(\widehat{A} - \widehat{S} - \widehat{W} - \underline{a} + 0.5\underline{a}^2)\rho \geq \widehat{B} \quad (27)$$

Conditions (25) and (27) are mutually consistent if

$$\rho\widehat{A} - 0.5\widehat{A}^2 - \rho\underline{a} + 0.5\underline{a}^2(\rho + 1 - \delta) \geq (\widehat{S} + \widehat{W})(\rho - \delta) \quad (28)$$

For any given \widehat{S} , \widehat{W} and \widehat{A} , the client's payoff is maximized by having (25) hold with equality. In this case, the client's payoff is

$$\widehat{A} - 0.5\widehat{A}^2 - (\widehat{S} + \widehat{W})(1 - \delta) + 0.5\underline{a}^2(1 - \delta) \quad (29)$$

The client maximizes (29) subject to (28)²⁰. As in section 4.2 at equilibrium the lawyer earns no rents. The equilibrium effort level satisfies

$$\widehat{A}_v = \begin{cases} 1 & \text{if } 2\rho - 1 \geq \underline{a} \\ 2\rho - \underline{a} & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} & \text{if } \underline{a} \geq \rho \end{cases} \quad (30)$$

Comparing (30) with the equivalent requirement under full non-verifiability:

$$\widehat{A}_{nv} = \begin{cases} 1 & \text{if } 2\rho - 1 \geq 0 \\ 2\rho & \text{otherwise} \end{cases} \quad (31)$$

we see that the only situation in which raising accountability increases effort is when $\widehat{A}_v = \underline{a}$, $\widehat{A}_{nv} = 2\rho$ and $\underline{a} > 2\rho$. Notice that because the client obtains the whole surplus generated by the service, verifiability increases the client's welfare if and only if it increases \widehat{A} . This brings us to the following result:

²⁰Plus a number of consistency and non-negativity constraints, see the Appendix.

Result 5: *In the presence of information about lawyer's actions, in the C market enhanced accountability increases client utility and total surplus if and only if $\underline{a} > 2\rho$, and decreases them otherwise. Lawyer utility is unchanged.*

To understand the result, it is instructive to compare the constraints placed upon what can be achieved by a reputational contract in this environment with those obtained when nothing is verifiable.

The lawyer's incentive compatibility constraint is:

$$\begin{aligned}\widehat{B} &\geq 0.5\widehat{A}^2 - \delta\widehat{S} \text{ when nothing is verifiable} \\ \widehat{B} &\geq 0.5\widehat{A}^2 - \delta\widehat{S} - 0.5\underline{a}^2(1 - \delta) - \delta\widehat{W} \text{ under partial verifiability}\end{aligned}$$

So under partial verifiability the lawyer's incentive compatibility constraint is more easily satisfied than under full non-verifiability.

The client's incentive compatibility constraint is:

$$\begin{aligned}\widehat{B} &\leq \rho(\widehat{A} - \widehat{S}) \text{ when nothing is verifiable} \\ \widehat{B} &\leq \rho\left(\widehat{A} - \widehat{S} - \widehat{W} - \underline{a} + 0.5\underline{a}^2\right) \leq \rho\left(\widehat{A} - \widehat{S} - \underline{a}\right) \text{ under partial verifiability}\end{aligned}$$

So under partial verifiability the client's incentive compatibility constraint is harder to satisfy than under full non-verifiability. In summary, increased accountability has two effects: (i) the lawyer's IC constraint is easier to satisfy; and (ii) the client's IC constraint is harder to satisfy. The first effect is the correspondent within the C market of the result discussed above for the I market, namely that within our model, formal and informal contractual tools complement each other in disciplining the lawyer. The second effect stems from the fact that the possibility of writing formal contracts improves the client's fallback position in the event of a breakdown of the relational agreement. In turn, this makes it harder to discipline the client, and therefore renders the relational contract harder to sustain. In our setting, the second effect always dominates in the C market.²¹ Hence, in this market partial verifiability only helps when \underline{a} is binding. Again, this is reminiscent of what obtained in Baker, Gibbons and Murphy (1994), Dixit (2004) and Schmidt and Schnitzler (1995) although the result is here obtained in a different setting.

²¹Notice that the second effect is also present in the I market. There, however, this effect has no bite, yielding the result that raised accountability unambiguously increases client welfare.

3.3.3 Summary

Results 4 and 5 show that the welfare impact of improving accountability will differ across markets. In particular, while raising accountability increases the client's utility in market I, client utility may be adversely affected in the C market. Thus, with respect to policies directed at raising accountability, a tension exists between protecting the interests of different types of users of legal services. More generally, this result suggests that "one size fits all" policies may be more elusive than they may appear at a first glance. The impact of regulation may differ for different types of clients, implying that it may be difficult for regulators to protect the interests of all clients simultaneously.

3.4 Policy IV: Changing the types of legal firms in the market

As indicated in the introduction there are differing views as to the effect of allowing new ownership models into the market. We have suggested that we can obtain some understanding of these effects by considering the impact of either a lower (in the case of an increase in short-termist profit motives) or a higher (in the case of ownership by firms with strong brand names to protect²²) lawyer discount factor, δ .

Result 6: *In the baseline, status quo scenario, changes in ownership that have an effect which is akin to an increase (respectively, decrease) of the lawyer discount factor increase (decrease) the utility of both clients and lawyers. The same happens in the I market when information about lawyer's actions is made available. In the C market, lawyer and client utility is unchanged.*

4 Interrelated markets

In this section we consider what happens when both types of clients operate in a single market. This introduces additional elements into the analysis. In particular, the lawyer's outside payoff when operating in a given market may now be given by what she could obtain in a different market. In order to attract lawyers, C clients will now have to match the rents offered by I clients. This has important implications with respect to the impact of different policies on the welfare of the two types of clients.

Consider for instance the impact of policies that affect the ownership structure of legal firms. As discussed above, the effect of these policies can be analyzed by consid-

²²Tirole (1996) highlights how (in the presence of imperfect observability of individual behaviour) the reputation of an organization may suffer from the repercussions of a deviation even long after the deviant member has gone. This may induce long-lived organizations who value their reputation to discipline or otherwise incentivise their employees to induce them to behave as if they had a higher discount factor.

ering alterations in the lawyers' discount factor. From above, we know that the present discounted value for lawyers of entering the I (sub-) market is 0.5δ , increasing in δ . An increase in δ , which improves the clients' welfare in the I market, will therefore also have the by-product effect of increasing the rents obtained by lawyers in that market. In the C market, therefore, an increase in δ implies that, in order to attract lawyers, C clients now have to offer greater rents than was previously the case. This decreases the C clients' welfare, and introduces an additional element of conflict between the interests of the I and the C clients with respect to policies whose effect is akin to a change in the lawyers' discount factors.

Now consider policies that enhance accountability. As seen above, in the I market, these policies will lower the rents obtained by lawyers. This introduces an indirect benefit of such policies also for C clients, which was not present when considering separate markets. In that case, therefore, the inter-relation between the markets for C and I clients softens the conflict of interests between different types of clients, that was identified when discussing separate markets. This is summarized in result 7:

Result 7: *Allowing the two types of clients to operate in the same market introduces two effects into the analysis: (i) with respect to changes in lawyers' discount rates, it creates a new conflict of interest between I and C clients, so that changes that improve the I clients' welfare decrease the C clients' welfare and vice-versa; (ii) with respect to improved accountability, it decreases the conflict of interests between I and C clients identified with separate markets, although the conflict is still present.*

As result 7 indicates, although the presence of interrelated markets softens the conflict of interests between I and C clients with respect to improved accountability, this conflict persists. This can be seen as follows:

Suppose that $\delta \leq \underline{a}$. Then, as seen in previous sections, after improving accountability the equilibrium in the I market only employs explicit contracts, and lawyers are paid no rents. C clients are therefore able to employ contracts offering 0 overall utility to lawyers. The equilibrium in the C market is therefore the same as that without interrelated markets. The client's payoff is

$$U_{client}^{C,v} = \widehat{A}_v - 0.5\widehat{A}_v^2$$

where

$$\widehat{A}_v = \begin{cases} 1 & \text{if } 2\rho - 1 \geq \underline{a} \\ 2\rho - \underline{a} & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} & \text{if } \underline{a} \geq \rho \end{cases}$$

Now consider the case in which there is no verifiability. In that case, the present discounted value of entering the I market for the lawyer is 0.5δ . The lawyer's PC is therefore given by:

$$\frac{1}{1-\delta}(S+B-0.5A^2) \geq 0.5\delta \quad (32)$$

i.e.

$$B \geq 0.5A^2 - S + 0.5\delta(1-\delta) \quad (33)$$

Suppose that if the lawyer deviates in the C market, she also loses her reputation in the I market²³. The lawyer's IC is then equal to:

$$\frac{1}{1-\delta}(S+B-0.5A^2) \geq S \quad (34)$$

i.e.

$$B \geq 0.5A^2 - \delta S \quad (35)$$

First, consider $\widehat{S} \geq 0.5\delta$. If this is the case, the lawyer's IC constraint is (weakly) more stringent than her PC constraint. The client maximizes his payoff by having the lawyer's IC constraint bind. The client's payoff is therefore given by

$$\widehat{A} - 0.5\widehat{A}^2 - \widehat{S}(1-\delta) \quad (36)$$

Notice that the lawyer's IC constraint can be simultaneously satisfied as the client's IC constraint (given in (27)) if and only if

$$\frac{\widehat{A}\rho - 0.5\widehat{A}^2}{\rho - \delta} \geq \widehat{S} \quad (37)$$

The client maximizes $\widehat{A} - 0.5\widehat{A}^2 - \widehat{S}(1-\delta)$ subject to

$$\widehat{S} \geq 0.5\delta \quad (38)$$

$$\frac{\widehat{A}\rho - 0.5\widehat{A}^2}{\rho - \delta} \geq S \quad (39)$$

This is done by setting $\widehat{S} = 0.5\delta$. Constraint (37) becomes

$$\widehat{A}\rho - 0.5\widehat{A}^2 \geq 0.5\delta(\rho - \delta) \quad (40)$$

²³Relaxing this assumption would render the lawyer's IC constraint harder to satisfy and would therefore decrease the client's payoff under verifiability, making the result easier to obtain.

The client's payoff is

$$\widehat{A} - 0.5\widehat{A}^2 - 0.5\delta(1 - \delta) \quad (41)$$

The client selects \widehat{A} to maximize (41) subject to (40).

Now consider $\widehat{S} \leq 0.5\delta$. If this is the case, the lawyer's PC constraint is (weakly) more stringent than her IC constraint. The client maximizes his payoff by having the lawyer's PC constraint bind. Notice that the lawyer's PC constraint can be simultaneously satisfied as the client's IC constraint (given in (27)) if and only if

$$\widehat{S} \geq \frac{0.5\delta(1 - \delta) - \widehat{A}\rho - 0.5\widehat{A}^2}{1 - \rho} \quad (42)$$

The client maximizes $\widehat{A} - 0.5\widehat{A}^2 - 0.5\delta(1 - \delta)$ subject to

$$\widehat{S} \geq \frac{0.5\delta(1 - \delta) - \widehat{A}\rho + 0.5\widehat{A}^2}{1 - \rho} \quad (43)$$

$$\widehat{S} \leq 0.5\delta \quad (44)$$

$$S \geq 0 \quad (45)$$

This is done by setting $\widehat{S} = 0.5\delta$. In this case, constraint (42) becomes the same as (40):

$$\widehat{A}\rho - 0.5\widehat{A}^2 \geq 0.5\delta(\rho - \delta)$$

Overall, therefore, in the case without verifiability, the client obtains

$$U_{client}^{C,nv} = \widehat{A}_{nv} - 0.5\widehat{A}_{nv}^2 - 0.5\delta(1 - \delta)$$

where

$$\widehat{A}_{nv} = \begin{cases} 1 & \text{if } \rho \geq \frac{1-\delta^2}{2-\delta} \\ \rho + \sqrt{\rho^2 - \rho\delta + \delta^2} & \text{otherwise} \end{cases} \quad (46)$$

Consider for instance $\delta = 0.2$, $\underline{a} = \rho = 0.54$. In this case, $\widehat{A}_{nv} = 1$, while $\widehat{A}_v = \underline{a} = 0.54$.

The client's payoff under non-verifiability is

$$U_{client}^{C,nv} = 0.42 \quad (47)$$

while his payoff with improved accountability is

$$U_{client}^{C,v} = 0.375 \quad (48)$$

5 Concluding Remarks

A central concern of the paper has been to investigate the way that the market for legal services can operate to provide, or fail to provide, protection for consumers and value for money, hand in hand with adherence to professional mores. We have emphasised that the governance of legal services is multi-faceted and that explicit and implicit contracts, reputations, relationships, networks (by which important information is transmitted) all play a role in supporting the sometimes limited degree of efficiency achieved in real markets. The aim of this paper is to provide a simple framework within which to structure the debate.

We consider a series of reforms. The first reform we consider concerns the introduction in the market of legal service suppliers that are not subject to self-regulation. Clearly, this policy would at best maintain the status quo (in the case in which the newcomers can be distinguished from existing/proper lawyers) and at worst (in the case in which the newcomers cannot be distinguished from existing/proper lawyers) it would crowd out the existing self-regulatory equilibrium, and cause the market to collapse to an inefficient state of low quality provision.

The second reform we consider concerns the availability of better information for consumers (what may be termed “enhanced transparency”) in the market and we show that the impact of better information varies crucially for different types of clients. Policies that improve the quality of the information available to clients increase the frequent client’s utility, and decreases the utility of the lawyers serving those clients, while they leave the welfare of infrequent clients and lawyers serving those clients unchanged.

We then consider the introduction of regulation that raises or sets standards, and may therefore be seen as raising lawyers’ accountability. We show that, in the absence of other reforms, an increase in accountability will increase clients’ welfare whenever the minimum level of effort that can be guaranteed by explicit contracts is sufficiently close to the first best level of effort, and leave it unchanged otherwise. However, if we introduce increased accountability in conjunction with improved client information then the impact of the policy varies dramatically between markets. In the market for infrequent users, increased accountability unambiguously increases clients’ welfare, and decreases the lawyers’ utility. In contrast, in the market for frequent clients, increased accountability increases welfare only when the minimum level of effort that can be guaranteed by explicit contracts is sufficiently high, and decreases it otherwise. Hence, improving lawyer accountability may have opposite effects in different markets. This implies that, with respect to policies directed at raising accountability, a tension exists

between protecting the interests of different types of users of legal services.

A fourth reform we consider concerns the impact of changes in the ownership structure of firms providing legal services, which we have argued can be approximated by analyzing how changes in discount factors of lawyers affects the market equilibrium. An increase (decrease) in lawyers' discount factor will increase (decrease) both client and lawyer welfare both in the status quo, self-regulatory scenario and the reputational equilibrium achieved in the market for infrequent users under enhanced information, while (under conditions of enhanced information) it leaves the market for infrequent users unchanged.

Finally, we consider the equilibrium when both types of clients (frequent and infrequent) interact in the same market and analyze the additional effects that come into play. When this is the case, the rents available to lawyers in one sector can impact on the form of implicit contract that are feasible in another part of the market. We show that allowing the markets for both types of clients to be interrelated has essentially two effects. With respect to policies that have similar effects to a change in lawyer discount factor, interrelation introduces an additional element of conflict between the interests of frequent and infrequent clients. The opposite happens when considering policies that improve accountability. In this case, interrelation decreases the discrepancy between the interests of the two types of clients, although this discrepancy persists.

Overall, therefore, the paper shows that policies may have very different impacts on different types of clients. Most importantly, the impact of reforms on the welfare of different clients may go in opposite directions, so intervening to improve the welfare of smaller infrequent users of legal services may reduce the welfare of larger frequent (e.g., corporate) clients. More generally, this suggests that "one size fits all" policies may more elusive than may appear at a first glance. It may be difficult for regulators to protect the interests of all clients simultaneously.

We close with two points that arise from the analysis. First, one potential form of reputational self-governance that we have explored is delegated exclusion. However, how successful this can be depends on the ability of the delegation mechanism to exclude ex-post. "Clubby" groups where social networks overlap with professional networks may, for example, find this harder than others to sustain. So different types of legal services, and more broadly different types of professional services, may have different success in delegated exclusion. This raises further issues concerning whether lawyers should be free to take up a single legal-entity status with other professions (the so-called multi-disciplinary practices that are the source of intense debate in Europe and the US). If the

effectiveness of delegated exclusion differs between professions then the introduction of multi-disciplinary practices may have a significant impact through its effect the efficacy of delegated exclusion mechanisms.

Second, it should be noted that in this paper we have focussed purely on what might be called a client centric point of view. The point that lawyers should serve “The Law”, rather than merely “cow-tow” to clients may well be an important one. If this paper assists in disentangling that debate from how lawyers might or might not be incentivised to serve the narrow interests of their clients, then it will have served an additional useful role.

6 Appendix

Status quo equilibrium (equivalently, equilibrium in I market with no verifiability)

Lawyer's PC is $\tilde{s} \geq 0.5\tilde{a}^2$.

Lawyer's IC is $\frac{1}{1-\delta}(\tilde{s} - 0.5\tilde{a}^2) \geq \tilde{s}$ i.e. $\tilde{s} \geq \frac{0.5\tilde{a}^2}{\delta}$.

Clearly, the lawyer's PC constraint is strictly satisfied whenever her IC constraint is.

The client's payoff is $\tilde{a} - \tilde{s}$. The client's PC is therefore given by $\tilde{a} \geq \tilde{s}$.

The client's payoff is maximized by having the lawyer's IC constraint bind. When the lawyer's IC constraint holds with equality (i.e. $\tilde{s} = 0.5\frac{\tilde{a}^2}{\delta}$), client's payoff is $\tilde{a} - 0.5\frac{\tilde{a}^2}{\delta}$.

This is maximized by setting $\tilde{a} = \delta$. The equilibrium contract is therefore given by $\tilde{a} = \delta$, $\tilde{s} = 0.5\delta$. The client's payoff is $0.5\delta^{24}$; the lawyer's per-period payoff is $0.5\frac{\tilde{a}^2}{\delta} - 0.5\tilde{a}^2 = 0.5\delta(1 - \delta)$.

C market, no verifiability

The present discounted value of entering the relational contract for the lawyer is $\frac{1}{1-\delta}(\hat{S} + \hat{B} - 0.5\hat{A}^2)$. The lawyer's PC is therefore satisfied if $\hat{B} \geq 0.5\hat{A}^2 - \hat{S}$.

Lawyer's IC is: $\frac{1}{1-\delta}(\hat{S} + \hat{B} - 0.5\hat{A}^2) \geq \hat{S}$ i.e. $\hat{B} \geq 0.5\hat{A}^2 - \delta\hat{S}$.

Notice that because we are restricting attention to non-negative payments (as lawyers have limited liability), the lawyer's PC is always (weakly) satisfied whenever her IC constraint is.

Client's IC is: $\frac{1}{1-\rho}(\hat{A} - \hat{S} - \hat{B}) \geq \hat{a} - \hat{S}$ i.e. $\rho(\hat{A} - \hat{S}) \geq \hat{B}$.

Client's PC is: $\hat{A} - \hat{S} - \hat{B} \geq 0$.

Notice that the client's PC is automatically satisfied whenever his IC constraint holds.

Hence, we only need to consider the lawyer's IC and the client's PC constraints. For these two constraints to be consistent with each other we require $\frac{\rho\hat{A} - 0.5\hat{A}^2}{\rho - \delta} \geq \hat{S}$.

The client's maximizes $\hat{A} - \hat{S} - \hat{B}$ subject to

$$\hat{B} \geq 0.5\hat{A}^2 - \delta\hat{S} \quad (49)$$

$$\rho(\hat{A} - \hat{S}) \geq \hat{B} \quad (50)$$

$$\hat{S} \geq 0 \quad (51)$$

Clearly, for any \hat{A} and \hat{S} , the client's payoff is maximized by setting \hat{B} as small as possible: $\hat{B} = \max\{0.5\hat{A}^2 - \delta\hat{S}, 0\}$.

²⁴The solution therefore satisfies the client's PC.

i) **First, suppose that** $\frac{0.5\widehat{A}^2}{\delta} \geq \widehat{S}$.

The client selects \widehat{A} and \widehat{S} to maximize $\widehat{A} - \widehat{S}(1 - \delta) - 0.5\widehat{A}^2$ subject to

$$\frac{\rho\widehat{A} - 0.5\widehat{A}^2}{\rho - \delta} \geq \widehat{S} \quad (52)$$

$$\frac{0.5\widehat{A}^2}{\delta} \geq \widehat{S} \quad (53)$$

$$\widehat{S} \geq 0 \quad (54)$$

This is done by setting \widehat{S} equal to its smallest admissible value, namely 0. The client's problem is then that of maximizing $\widehat{A} - 0.5\widehat{A}^2$ subject to $\rho\widehat{A} - 0.5\widehat{A}^2 \geq 0$. Unconstrained maximization of $\widehat{A} - 0.5\widehat{A}^2$ yields $\widehat{A} = 1$. If $\rho \geq 0.5$, this also satisfies the constraint, and is therefore the solution to the problem. If $\rho < 0.5$, the constraint binds and $\widehat{A} = 2\rho$. The client's payoff is therefore equal to

$$U = \begin{cases} 0.5 & \text{if } \rho \geq 0.5 \\ 2\rho(1 - \rho) & \text{otherwise} \end{cases} \quad (55)$$

ii) **Now suppose that** $\frac{0.5\widehat{A}^2}{\delta} \leq \widehat{S}$.

The client selects \widehat{A} and \widehat{S} to maximize $\widehat{A} - \widehat{S}$ subject to

$$\frac{\rho\widehat{A} - 0.5\widehat{A}^2}{\rho - \delta} \geq \widehat{S} \quad (56)$$

$$\frac{0.5\widehat{A}^2}{\delta} \leq \widehat{S} \quad (57)$$

$$\widehat{S} \geq 0 \quad (58)$$

This is done by setting $\widehat{S} = \frac{0.5\widehat{A}^2}{\delta}$. The client's problem then becomes that of maximizing $\widehat{A} - \frac{0.5\widehat{A}^2}{\delta}$ subject to $\frac{\rho - 0.5\widehat{A}}{\rho - \delta} \geq \frac{0.5\widehat{A}}{\delta}$. This yields $\widehat{A} = \delta$. The client's payoff is 0.5δ . It is easy to verify that this is always smaller than the payoff obtained in i).

Overall, the equilibrium contract is therefore given by:

$$\widehat{A} = \begin{cases} 1 & \text{if } \rho \geq 0.5 \\ 2\rho & \text{otherwise} \end{cases}, \widehat{S} = 0, \widehat{B} = 0.5\widehat{A}^2 \quad (59)$$

The client obtains

$$U_{client}^{C,nv} = \begin{cases} 0.5 & \text{if } \rho \geq 0.5 \\ 2\rho(1 - \rho) & \text{otherwise} \end{cases} \quad (60)$$

The lawyer obtains $U_{lawyer}^{C,nv} = 0$.

I market, verifiability

Clearly, any reputational contract with $\hat{a} \leq \underline{a}$ is dominated. We therefore concentrate only on $\hat{a} \geq \underline{a}$.

i) First, consider $\hat{w} \leq 0.5\underline{a}^2$.

Lawyer's PC is: $\hat{s} \geq 0.5\hat{a}^2 - \hat{w}$.

Lawyer's IC is: $\hat{s} \geq 0.5\frac{\hat{a}^2}{\delta} - \frac{\hat{w}}{\delta}$.

Client's PC is: $\hat{a} - \underline{a} + 0.5\underline{a}^2 - \hat{w} \geq \hat{s}$.

Clearly, the lawyer's PC constraint is satisfied whenever her IC constraint is.

Conditional on $\hat{w} \leq 0.5\underline{a}^2$, the optimal contract maximizes $\hat{a} - \hat{s} - \hat{w}$ subject to

$$\hat{s} \geq 0.5\frac{\hat{a}^2}{\delta} - \frac{\hat{w}}{\delta} \quad (61)$$

$$\hat{a} - \underline{a} + 0.5\underline{a}^2 - \hat{w} \geq \hat{s} \quad (62)$$

$$\hat{s} \geq 0 \quad (63)$$

$$\hat{w} \leq 0.5\underline{a}^2 \quad (64)$$

$$\hat{w} \geq 0 \quad (65)$$

$$\hat{a} > \underline{a} \quad (66)$$

For any value of \hat{w} and \hat{a} , this is done by setting \hat{s} as small as possible: $\hat{s} = 0.5\frac{\hat{a}^2}{\delta} - \frac{\hat{w}}{\delta}$ ²⁵.

The problem then becomes that of maximizing

$$\hat{a} - 0.5\frac{\hat{a}^2}{\delta} + \hat{w}\frac{1 - \delta}{\delta} \quad (67)$$

²⁵Notice that because we are restricting attention to $\hat{a} \geq \underline{a}$, and we are considering $\hat{w} \leq 0.5\underline{a}^2$, this value is always non-negative.

subject to

$$\widehat{w} \geq \left(0.5\frac{\widehat{a}^2}{\delta} - \widehat{a} + \underline{a} - 0.5\underline{a}^2\right) \frac{\delta}{1-\delta} \quad (68)$$

$$\widehat{w} \leq 0.5\underline{a}^2 \quad (69)$$

$$\widehat{w} \geq 0 \quad (70)$$

$$\widehat{a} > \underline{a} \quad (71)$$

Notice that a necessary condition for (68) and (69) to be satisfied simultaneously is that

$$0.5\underline{a}^2 \geq \left(0.5\frac{\widehat{a}^2}{\delta} - \widehat{a} + \underline{a} - 0.5\underline{a}^2\right) \frac{\delta}{1-\delta} \quad (72)$$

i.e.

$$2\delta - \underline{a} \geq \widehat{a} \quad (73)$$

If $\underline{a} < \delta$, optimization yields $\widehat{a} = \delta$. Otherwise, we have $\widehat{a} = \underline{a}$. So overall when $\widehat{w} \leq 0.5\underline{a}^2$ the optimal contract has

$$\widehat{a} = \begin{cases} \delta & \text{if } \underline{a} < \delta \\ \underline{a} & \text{otherwise} \end{cases}$$

ii) Now consider $\widehat{w} \geq 0.5\underline{a}^2$.

Lawyer's PC is: $\widehat{s} \geq 0.5\widehat{a}^2 - \widehat{w}$.

Lawyer's IC is: $\widehat{s} \geq 0.5\frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta} - \widehat{w}$.

Client's PC is: $\widehat{a} - \underline{a} + 0.5\underline{a}^2 - \widehat{w} \geq \widehat{s}$

Notice that because we are restricting attention to $\widehat{a} > \underline{a}$, the lawyer's PC constraint is satisfied whenever her IC constraint is. Conditional on $\widehat{w} \geq 0.5\underline{a}^2$, the optimal contract maximizes $\widehat{a} - \widehat{s} - \widehat{w}$ subject to

$$\widehat{a} - \underline{a} + 0.5\underline{a}^2 - \widehat{w} \geq \widehat{s} \quad (74)$$

$$\widehat{a} - \underline{a} + 0.5\underline{a}^2 - \widehat{w} \geq \widehat{s} \quad (75)$$

$$\widehat{s} \geq 0 \quad (76)$$

$$\widehat{w} \geq 0.5\underline{a}^2 \quad (77)$$

$$\widehat{a} > \underline{a} \quad (78)$$

For any value of \widehat{w} and \widehat{a} , this is done by setting \widehat{s} as small as possible: $\widehat{s} = \max\left\{0.5\frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta} - \widehat{w}, 0\right\}$.

a) **Suppose that** $0.5 \frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta} - \widehat{w} \geq 0$. The problem is now that of maximizing $\widehat{a} - 0.5 \frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta}$ subject to $\widehat{a} > \underline{a}$. This is done by setting $\widehat{w} = 0.5 \underline{a}^2$.

b) **Now suppose that** $0.5 \frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta} - \widehat{w} \leq 0$. The problem is now that of maximizing $\widehat{a} - \widehat{w}$ subject to

$$0.5 \frac{\widehat{a}^2 - \underline{a}^2(1-\delta)}{\delta} \leq \widehat{w} \quad (79)$$

$$\widehat{w} \geq 0.5 \underline{a}^2 \quad (80)$$

$$\widehat{a} > \underline{a} \quad (81)$$

This is done by setting $\widehat{w} = 0.5 \frac{\widehat{a}^2 - \underline{a}(1-\delta)}{\delta}$.

So in both cases ii.a) and ii.b) the optimal level of effort is the same as in case i), namely it maximizes $\widehat{a} - 0.5 \frac{\widehat{a}^2 - \underline{a}^2(1-\delta)}{\delta}$ subject to $\widehat{a} > \underline{a}$. Overall, therefore, the optimal contract has

$$\widehat{a}^v = \begin{cases} \delta & \text{if } \underline{a} \leq \delta \\ \underline{a} & \text{otherwise} \end{cases} \quad (82)$$

$$\widehat{w}^v + \widehat{s}^v = 0.5 \frac{\widehat{a}^2 - \underline{a}^2(1-\delta)}{\delta} \quad (83)$$

Client payoff is

$$U_{client}^{I,v} = \begin{cases} 0.5\delta + 0.5 \underline{a}^2 \frac{1-\delta}{\delta} & \text{if } \underline{a} \leq \delta \\ \underline{a} - 0.5 \underline{a}^2 & \text{otherwise} \end{cases} \quad (84)$$

The lawyer payoff per period is

$$U_{lawyer}^{I,v} = \begin{cases} 0.5\delta(1-\delta) - \frac{\underline{a}^2(1-\delta)}{2\delta} & \text{if } \underline{a} \leq \delta \\ 0 & \text{otherwise} \end{cases} \quad (85)$$

Compare these with the payoffs obtained in the N market under non-verifiability: $U_{client}^{I,nv} = 0.5\delta$, $U_{lawyer}^{I,nv} = 0.5\delta(1-\delta)$.

It is clear that the lawyer earns strictly smaller rents under verifiability. Now consider the clients. When $\underline{a} \leq \delta$, it is clear that client payoff is greater under verifiability. When $\underline{a} > \delta$, verifiability increases the clients' payoff iff $\underline{a} - 0.5 \underline{a}^2 \geq 0.5\delta$. A sufficient condition for this to be the case is that: $\delta - 0.5\delta^2 \geq 0.5\delta$, a condition which is satisfied for all $\delta \in [0, 1]$.

C market, verifiability

Again, we restrict attention to $\widehat{A} \geq \underline{a}$.

i) First, consider $\widehat{W} \leq 0.5\underline{a}^2$

Lawyer's PC is: $\widehat{B} \geq 0.5\widehat{A}^2 - \widehat{W} - \widehat{S}$

Lawyer's IC is: $\widehat{B} \geq 0.5\widehat{A}^2 - \widehat{W} - \delta\widehat{S}$

Client's IC is: $(\widehat{A} - \widehat{S} - \widehat{W} - \underline{a} + 0.5\underline{a}^2)\rho \geq \widehat{B}$

Client PC is: $\widehat{A} - \widehat{S} - \widehat{W} - \underline{a} + 0.5\underline{a}^2 \geq B$

Notice that the lawyer's (client's) PC constraint is satisfied whenever her (his) IC constraint is. Also, the client's IC constraint is consistent with a non-negative bonus only if $\widehat{A} - \widehat{W} - \underline{a} + 0.5\underline{a}^2 \geq \widehat{S}$.

For given \widehat{A}, \widehat{W} and \widehat{S} the client's payoff is maximized by having \widehat{B} as small as possible: $\widehat{B} = \max \{0.5\widehat{A}^2 - \widehat{W} - \delta\widehat{S}, 0\}$.

a) Suppose that $0.5\widehat{A}^2 - \widehat{W} - \delta\widehat{S} \geq 0$.

Notice that in this case the client and the lawyer's IC constraints are mutually consistent if and only if

$$\frac{(\widehat{A} - \underline{a} + 0.5\underline{a}^2)\rho - 0.5\widehat{A}^2 + \widehat{W}(1 - \rho)}{\rho - \delta} \geq \widehat{S} \quad (86)$$

The client maximizes $\widehat{A} - 0.5\widehat{A}^2 - \widehat{S}(1 - \delta)$ subject to

$$\frac{0.5\widehat{A}^2 - \widehat{W}}{\delta} \geq \widehat{S} \quad (87)$$

$$\widehat{A} - \underline{a} + 0.5\underline{a}^2 - \widehat{W} \geq \widehat{S} \quad (88)$$

$$\frac{(\widehat{A} - \underline{a} + 0.5\underline{a}^2)\rho - 0.5\widehat{A}^2 + \widehat{W}(1 - \rho)}{\rho - \delta} \geq \widehat{S} \quad (89)$$

$$\widehat{S} \geq 0 \quad (90)$$

$$0.5\underline{a}^2 \geq \widehat{W} \quad (91)$$

$$\widehat{W} \geq 0 \quad (92)$$

$$\widehat{A} \geq \underline{a} \quad (93)$$

This is done by setting $\widehat{S} = 0, \widehat{W} = 0.5\underline{a}^2$. In that case, constraint (89) becomes $\widehat{A}\rho - 0.5\widehat{A}^2 \geq \underline{a}\rho - 0.5\underline{a}^2$ i.e. $2\rho - \underline{a} \geq \widehat{A}$. The problem becomes that of maximizing

$\widehat{A} - 0.5\widehat{A}^2$ subject to $2\rho - \underline{a} \geq \widehat{A}$ and $\widehat{A} \geq \underline{a}$. Maximization yields

$$\widehat{A} = \begin{cases} 1 & \text{if } 2\rho - 1 \geq \underline{a} \\ 2\rho - \underline{a} & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} & \text{if } \underline{a} \geq \rho \end{cases}$$

The client's payoff is

$$U = \begin{cases} 0.5 & \text{if } 2\rho - 1 \geq \underline{a} \\ (2\rho - \underline{a})(1 - \rho + 0.5\underline{a}) & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} - 0.5\underline{a}^2 & \text{if } \underline{a} \geq \rho \end{cases}$$

b) Now suppose that $0.5\widehat{A}^2 - \widehat{W} - \delta\widehat{S} \leq 0$.

The client maximizes $\widehat{A} - \widehat{S} - \widehat{W}$ subject to

$$0.5\widehat{A}^2 - \delta\widehat{S} \leq \widehat{W} \quad (94)$$

$$\widehat{A} - \underline{a} + 0.5\underline{a}^2 - \widehat{S} \geq \widehat{W} \quad (95)$$

$$\widehat{S} \geq 0 \quad (96)$$

$$0.5\underline{a}^2 \geq \widehat{W} \quad (97)$$

$$\widehat{W} \geq 0 \quad (98)$$

$$\widehat{A} \geq \underline{a} \quad (99)$$

This is done by setting $\widehat{W} = 0.5\widehat{A}^2 - \delta\widehat{S}$. The problem becomes that of maximizing $\widehat{A} - 0.5\widehat{A}^2 - \widehat{S}(1 - \delta)$ subject to

$$\frac{0.5\widehat{A}^2}{\delta} \leq \widehat{S} \quad (100)$$

$$\frac{\widehat{A} - \underline{a} + 0.5\underline{a}^2 - 0.5\widehat{A}^2}{1 - \delta} \geq \widehat{S} \quad (101)$$

$$\widehat{S} \geq 0 \quad (102)$$

$$\widehat{A} \geq \underline{a} \quad (103)$$

This is done by setting $\widehat{S} = \frac{0.5\widehat{A}^2}{\delta}$. The problem becomes that of maximizing $\widehat{A} - \frac{0.5\widehat{A}^2}{\delta}$

subject to

$$\widehat{A} - \underline{a} + 0.5\underline{a}^2 - \frac{0.5\widehat{A}^2}{\delta} \geq 0 \quad (104)$$

$$\widehat{A} \geq \underline{a} \quad (105)$$

This yields

$$\widehat{A} = \begin{cases} \delta & \text{if } 1 - \sqrt{1 - \delta} \geq \underline{a} \\ \underline{a} & \text{otherwise} \end{cases} \quad (106)$$

The client's payoff is

$$U = \begin{cases} 0.5\delta & \text{if } 1 - \sqrt{1 - \delta} \geq \underline{a} \\ \underline{a} - 0.5\underline{a}^2 & \text{otherwise} \end{cases} \quad (107)$$

It is straightforward to verify that this is smaller than the payoff obtained in i.a).²⁶

ii) Now consider $\widehat{W} \geq 0.5\underline{a}^2$.

Lawyer's PC is: $\widehat{B} \geq 0.5\widehat{A}^2 - \widehat{W} - \widehat{S}$.

Lawyer's IC is: $\widehat{B} \geq 0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta) - \delta(\widehat{W} + \widehat{S})$.

Client's IC is: $(\widehat{A} - \widehat{S} - \widehat{W} - \underline{a} + 0.5\underline{a}^2)\rho \geq \widehat{B}$

Notice that the lawyer's PC constraint is satisfied whenever her IC constraint is. Also, the lawyer and the client's IC constraints can be simultaneously satisfied if and only if

$$\frac{\rho\widehat{A} - 0.5\widehat{A}^2 - \rho\underline{a} + 0.5\underline{a}^2(\rho + 1 - \delta)}{\rho - \delta} \geq \widehat{S} + \widehat{W} \quad (108)$$

Clearly, for given \widehat{A} , \widehat{W} and \widehat{S} the client's payoff is maximized by having \widehat{B} as small as possible: $\widehat{B} = \max\left\{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta) - \delta(\widehat{W} + \widehat{S}), 0\right\}$.

a) Suppose that $0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta) - \delta(\widehat{W} + \widehat{S}) \geq 0$.

The client's problem is that of maximizing

$$\widehat{A} - 0.5\widehat{A}^2 + 0.5\underline{a}^2(1 - \delta) - (\widehat{W} + \widehat{S})(1 - \delta) \quad (109)$$

²⁶This can be seen by noticing that $(2\rho - \underline{a})(1 - \rho + 0.5\underline{a}) \geq \rho(1 - 0.5\rho)$. As $\rho \geq \delta$, this is strictly greater than 0.5δ .

subject to

$$\frac{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta)}{\delta} \geq \widehat{W} + \widehat{S} \quad (110)$$

$$\frac{\rho\widehat{A} - 0.5\widehat{A}^2 - \rho\underline{a} + 0.5\underline{a}^2(\rho + 1 - \delta)}{\rho - \delta} \geq \widehat{W} + \widehat{S} \quad (111)$$

$$\widehat{A} - \underline{a} + 0.5\underline{a}^2 \geq \widehat{W} + \widehat{S} \quad (112)$$

$$\widehat{S} \geq 0 \quad (113)$$

$$\widehat{W} \geq 0.5\underline{a}^2 \quad (114)$$

$$\widehat{A} \geq \underline{a} \quad (115)$$

This is done by setting $\widehat{S} + \widehat{W} = 0.5\underline{a}^2$. As in i.a), the client's problem then becomes that of maximizing $\widehat{A} - 0.5\widehat{A}^2$ subject to $\rho - \underline{a} \geq \widehat{A}$.

b) Now suppose that $0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta) - \delta(\widehat{W} + \widehat{S}) \leq 0$

The client's problem is that of maximizing $\widehat{A} - \widehat{W} - \widehat{S}$ subject to

$$\frac{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta)}{\delta} \leq \widehat{W} + \widehat{S} \quad (116)$$

$$\widehat{A} - \underline{a} + 0.5\underline{a}^2 \geq \widehat{W} + \widehat{S} \quad (117)$$

$$\widehat{S} \geq 0 \quad (118)$$

$$\widehat{W} \geq 0.5\underline{a}^2 \quad (119)$$

$$\widehat{A} \geq \underline{a} \quad (120)$$

This is done by setting $\widehat{W} + \widehat{S} = \frac{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta)}{\delta}$. The client's problem now becomes that of maximizing $\widehat{A} - \frac{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta)}{\delta}$ subject to $2\delta - \underline{a} \geq \widehat{A}$ and $\widehat{A} \geq \underline{a}$. This gives:

$$\widehat{A} = \begin{cases} \delta & \text{if } \delta \geq \underline{a} \\ \underline{a} & \text{otherwise} \end{cases} \quad (121)$$

The client's utility is

$$U = \begin{cases} 0.5\delta + \frac{0.5\underline{a}^2(1 - \delta)}{\delta} & \text{if } \delta \geq \underline{a} \\ \underline{a} - 0.5\underline{a}^2 & \text{otherwise} \end{cases} \quad (122)$$

It is straightforward to verify that this is less than what the client obtains in i.a) and ii.a).²⁷

²⁷This can be seen as follows: because we are restricting attention to $\widehat{A} \geq \underline{a}$, we have $\frac{0.5\widehat{A}^2 - 0.5\underline{a}^2(1 - \delta)}{\delta} \geq$

Overall, therefore, the effort level in the C market under partial verifiability satisfies

$$\widehat{A}^v = \begin{cases} 1 & \text{if } 2\rho - 1 \geq \underline{a} \\ 2\rho - \underline{a} & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} & \text{if } \underline{a} \geq \rho \end{cases}$$

$$\widehat{W}^v + \widehat{S}^v = 0.5\underline{a}^2, \widehat{B}^v = 0.5\widehat{A}^2 - 0.5\underline{a}^2$$

and the client's payoff is²⁸

$$U_{client}^{C,v} = \begin{cases} 0.5 & \text{if } 2\rho - 1 \geq \underline{a} \\ (2\rho - \underline{a})(1 - \rho + 0.5\underline{a}) & \text{if } \rho \geq \underline{a} \geq 2\rho - 1 \\ \underline{a} - 0.5\underline{a}^2 & \text{if } \underline{a} \geq \rho \end{cases}$$

Compare these with effort level and client payoff under non-verifiability.

$$\widehat{A}^{nv} = \begin{cases} 1 & \text{if } \rho \geq 0.5 \\ 2\rho & \text{otherwise} \end{cases} \quad (123)$$

$$U_{client}^{C,nv} = \begin{cases} 0.5 & \text{if } \rho \geq 0.5 \\ 2\rho(1 - \rho) & \text{otherwise} \end{cases}$$

Because in both cases the client obtains the full surplus generated by the service, $U_{client}^{C,v} \geq U_{client}^{C,nv}$ when $\widehat{A}^v \geq \widehat{A}^{nv}$ and vice-versa. Clearly, $\widehat{A}^v > \widehat{A}^{nv}$ only when $\underline{a} \geq 2\rho$.

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$0.5\widehat{A}^2$. Hence, for the same \widehat{A} , the payoff in ii.b) is smaller than in i.a) and ii.a). Moreover: the constraint in ii.b): $2\delta - \underline{a} \geq \widehat{A}$ is more stringent than the constraint in i.a) and ii.a): $2\rho - \underline{a} \geq \widehat{A}$. Hence, the set of \widehat{A} that can be implemented in ii.b) is smaller than that in i.a) and ii.a). It follows that that the client's payoff in ii.b) cannot exceed that in i.a) and ii.a).

²⁸The lawyer's payoff is 0.

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