What's in a Name?
Reputation and Monitoring in the Audit Market

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Online Appendix

First, we provide a little more context to our analysis. Section 2 demonstrates how the results in the paper may change when the cost of reporting is zero.

1 History and Context

Prior to February 2017, unlike several other jurisdictions such as the EU countries and Australia, in the U.S.A., the name of the lead audit partner is not disclosed to investors and other users of financial statements of publicly traded companies. In response to a recommendation by the U.S. Department of Treasury, the Public Company Accounting Oversight Board (PCAOB) issued a *Concept Release Requiring the Engagement Partner to Sign the Audit Report* (No. 2009-005 – Concept Release). Greater transparency and higher accountability of individual auditors were the two main goals this new standard aimed to achieve. The proposed rule was strongly opposed by the major accounting firms (Deloitte, Ernst & Young, KPMG, Pricewaterhouse-Coopers) who were of the opinion that given the nature of checks and balances existing in most audit firms, the signature requirement would be irrelevant to audit quality and would subject engagement partners to additional liability risks. Moreover, they felt that this additional exposure would lead to inefficiently high levels of effort by partners trying to play it safe. Investors, on the other hand, supported the proposal and argued that greater transparency would enhance audit quality by increasing the engagement partner's sense of accountability to financial statement users. After four rounds of public comments, in December 2015, the PCAOB approved the new rule which mandates that the lead engagement partner's name be disclosed in the new PCAOB Form AP, Auditor Reporting of Certain Audit Participants. The PCAOB believes that this approach will achieve the objectives of transparency and accountability of the audit while appropriately addressing concerns regarding liability of the auditor (PCAOB, 2015). The Securities and Exchange Commission (SEC) approved this rule in May 2016 and the new rule for engagement partner name disclosure will apply to auditor reports issued on or after January 31, 2017.

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The results in the paper have all relied on the cost of reporting being positive. Now, we ask what happens if the cost of reporting is zero? In particular, we would like to know how the audit quality compares in the two regimes (disclosure and non-disclosure).

We start with a lemma which says that if the cost of reporting is zero then there are no non-reporting equilibria in either regime i.e. whenever the first period engagement partner announces an audit report which is different from its audit signal, this partner will get reported and fired if partner rotation occurs (irrespective of the regime).

Lemma 1. *There does not exist an equilibrium without reporting when the cost of reporting is zero.*

Proof. Consider the case of the non-disclosure regime. The intuition for the disclosure regime will follow.

Suppose there is a no-reporting equilibrium. Consider the incentives of the newly rotated-in successor partner. If no one gets fired, the investor will assume that it was because either the first period partner played A but there was no reporting or the first period partner played NA. Therefore, after a history of (g,B,nf) the reputation of the first period partner will fall below p_h as it allows for the former possibility. However, the successor partner has incentives to deviate and report. This is because of the belief of the investor when he does observe a firing. Our assumption on errors says that there is a small positive probability that the first period partner gets fired irrespective of his signal or state. Therefore, if the investor believes that no-reporting is happening in equilibrium but still observes firing, he must think that this is because the first period partner got fired by mistake and therefore the reputation of the other partner will be p_h (since the fired partner will get replaced from the pool randomly). This is above the reputation that can be achieved by the other partner if there was no reporting. Since the cost of reporting is zero and the successor partner's payoff is positively dependent upon the other partner's reputation in either regime, he will report. Thus, there is a profitable deviation.

In the disclosure regime, the same kind of logic works. Therefore, there does not exist any no-reporting equilibrium when the cost of reporting is zero. □

Next, we show that when the cost of reporting is zero, the disclosure regime produces higher quality audit reports as compared to the non-disclosure regime. The intuition for this is as follows. When the cost of reporting is positive, it may happen that the reduced monitoring effect (as the regime moves from non-disclosure to disclosure) dominates the increased reputation effect, thereby reducing audit quality. However, as lemma 1 shows, if the cost of reporting is zero, the monitoring effect remains constant when moving from the non-disclosure regime to the disclosure regime. Thus, the increased reputation building incentives in the disclosure regime lead to higher audit quality in the disclosure regime.

Proposition 1. *Given $p_h \in (0,1)$ and $c = 0$, for α_2,$\beta_1 \approx 0$, the probability that the engagement partner acquiesces to the issuer is lower in the disclosure regime as compared to the non-disclosure regime.*

Proof. We prove this with the help of two lemmas. First, we show that the unique equilibrium in the non-disclosure and the disclosure regime has certain features.

In the non-disclosure regime:

Lemma 2. *Given $p_h \in (0,1)$ and $c = 0$, there exist $\underline{I} > 0$ and $\overline{I_{nd}} (> \underline{I})$ such that the unique equilibrium in the non-disclosure regime has the following features:*

At $t = 2$, a new successor partner reports NC if and only if the predecessor partner played A. In case of a conflict, $B_2 = 0$ and the assigned partner plays A.

At $t = 1$, in case of a conflict,

a) If $I \leq \underline{I}$, the issuer puts pressure $B_1 = 0$. The engagement partner plays NA.

b) For each $I \in (\underline{I}, \overline{I_{nd}})$, there exists $x^* \in (0,1)$ such that the issuer puts pressure $B_1 = \frac{Ip}{p+(1-p)[p_h\epsilon+(1-p_h)\{\epsilon+(1-\epsilon)x^*\}]}$ The engagement partner plays A with probability x^*.

c) If $I \geq \overline{I_{nd}}$, the issuer puts pressure $B_1 = \gamma\alpha_1 W[R_2h(1) - R_2(1)] + (1-\gamma)[\beta_1 W R_2h(1) + \beta_2 X R_2h'(1) - v_f]$, where, $R_2h(1) = \gamma + (1-\gamma)p_h$, $R_2(1) = \hat{\gamma}\frac{p_h\epsilon}{p_h\epsilon+(1-p_h)} + (1-\hat{\gamma})p_h$, $\hat{\gamma} = \frac{\gamma}{\gamma+(1-\gamma)\epsilon}$, and $R_2h'(1) = \gamma p_h + (1-\gamma)$. The engagement partner plays A.

Proof. The proof is similar to that of proposition 2 in the main paper. □

In the disclosure regime:

Lemma 3. *Given $p_h > 0$, and $c = 0$, there exists $\overline{I_d} > 0$ such that the unique equilibrium in the disclosure regime has the following features:*

At t=2, a new successor partner reports NC if and only if the other partner played A in the first period. In case of a conflict, $B_2 = 0$ and the assigned partner plays A if F type.

At $t = 1$, in case of a conflict,

a) If $I \leq \underline{I}$, the issuer puts pressure $B_1 = 0$. The engagement partner plays NA.

b) If $I \in (\underline{I}, \overline{I_d})$, there exists $x^* \in (0,1)$ such that the engagement partner plays A with probability x^*.

c) If $I > \overline{I_d}$ the assigned partner plays A if F type.

Proof. Proof is similar to proof of proposition 1 in the main paper. □

Now that we know exactly how the equilibria look like in the two regimes when the cost of reporting is zero, we can prove our desired result. First, some notations.[1]

Let $\Pi(x)$ be the payoff from playing NA minus the payoff from playing A in period 1 for the flexible partner who plays A with probability x in period 1. It does not include the cost imposed by the issuer so it can be interpreted as the gain in reputational payoff from taking the right action. Let R_2 be the reputation of the partner who is assigned to the issuer in period 2. Let R_2' be the reputation of the partner who is assigned to project 2 in period 2. $\phi(x)$ denotes the reputation of the partner who was assigned to the issuer in period 1 when the partner was supposed to play A with probability x in a conflict in period 1 and after the history $\{b, B, nf\}$ i.e. when the partner announced the signal b and the state turned out to be B and there was no firing. Finally, $\phi'(x)$ is the reputation of the partner who was assigned to the issuer in period 1 when the partner was supposed to play A with probability x in a conflict in period 1 and after the history $\{g, B, nf\}$ i.e. when the partner announced the signal g and the state turned out to be B and there was no firing. Now,

Under the non-disclosure regime, the partner's incentive to play NA is given by:

$$\Pi(x) = \delta\gamma[\alpha_1 W\{\gamma\phi(x)+(1-\gamma)p_h-\hat{\gamma}\phi'(x)-(1-\hat{\gamma})p_h\}+\alpha_2 X\{\gamma p_h+(1-\gamma)\phi(x)-\hat{\gamma}p_h-(1-\hat{\gamma})\phi'(x)\}]$$

[1] Some of this notation has been listed in the text but we reproduce them here to make the reading easier.

$$+\delta(1-\gamma)\left[\beta_1 W\{\gamma\phi(x)+(1-\gamma)p_h\}+\beta_2 X\{\hat{\gamma}\phi(x)+(1-\hat{\gamma})p_h\}-v_f\right]$$

where $\hat{\gamma} = Pr(same\ partner|g,B,nf) = \frac{\gamma}{\gamma+(1-\gamma)\epsilon} > \gamma$

Under the disclosure regime, the partner's incentive to play NA is given by:

$$\Pi_d(x) = \delta\left[\gamma\alpha_1 W(\phi(x)-R_2'(x))+(1-\gamma)\left(\beta_1 W p_h+\beta_2 X R(x)-v_f\right)\right]$$

Since we want to show that the result holds for low values of α_2, β_1, we will simply show that the result holds when $\alpha_2 \approx 0$ and $\beta_1 \approx 0$ and we will have the desired result by continuity in α_2, β_1

Therefore, rewriting the above equations in terms of $\phi(x)$ and $\phi'(x)$ we get,

$$\Pi(x) = \delta\gamma[\alpha_1 W\{\gamma\phi(x)+(1-\gamma)p_h-\hat{\gamma}\phi'(x)-(1-\hat{\gamma})p_h\}]+\delta(1-\gamma)\left[\beta_2 X\{\hat{\gamma}\phi(x)+(1-\hat{\gamma})p_h\}-v_f\right]$$
$$\Pi_d(x) = \delta\left[\gamma\alpha_1 W(\phi(x)-\phi'(x))+(1-\gamma)\left(\beta_2 X\phi(x)-v_f\right)\right]$$

It is clear from the above equations that, $\Pi(x) < \Pi_d(x)$ for $x \in (0,1]$.

Now, when the partner plays A in equilibrium, it means that the issuer manager managed to put pressure greater than or equal to the partner's gain from playing NA. In the non-disclosure regime, when I is exactly equal to I_{nd} the issuer-manager's $max_B = \Pi(1)$. Similarly for the disclosure regime when $I = I_d$. Thus, we have that $\bar{I_{nd}}, \bar{I_d}$ are linear functions of $\Pi(1), \Pi_d(1)$ respectively with the same coefficient such that:

$$\bar{I_{nd}} = \frac{p+(1-p)(p_h\epsilon+(1-p_h)(\epsilon+(1-\epsilon)1))}{p}\Pi(1)$$
$$\bar{I_d} = \frac{p+(1-p)(p_h\epsilon+(1-p_h)(\epsilon+(1-\epsilon)1))}{p}\Pi_d(1)$$

Now, $\Pi(x) < \Pi_d(x)\ \forall x \Rightarrow \bar{I_{nd}} < \bar{I_d}$. Thus, if I is in the interval $(\bar{I_{nd}}, \bar{I_d})$, then the flexible partner always plays A in the non-disclosure regime whereas the flexible partner plays NA with positive probability in the disclosure regime. Thus, the audit quality is higher in the disclosure regime.

If $I \in (\underline{I}, \bar{I_{nd}})$, there exists unique x^*, x_d^* such that, in equilibrium in the non-disclosure regime, the flexible partner will play A with probability x^* when there is a conflict in period 1 and in equilibrium in the disclosure regime, the flexible partner will play A with probability x_d^* when there is a conflict in period 1. x^*, x_d^* satisfy the following respectively:

$$I * \frac{p}{p+(1-p)(p_h\epsilon+(1-p_h)(\epsilon+(1-\epsilon)x^*))} = \Pi(x^*)$$
$$I * \frac{p}{p+(1-p)(p_h\epsilon+(1-p_h)(\epsilon+(1-\epsilon)x_d^*))} = \Pi_d(x_d^*)$$

Since $\Pi(x)$ and $\Pi_d(x)$ are increasing in x and $\Pi(x) < \Pi_d(x)\forall x$, it is clear that $x^* > x_d^*$.

Thus, if $I \in (\underline{I}, \bar{I_{nd}})$, the audit quality is higher in the disclosure regime. Finally, if $I < \underline{I}$ or if $I > \bar{I_d}$, then the flexible partner plays the same action in either regime.[2] Thus, for all I, we have that audit quality is weakly higher in the disclosure regime. □

The idea is that when partners are paid according to their own performance (as indicated by $\alpha_2, \beta_1 \approx 0$), the disclosure regime provides more incentives to not acquiesce to the issuer-manager. The intuition is as

[2]Playing NA in both regimes if $I < \underline{I}$, and playing A in both regimes when $I > \bar{I_d}$.

follows. Under the disclosure regime, a partner's reputation is more sensitive to his actions as the investor can see the identity of the partner. This provides more incentives to build reputation under the disclosure regime as compared to the non-disclosure regime. However, when reputation is shared (as in the non-disclosure regime), the loss in reputation due to a bad action is also shared (if the partner is not fired). This can reduce the cost of taking the bad action.[3] We need the condition $\alpha_2, \beta_1 \approx 0$ due to the following reason. If a partner's compensation is less sensitive to his own reputation[4], the partner may have less incentive to build reputation even under the disclosure regime as a substantial part of the cost arising from low reputation is borne by other partners in the audit firm. The same argument holds for any level of monitoring (including no monitoring) in equilibria under both regimes.

[3]Unless the loss in payoff when fired is too much.

[4]For example, if α_2 is high then the compensation of the partner assigned to the issuer is dependent largely on the payoff from project 2.