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2 Main Research Questions

• Does venture capital sector require strong legal system in order to flourish? Or can it survive based on implicit relationships, such as empathy/trust?

• Effect of legal system and culture on Optimality of strong or weak contracts?

• Theory/ empirical with international applications.
Legal system and corporate finance.

- Existing research: La Porta et al. ….
- => Positive relationship between effective legal systems and capital market development (IPOs, economic growth, market valuations etc).
- But:-
Legal System and Venture Capital.

- Botazzi et al (2005): Tougher legal system $\Rightarrow$ more governance by VC $\Rightarrow$ VC and E’s efforts higher $\Rightarrow$ increased performance.
- Allen and Song (2002): negative relationship between rule of law and VC financing $\Rightarrow$ implicit relationships.
- Shepherd and Zacharakis (2001): contractual control and trust in VC/E relationships.
Features of VC/E contracting.

• VC more than just a Passive Investor.
• Provides ‘value-adding services.’
• => Not just a pure principal-agent problem.
• Double-sided Moral Hazard Models – both E and VC exert effort.
• Existing Models: narrow self-interest.
Our Model.

- Psychological Sympathy/Empathy Game
- Double-sided Moral hazard.
- Relationship between Legal system, E’s and VC’s efforts, and performance.
- Tougher legal system $\Rightarrow$ Tougher Contracting $\Rightarrow$ destroys cooperation $\Rightarrow$ Higher or Lower Performance?
Timeline:

• Date 0: VC chooses soft or tough contract: $\Rightarrow$ penalty $f \in \{0, F > 0\}$.

• Date 1: Sympathy Sub-Game: E selects sympathy level $m \lambda_{vc} \in \{0,1\}$.

• Date 2: VC selects sympathy level $m \lambda_{vc} \in \{0,1\}$.

• Date 3: Effort levels $\Rightarrow P = \gamma_m e_m + \gamma_{vc} e_{vc} \Rightarrow R > 0$

\[ 1 - P \Rightarrow 0 \]
Payoffs:

\[ \Pi_m = \frac{PR}{2} - (1 - P)qF - \beta e_m^2 + m \Lambda_{vc} \theta\left(\frac{F - f}{F}\right)x_{vc} \]

\[ \Pi_{vc} = \frac{PR}{2} - \beta e_{vc}^2 + vc \Lambda_m \theta\left(\frac{F - f}{F}\right)x_m \]

Following Sally, effective sympathy is:

\[ i \Lambda_j = i \lambda_j + i \lambda_j \left[ j \lambda_i - i \lambda_j \right] \]
Backward Induction.

• Solve for equilibrium effort levels, given VC’s choice of soft or tough contract, and E’s and VC’s sympathy choices.
• Solve for VC’s sympathy choices given …
• Solve for E’s sympathy choice given …
• Finally, solve for VC’s choice of contract.
Equilibrium

• VC chooses soft contract if

\[ q < q'' = \frac{[2\theta + \theta^2]\gamma_{vc}^2 + (3\theta - \theta^3)\gamma_m^2]R}{4\gamma_m^2F} \]

• Firm Value Higher under soft contract if

\[ q < q' = \frac{2\gamma_m^2 + \gamma_{vc}^2]R}{2\gamma_m^2F} \]

\[ q''' > q' \quad \forall \theta \in [0,1] \]
Graphical Representation

Governance; $q$

Tough Contract Chosen: Value-maximising

Tough Contract Value-maximising:
But VC chooses soft contract

Soft Contract chosen:
Value-maximising

Closeness; $\theta$
Firm Value as a function of Governance

\[ \theta = 0.5 \]
Policy Implications.

• Model can be used to classify societies’ optimal contracts, given legal system and closeness?

• Recommendations to regulators on optimal toughness of VC/E contracts given the legal system?

• Eg China? Weak Legal system, Cultural Closeness? => soft VC contracts optimal?
Chinese Evidence

• Trust and Empathy play a large role.
• Legal system is weak.
• Our model suggests soft contracts.
• But evidence suggests tough contracts - not optimal?
Small Survey of Chinese VCs.

- Our small pilot survey suggests;
- A) VCs believe that there is reciprocal trust.
- B) VCs believe legal system is effective.
- C) VCs prefer tougher contracts.
- D) VCs exert effort in screening the E.
- E) VCs split on effect of trust on equity stake offered.