

“Venture Capital and Knowledge Transfer”

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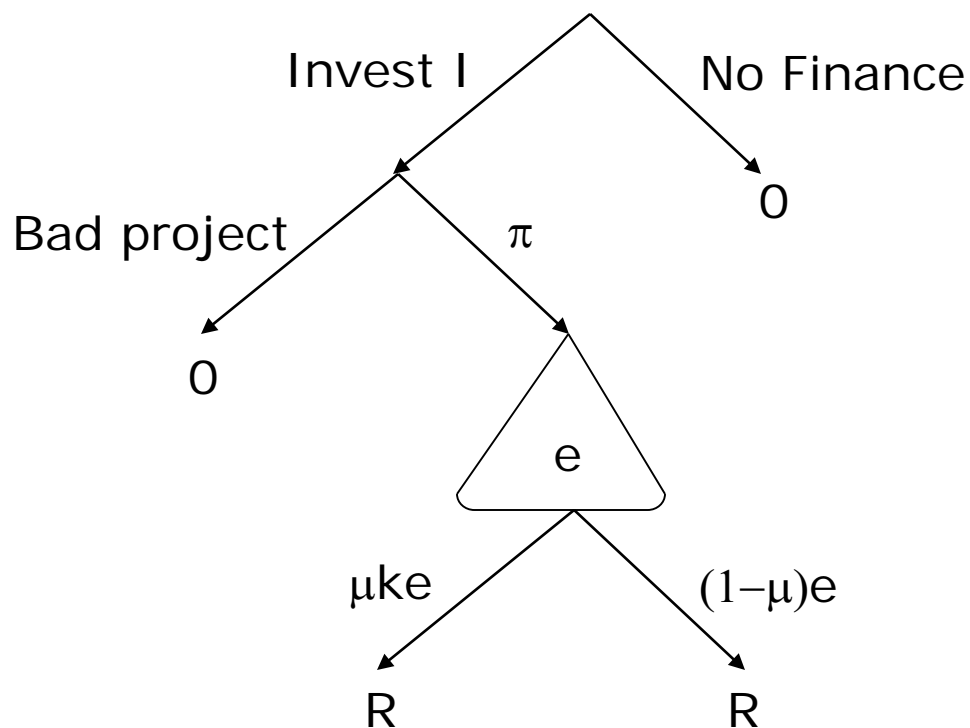
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The model

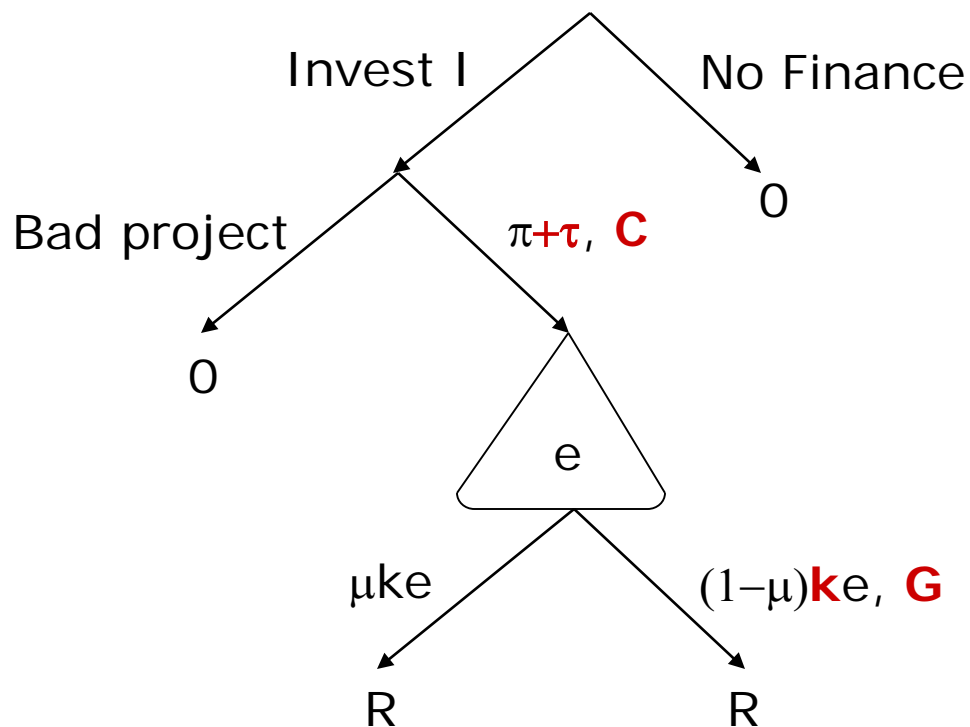
- The non-VC case:



- Why do we need μ ?

The model

- The VC case:



- 6 exogenous parameters: I, π, τ, C, G, R

The main idea

- For each combination of I, π, τ, C, G, R , the paper determines the equil. under VC and compares the outcome with that under non VC

- Main insights:
 - Small C favors VC (the VC contributes a lot)
 - High G encourages expropriation:
 - Less need to pay the VC directly (G is exogenous)
 - The return to e is lower, so the entrepreneur exerts less effort

The main idea

- Ex ante: VC boosts the chance that the project succeeds
 - This is clearly important in real-life
 - In the model, τ does not affect the entrepreneur's effort, but is affected by $R-R_e$ (the higher $R-R_e$ the higher τ)

- Ex post: VC expropriates some of the entrepreneur's IP
 - Any evidence that this is a first order effect?
 - Expropriation multiplies e (rather than being additive), so:
 - It is affected by e (which increases with R_e)
 - It is affected by $R-R_e$ directly
 - What's the advantage of this modeling choice? (Why do we need to channels of effect?)

Comments

- Setting $e = 1$ does not change the main results under VC:
 - How does e really interact with τ and k ? (i.e., why do you need the entrepreneur to choose e if you get more or less the same results with $e = 1$?)

- The binary choices of τ and k seem easy, but in fact lead to tedious “if... then...” results and messy characterization
 - Not sure what the rich set of results (full characterization given 6 exogenous parameters) tell us about reality
 - Any evidence, even casual, that VC is beneficial when C/τ is small relative to I/π and G is neither high nor low?
 - How can we even measure G and C and π ?

Making the endogenous variable continuous

- In the last stage the VC chooses k to maximize

$$\left(\frac{G}{k} + ke\right)(R - R_e) \Rightarrow k^* = \sqrt{\frac{G}{e}}$$

- In the first stage the VC chooses τ to maximize

$$\tau \left(k^* e^* (R - R_e) + \frac{G}{k^*} \right) - \frac{\tau^2}{2} \Rightarrow \tau^* = G + \left(\frac{G^2 R_E}{2} \right)^{\frac{1}{3}} (R - R_E)$$

- The results are much cleaner

One more comment

- The assumption here is that the entrepreneur has all the bargaining power vis-a-vis the VC
 - Probably not very realistic
 - How do things change when it's the other way around?