**Organization and Innovation under Costly Information**, Ding & MacKay (HKUST)

***~ Cliff Notes ~***

**Key Question**: Do conglomerates stifle or foster innovation (*vs* single-segment “standalones”)?

Mixed evidence: Seru (*JFE*, 2014) says “stifle”, Chemmanur *et al*. (*RFS*, 2014) suggest “foster”

⇒ How does organizational form (standalone *vs* conglomerate) affect innovation?

⇒ How does innovative effort (none *vs* some) affect organizational form?

Tributary literatures: IO, theory of the firm, diversification, internal capital markets, etc.

⇒ What we **do**: Model form and function ***jointly***: Interaction of organization & innovation.

Friction: Imperfect information (costly investigation) / No agency conflict or risk aversion

⇒ What we **find**: Simple set up but rich results (“It depends”):

Organization may or not uniquely determine innovation (separable or non-separable)

Conglomerates/standalones may stifle or foster innovation (form-function non-separable)

**Three (3) endogenous variables:** Equilibrium {*O*\*, *I*\*, *φ* \*}

Organizational Form (standalone/external *vs* conglomerate/internal): *O* ∈ {*SA*, *CG*}

Innovative Effort (none *vs* some): *I* ∈ {0, 1} Investigation Intensity: *φ* ∈ [0, 1]

**Exogenous parameters (7), functions, and bounds:**

*v* Productivity (private knowledge *v* > 0) E[*v*|∅] < 0 “bad ideas on average”

*k* Production capital (common knowledge) Cash-rich conglomerate has 2*k* (arbitrary)

*a* Innovation potential (gains to innovation) Certain productivity boost if *I* = 1 (*k* fixed)

*y* Y(*a*,*v*,*k*) = (1 + *a*)*vk* (*y* = *vk* if *I* = 0) Linear production function (CRS)

** Allocation rule: winner gets (1 + **)*k* ** → 0 “Socialist” ** → 1 “Capitalist”

*u* Conglomerate productivity (unobserved) E[*u*] > 0 Bad ideas screened out

W(*v*,.) ≡ Pr (*v* > *u*|*beliefs*) Probability of winning internal competition

*cin* > 0 ⇒ Innovation cost Entrepreneur’s opportunity cost (≠ capital)

*chq* > 0 ⇒ Investigation cost: ½*chqφ* 2 *chq* = 0 Special case (Section 4)

***Timeline***: Parameters → Organize → Innovate → Investigate → Allocate → Produce