



# Cultural Differences, Insecure Property Rights and Modes of Entry by Multinational Corporations

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# Motivation

- MNC play a key role in the globalization process
- *Alliances* – joint ventures and licensing agreements – are one of the most important organizational forms: In 1998-1999 over 20000 registered worldwide (Anand and Khanna (2000))
- In many markets key tradeoff is between `knowledge` provided by the local partner and `dissipation` of proprietary information of the MNC
- This paper: Analyze the choice of the mode of entry by the MNC based on this tradeoff



# Literature Review

- Horstmann and Markusen (1987), (1996)
- Cai (2003)
- Mueller and Schnitzer (2003)
- Smarzynska and Wei (2002)
- McCalman (2004)
- Aghion and Tirole (1997)
- Grossman and Hart (1986), Hart and Moore (1990)



# Conclusion

- Trade-off of joint-venture with licensing and wholly-owned subsidiary comes through:
  - Credibility effect
  - “Insurance” effect
  - Bargaining power effect
- In general, the trade-off is not monotonic in property rights protection



# Setup

- Aghion and Tirole (1997), Grossman and Hart (1986), and Hart and Moore (1990)
- Two risk neutral firms: multinational corporation (M) and domestic firm (D), operating in segmented markets
- Three organizational forms: licensing, wholly-owned subsidiary (or green field), and joint-venture
- Under all forms, D first proposes an investment project



# Setup

- Forms differ in the allocation of formal authority
  - Licensing: D has the right
  - Wholly-owned: M has the right
  - Joint-venture: D and M share the right
- Forms also differ in residual claims
  - (can be endogenized along the line of GHM)
  - Licensing:  $s(D) = 1$
  - Wholly-owned:  $s(M) = \beta$ ,  $s(D) = 1 - \beta$ , depending on dispensability of domestic firm,  $\beta \in [0, 1]$
  - Joint-venture:  $s(M) = \beta$ ,  $s(D) = 1 - \beta$ ,  $\beta \leq \beta^*$



# Setup

- Project identification
  - With probability  $e$ , D identifies an innovative, high profit project
  - With probability  $1 - e$ , only a low profit project can be proposed



## Setup

### ○ *Moral hazard* under insecure property rights

- If D identifies an “innovative” project, it can behave honestly or opportunistically
- Honest behavior yields (total) return  $\Pi$
- Opportunistic behavior yields return  $\Pi + \lambda(k - I)$ , where  $\lambda$  is the probability of failure in property rights enforcement,  $(k - I) < 0$
- Interpretation: opportunistic type investment allows D to “expropriate” M, i.e., in addition to the residual claim on the distribution of  $\Pi$ ,  $k$  accrues to D and  $-I$  accrues to M



# Setup

## ○ Monitoring and Compromise

- With (exogenous) probability  $\rho$ , M observes opportunistic type investment, if proposed
- In a wholly-owned subsidiary and a joint-venture, M chooses whether to veto upon observing opportunistic type investment and propose a revision
- In a wholly-owned subsidiary, the revision is implemented
- In a joint-venture, the revision is subject to approval by D; if D vetoes the revision, the low profit (default) project is implemented
- Return of the low profit project normalized to zero



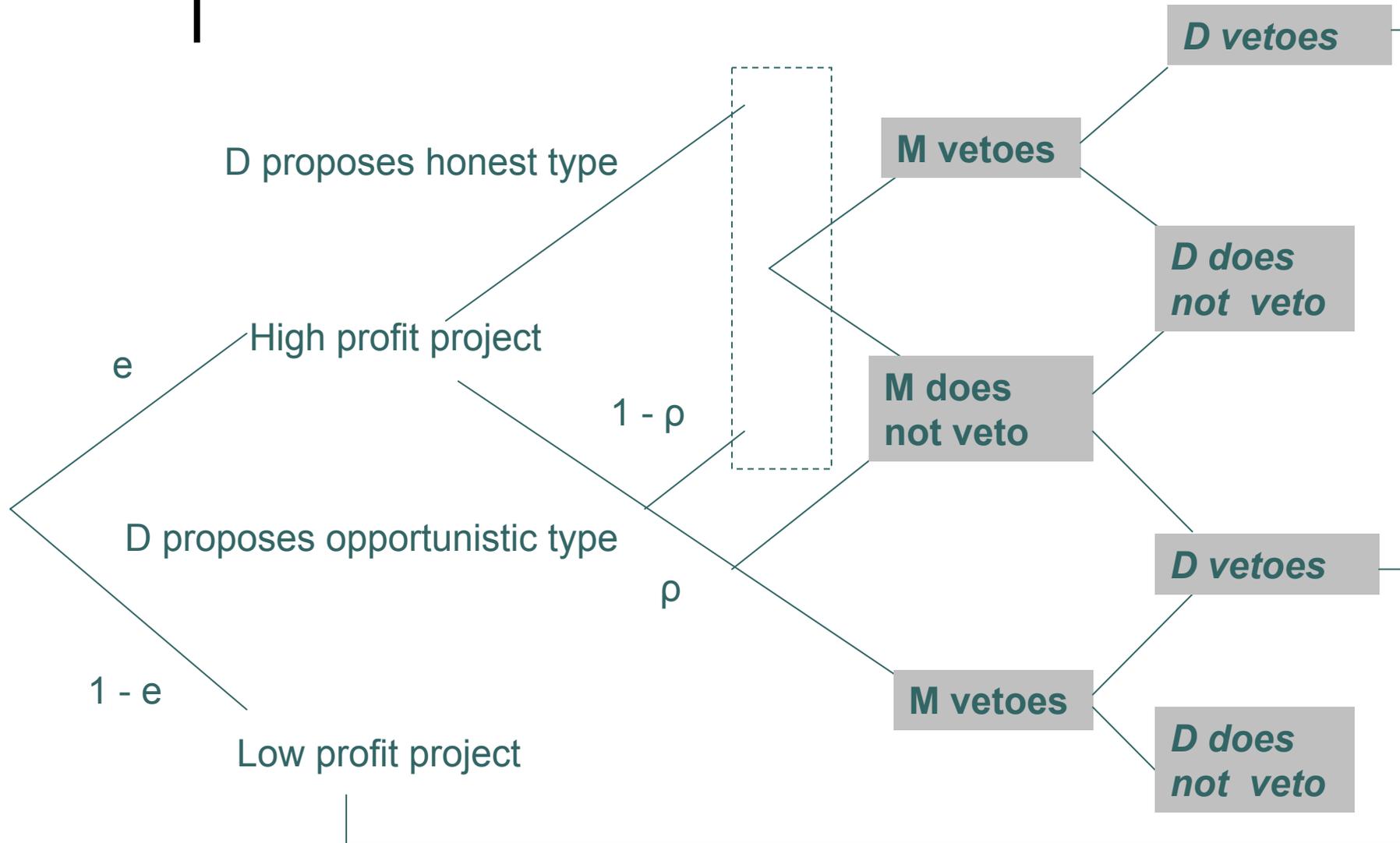
# Setup

- *Local knowledge* difference
  - M is unable to make initial proposal
  - Revision generates a return,  $\pi \in (-\infty, \Pi)$ , distributed according to cumulative density function  $G(\pi, \theta)$ , with the actual value unknown to M but known to D
  - “Better” local knowledge ( $\theta > \theta'$ ) iff
$$G(\pi, \theta) \geq G(\pi, \theta')$$
  - Notice that D will veto all of M revisions generating a negative payoff, so

$$E^J \pi > E^W \pi$$



# Sequence





## Analysis: *ex post*

- *Ex post*: conditional on the high profit project identified
- Licensing
  - D always chooses opportunistic type
  - *Ex post* social surplus

$$\Pi + \lambda(k - l)$$



## Analysis: *ex post*

- **Wholly-owned subsidiary**

- M vetoes and revises D's proposal of an opportunistic type iff

$$\beta E^W \pi \geq \beta \Pi - \lambda l \quad \text{or} \quad \lambda \geq \beta(\Pi - E^W \pi)/l$$

- Anticipating this to happen with probability  $\rho$ , D behaves honestly iff

$$(1 - \beta)\Pi \geq (1 - \rho)[(1 - \beta)\Pi + \lambda k] + \rho(1 - \beta)E^W \pi$$

- In equilibrium D behaves honestly iff

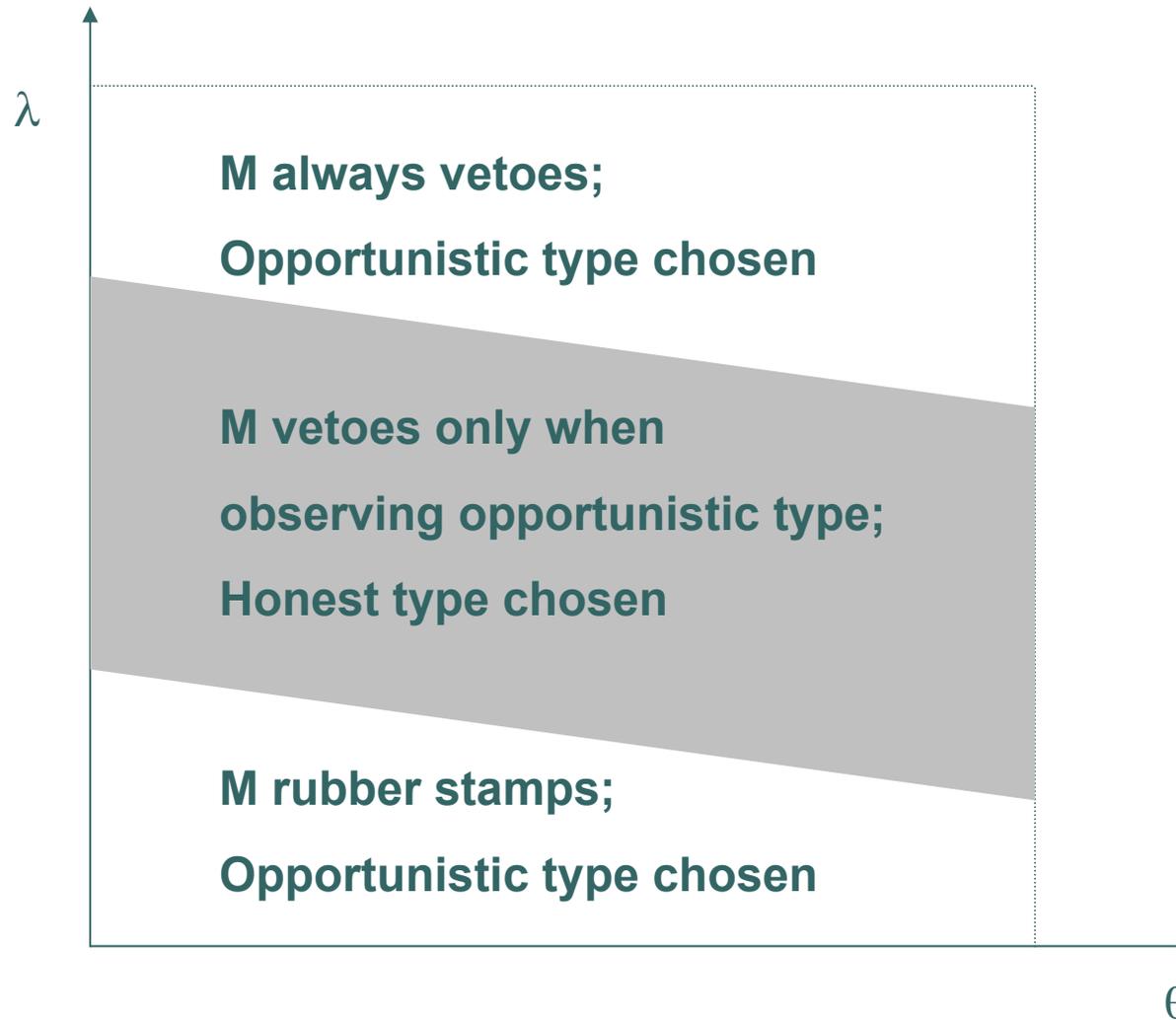
$$\rho(1 - \beta)(\Pi - E^W \pi)/[(1 - \rho)k] \geq \lambda \geq \beta(\Pi - E^W \pi)/l$$

- Assumption

$$\rho l(1 - \beta) > (1 - \rho)\beta k$$



## Analysis: *ex post*





## Analysis: *ex post*

- Joint-venture

- An equilibrium where “honest” type is implemented iff

$$\rho(1 - \beta)(\Pi - E^J\pi)/[(1 - \rho)k] \geq \lambda \geq \beta(\Pi - E^J\pi)/l$$

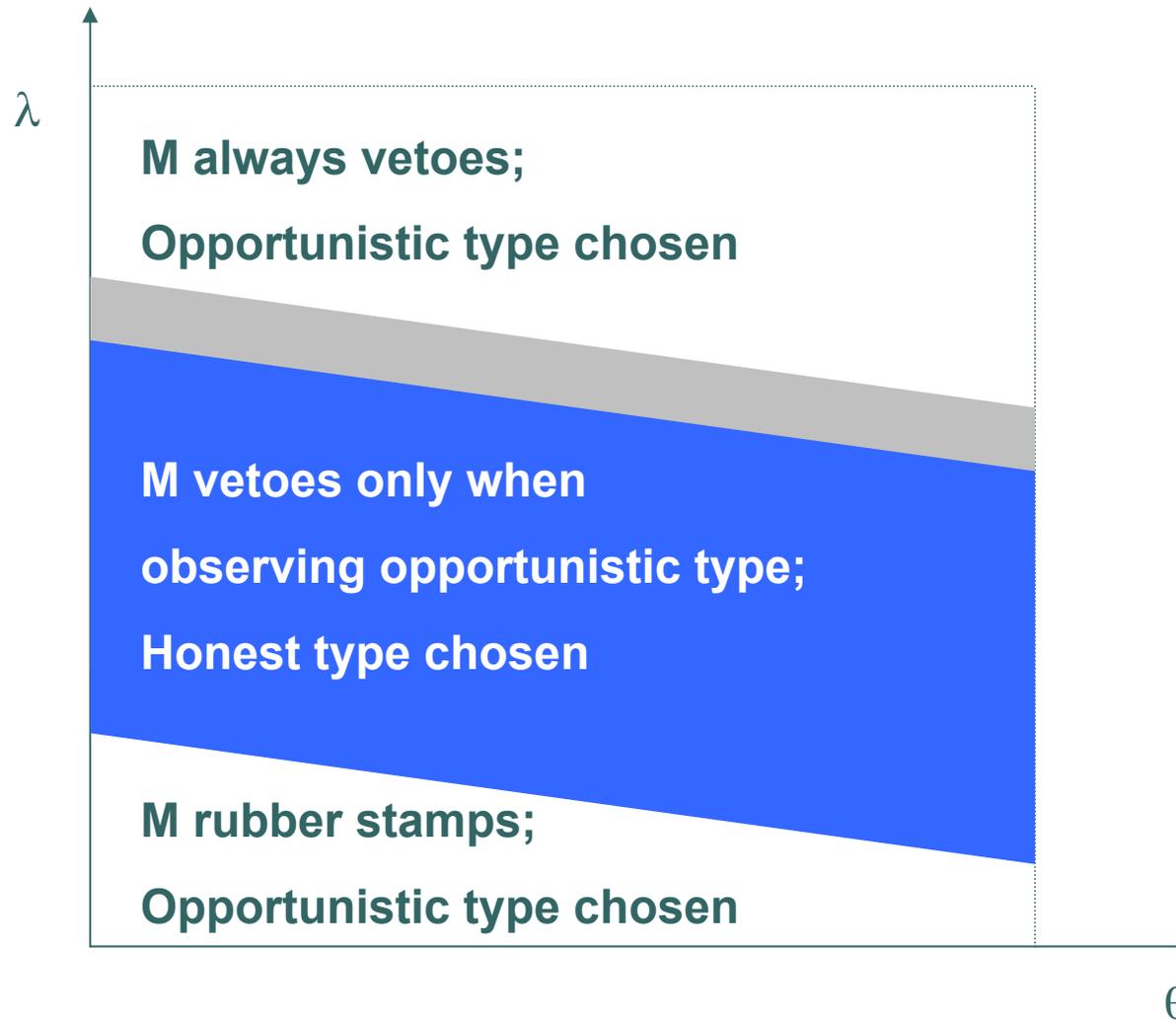
- Remember:  $E^J \pi > E^W \pi$

- Assumption

- $\rho l(1 - \beta) > (1 - \rho)\beta k$



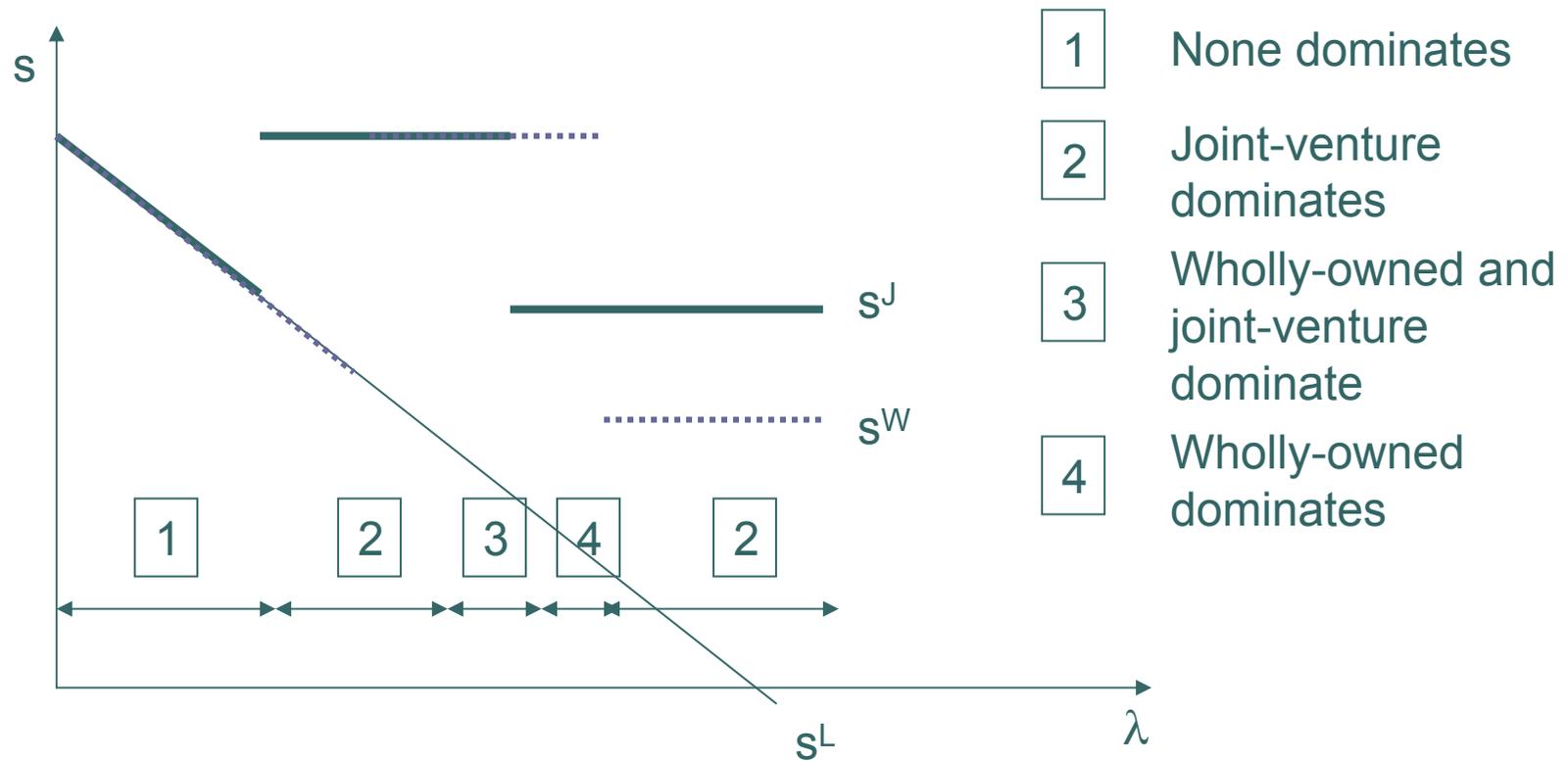
## Analysis: *ex post*





# Analysis: *ex post*

- *Ex post* social surpluses across organizational forms





## Analysis: *ex post*

- Two sources for gains of joint-venture over licensing
  - Monitoring produces incentives
  - Veto rights provides “insurance”
- Two sources for gains of joint-venture over wholly-owned subsidiary
  - Better use of local knowledge improves monitoring credibility, hence produces better incentives
  - Better use of local knowledge creates better “insurance”



## Analysis: *ex post*

- One source for loss of joint-venture over wholly-owned subsidiary
  - Better use of local knowledge provides “insurance” to D as well, bad for incentives



## Analysis: *ex ante*

- Identification of the high return project requires an effort  $e$ , with cost  $c(e)$
- *Licensing*:
  - $e^L = \operatorname{argmax} e(\Pi + \lambda k) - c(e)$
- *Wholly owned subsidiary and joint-venture*
  - $e^W_h = e^J_h = \operatorname{argmax} e(1 - \beta)\Pi - c(e)$  in “honest” type equilibrium
  - $e^W_r = e^J_r = \operatorname{argmax} e[(1 - \beta)\Pi + \lambda k] - c(e)$  in rubber-stamp equilibrium



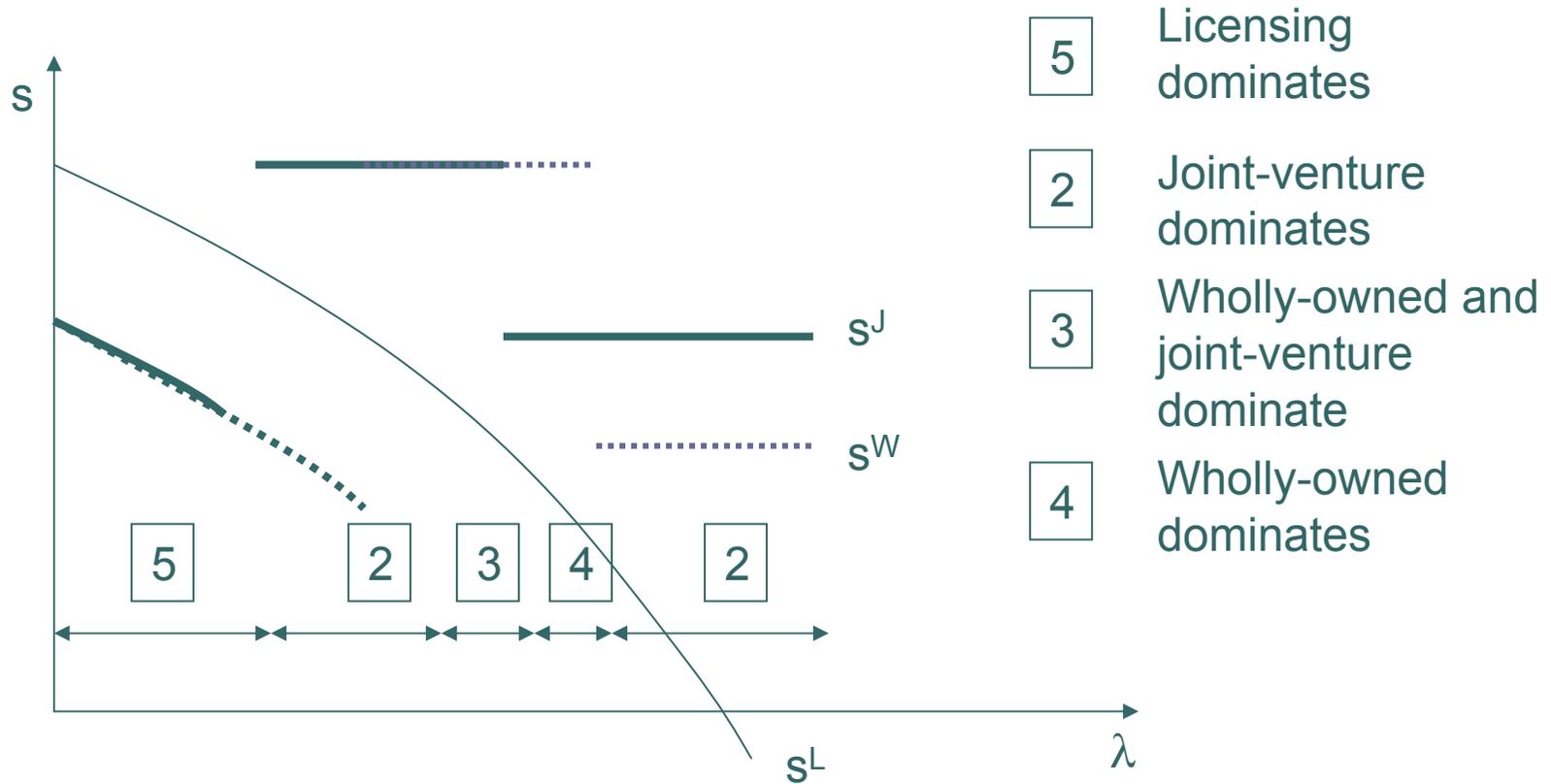
## Analysis: *ex ante*

- In an always-veto equilibrium
  - Assume revision is based upon *ex ante* project identification
  - $e^W_v = e(1 - \beta)E^W\pi - c(e)$  under wholly-owned subsidiary
  - $e^J_v = e(1 - \beta)E^J\pi - c(e)$  under joint-venture
- Better *ex ante* incentives under licensing than under wholly-owned subsidiary and joint-venture
- Better *ex ante* incentives under joint-venture than under wholly-owned subsidiary in an always-veto equilibrium



# Analysis: *ex ante*

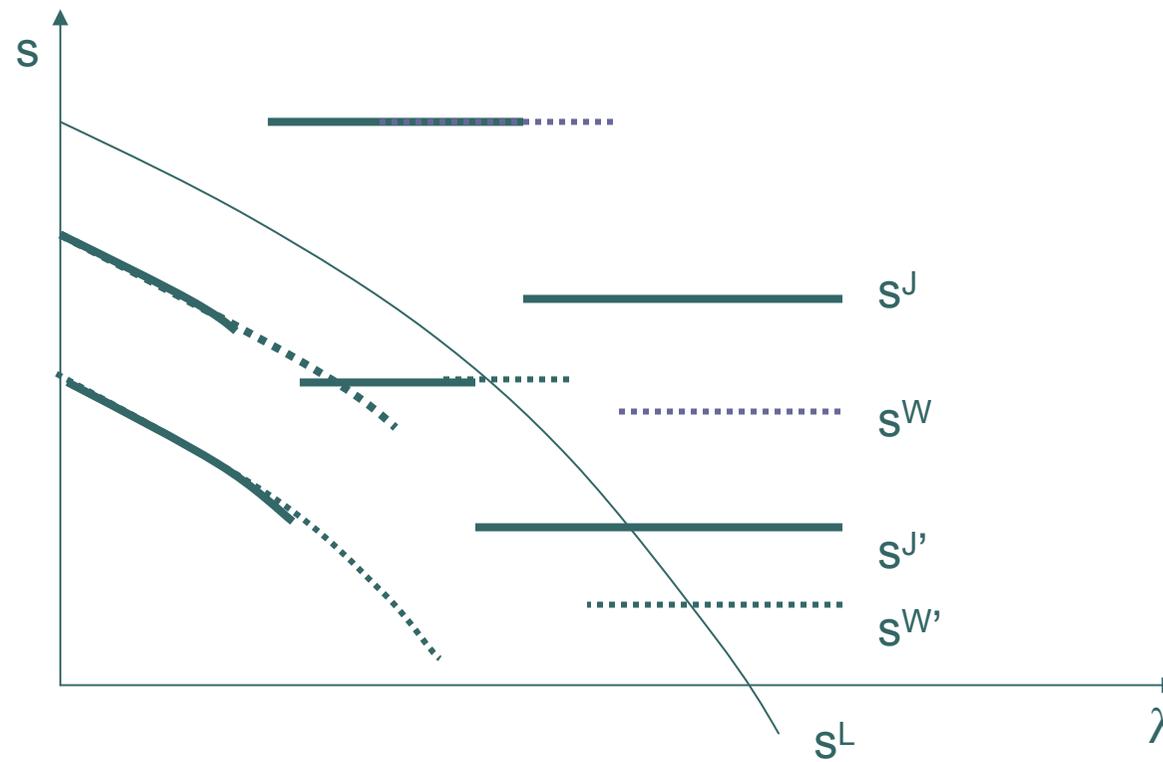
- *Ex ante* social surpluses across organizational forms





# Analysis: *ex ante*

- Comparative statics: Increase in  $\beta$



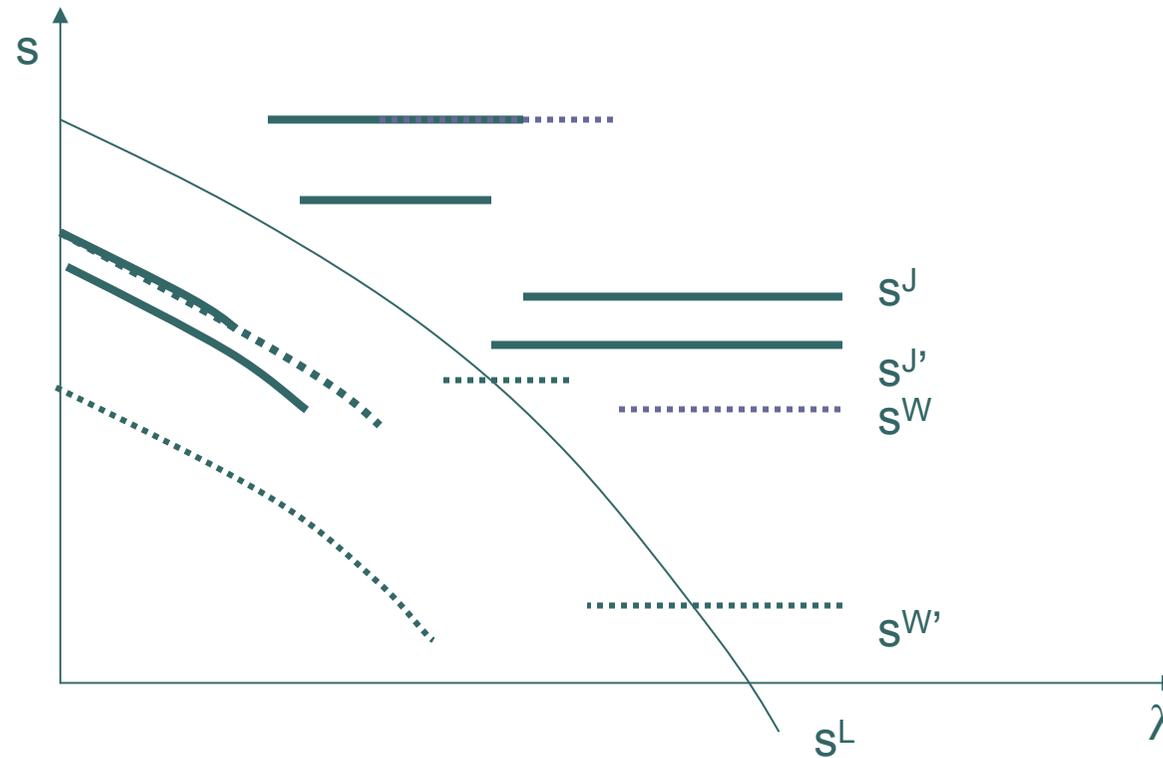


## Analysis: *ex ante*

- *Ex ante* effect of increase in  $\beta$ 
  - Reduces D's *ex ante* incentive
  
- *Ex post* effect of increase in  $\beta$ 
  - Recall an equilibrium where “honest” type is implemented iff
$$\rho(1 - \beta)(\Pi - E\pi)/[(1 - \rho)k] \geq \lambda \geq \beta(\Pi - E\pi)/l$$
  - Increase in  $\beta$  reduces D's (*ex post*) incentive, and reduces monitoring credibility



Analysis: *ex ante*,  $\beta^W > \beta^J$



- Joint-venture: protecting D's bargaining power and hence both *ex ante* and *ex post* incentives



# Conclusion

- Trade-off of joint-venture with licensing and wholly-owned subsidiary comes through:
  - Credibility effect
  - Insurance effect
  - Bargaining power effect
- In general, the trade-off not monotonic in property rights protection