

# DISCUSSION PAPERS IN ECONOMICS

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## Demand for Contract Enforcement and Gains from Trade

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$$= + \frac{1}{2}$$

$$+ (1 - ) \frac{1}{2}$$

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quality of institutions

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g

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g

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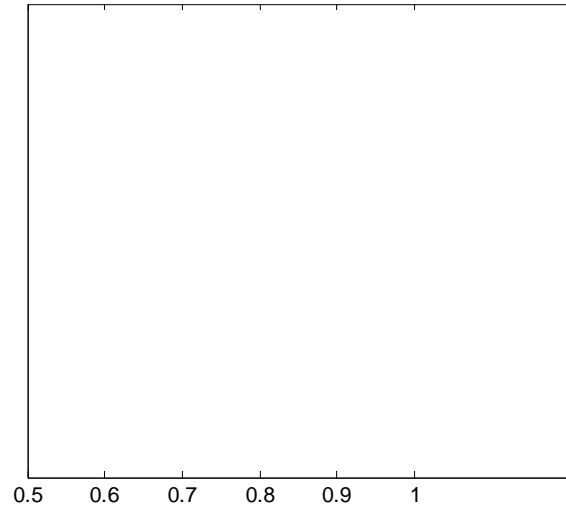
g ≡ (1 -

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$$V^g = \alpha V^g + (1 - \alpha) \left[ \frac{1}{2} V^g + \frac{1}{2} V^g \right]$$

$$V^g = \max \{ V^g, V^g \}$$

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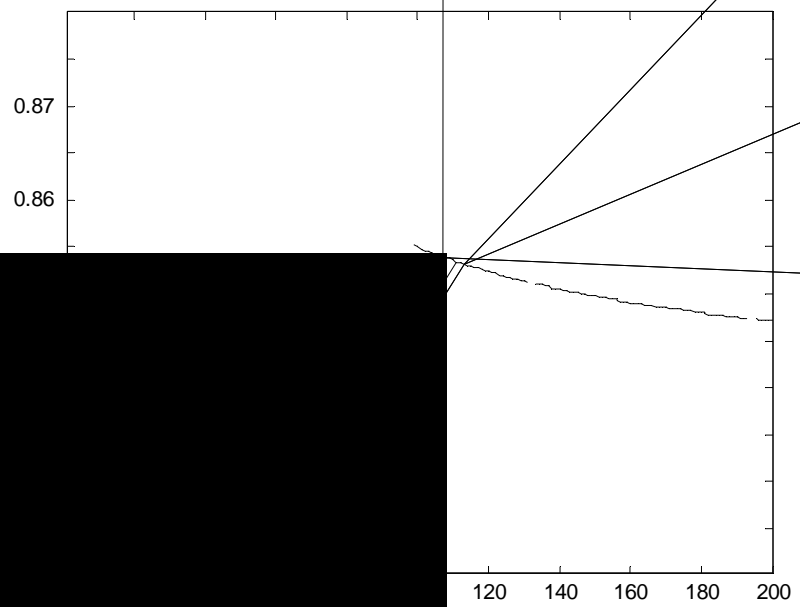


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Suppose punishment is proportional:  $(\cdot) = \cdot$ . If an equilibrium with contracting exists, then  $\cdot^*(\cdot)$  is increasing in the gains from trade  $\cdot$ .

$$(\cdot) =$$







property rights

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Assume that  $\alpha_1, \alpha_2 > 0$  so that  $H$  is well defined. Assume  $D(\cdot)$  so that the demand for enforcement is positive. Then  $H^*$  is concave in  $\alpha_1$  and in  $\alpha_2$ .

$$H = 1 - \frac{D(\alpha_1, \alpha_2)}{\alpha_1 + \alpha_2}$$

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institutions

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contracting

$$\begin{aligned}
 t^g(\cdot; \cdot) &= \frac{1}{1 - (1 - \cdot)} \\
 r^g(\cdot; \cdot) &= \frac{(\cdot + 1)(1 - \cdot) - \cdot}{(1 - \cdot)(1 - \cdot) + 2(1 - \cdot)}
 \end{aligned}
 \tag{3}$$

$$g = \begin{cases} t^g(1; \cdot) = 1 \\ r^g(0; \cdot) = 0 \\ t^g(\cdot; \cdot) = r^g(\cdot; \cdot) \end{cases}$$

$$\begin{aligned}
 (\cdot; \cdot) &= (\cdot) [t^g(\cdot; \cdot) - r^g(\cdot; \cdot)]; \\
 (\cdot) &\equiv ((1 - \cdot)(1 - \cdot) + 2(1 - \cdot))(1 - (1 - \cdot))
 \end{aligned}$$

$$g(\cdot; \cdot) - g(\cdot; \cdot) = \frac{0}{(\cdot; \cdot)} \quad \text{fi}$$

$$(\cdot; \cdot) = {}^2 F(\cdot) + F(\cdot) + Ff+$$



Since  $H > 0$  and  $H < 0$ , the upper root of  $F$  is positive,  $L > 0$  if  $H > 0$  which is true whenever  $L < 1$  where  $L$  is the lower root of the quadratic polynomial

$$F(L) = L^2 + 1 + i_6 - 4L^2 - 6L + 2i_5 - 8L^2 + 4L^3 + 1;$$

It is easy to check that  $L \in (0, 1)$  provided  $i_6 > 1$  as  $F(1) < 0$  and  $F(0) > 0$

Assume that  $i_6 > 1$  and  $F(L) = 0$ . Then there are three equilibria:  $L = 0$  and a couple  $L < H < 1$

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$$L < H \equiv \frac{-F(L) + \sqrt{F(L)^2 - 4L^2}}{2L}$$



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<sup>1</sup><sub>D</sub> ( )

$$F = \frac{2}{F} - 4 F F$$

$$H = -\sqrt{F}$$

$$\frac{H}{H} = \frac{G(H)}{\sqrt{F}} = 0$$

$$\frac{H}{H} = \frac{c(H)}{\sqrt{F}} = 0$$

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$$\begin{aligned}
 {}_0 F(\quad) &= {}_2 F(\quad) \\
 {}_2 F(\quad) &= \frac{F(\quad)}{\quad} +
 \end{aligned}$$

$$f_i(\cdot) = H(\cdot) - H(\cdot)$$

$$(\cdot) \equiv \frac{F(\cdot)}{2} \equiv$$

$$(\cdot) = 2H + \frac{H}{2} + \frac{H}{2}$$

$$H = 2(\cdot + 1) + 2(1 - \cdot)^2 - (\cdot - 2 + 1)^2$$



$$\frac{d}{d} ( \quad ) \quad (46)$$

$$\frac{( \text{H} \quad ) \text{H} ( \quad )}{0}$$

$$( \quad ) \quad ( \text{H} \quad ) \quad 0 \quad (44)$$

$$- ( \text{H} \quad )$$

$$\sum_{t=0}^{\infty} (1 - \delta)^t (V_t - V_{t-1}) = \sum_{t=0}^{\infty} (1 - \delta)^t (V_t - V_{t-1})$$

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