



# Shifting of Bargaining Power Among Stockholders in International Projects – A Mathematical Modeling Approach

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# Motivating Problem

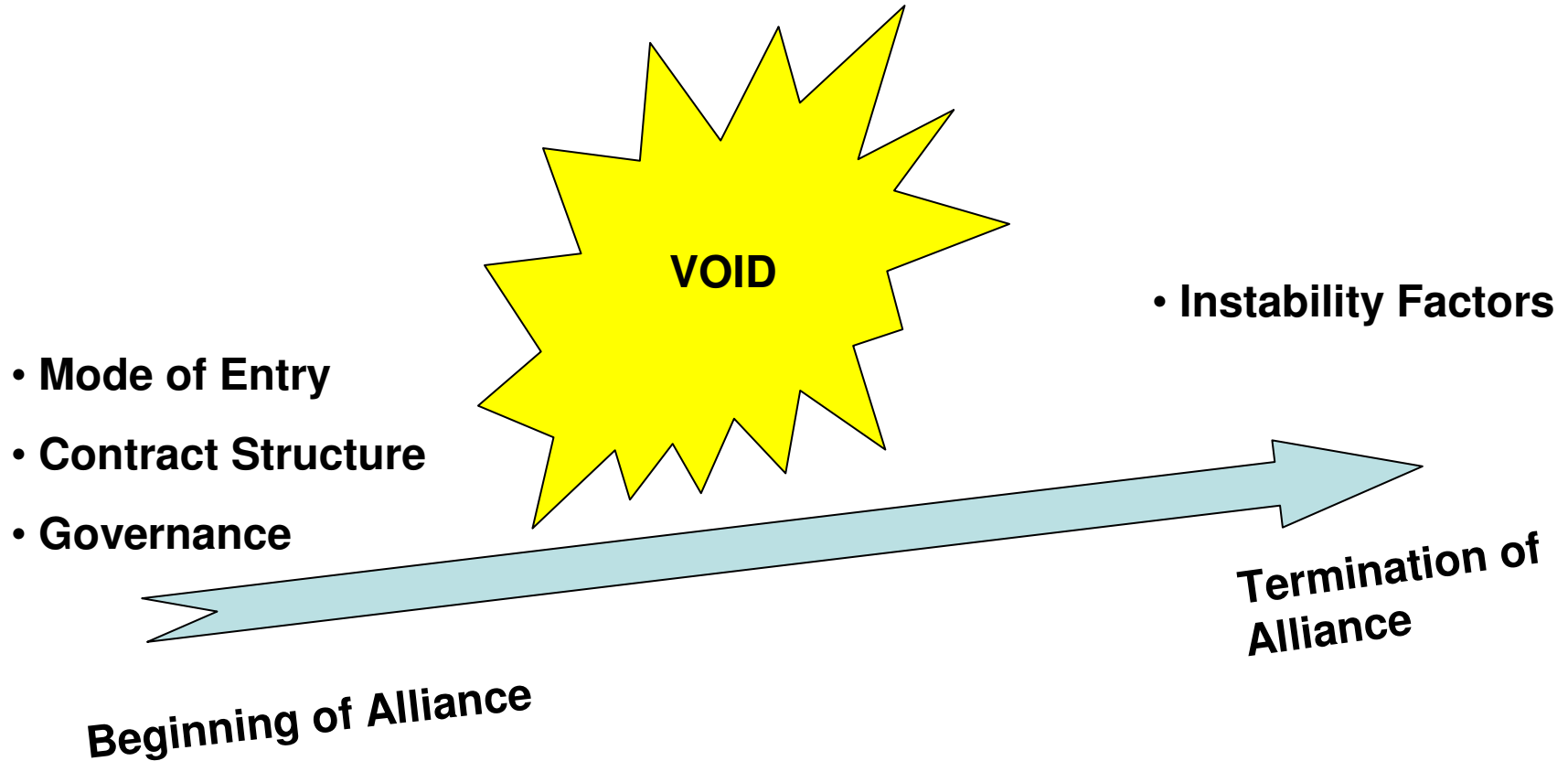


## Research Questions

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- To what extent can mathematical models describe and predict the shifting of bargaining power among stockholders in international infrastructure projects?

# Points of Departure



# Research Approach and Method

$$\frac{d[RL]_t}{dt} = r_b - \mu[RL]_t$$

$$\frac{d[R]_t}{dt} = \Omega_R - \mu[R]_t$$

$$\frac{d[F]_t}{dt} = \Omega_F - 2r_F - \mu[F]_t$$

$$\frac{d[RL.F_2]_t}{dt} = r_F - \mu[RL.F_2]_t$$

$$\frac{d[C_c]_t}{dt} = r_c - r_{A1} - \mu[C_c]_t$$

$$\frac{d[A1]_t}{dt} = \Omega_{A1} - \mu[A1]_t$$

$$\frac{d[A1.C_c]_t}{dt} = r_{A1} - \mu[A1.C_c]_t$$

$$\frac{d[c_{kz}]_t}{dt} = \Omega_k - 2r_{T22} - \mu[c_{kz}]_t$$

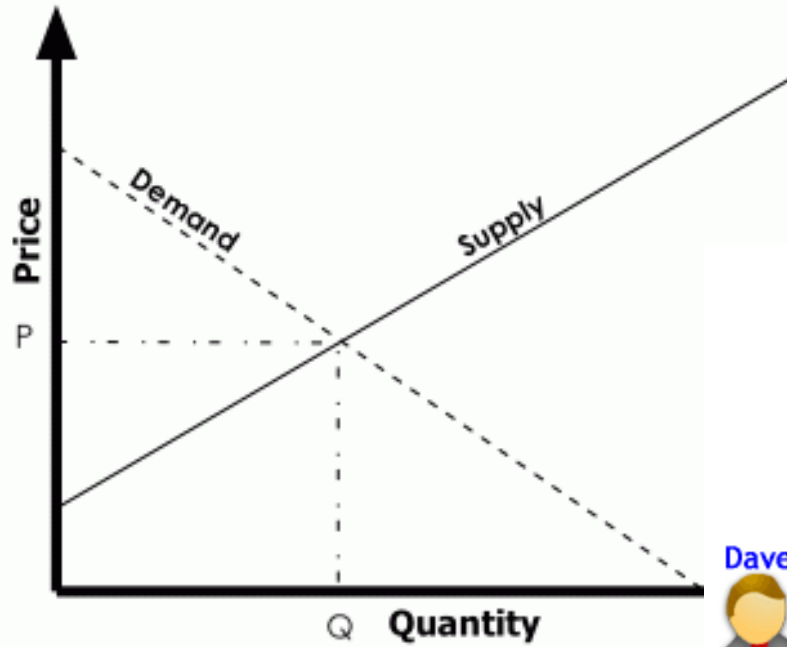
$$\frac{d[c_{ka}]_t}{dt} = 2r_{T22} - \mu[c_{ka}]_t$$

$$\frac{d[c_{Ez}]_t}{dt} = \Omega_{Ez} - \sum_{w=8}^9 r_{wEz} - \mu[c_{Ez}]_t$$

$$\frac{d[c_{Ea}]_t}{dt} = \sum_{w=8}^9 r_{wEa} - \mu[c_{Ez}]_t - r_{LAP}$$

$$\frac{d[b_j]_t}{dt} = \Omega_{b_j} - \mu[b_j]_t$$

$$\frac{d[I_w]_t}{dt} = \Omega_{I_w} - \mu[I_w]_t$$



|      |            | Henry             |                   |
|------|------------|-------------------|-------------------|
|      |            | Not Guilty        | Guilty            |
| Dave | Not Guilty | <br>2 Years       | <br>5 Years 1 Yr. |
|      | Guilty     | <br>5 Years 1 Yr. | <br>3 Years       |

Hypothesis 1: The higher the...

## Status and Findings to Date

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- Preliminary stage
- Potential collaboration with scholar from Taiwan
- Testing of hypotheses begins as early as summer of 2008