Investment in the Shadow of Conflict:
General Equilibrium Foundations of Regime Change

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- **Lucas Paradox:** capital does not flow from developed countries to developing countries even though developing countries have much lower levels of capital per worker.

  WHY? Empirical evidence suggests that the quality of institutions (e.g., government stability and internal conflict) is the leading explanation (Alfaro et al. 2008; Papaioannou 2009).

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- **Capital Flight:** "political instability is the most important factor associated with capital flight" (Le and Zak 2006).
  - Iran: $50 mil/day during the 1979 Iranian Revolution (Parsa 2000).
  - The Phillipines: in response to anti-Marcos protests (Boyce 1993).
  - **Arab Spring:** Greenfield Foreign Direct Investment dropped (Burger et al. 2016). *World Bank Data*: between 2010 and 2011, FDI dropped (in $ mil):

    Egypt: 6400 to -500. Yemen: 200 to -500. Tunisia: 1300 to 430. Lybia: 1800 to 50 in 2014.

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  We have models, saying that when the economy goes bad, the likelihood of revolt rises.
- **Empirical Evidence** + **Logic:** Political risk harms the economy. Harmed economy raises instability, and hence political risk...which, in turn, harms the economy,...
- **Lesson:** Partial equilibrium analyses (that take either political risk as given, or the economy as given) entirely miss their intimate relationship.

We do *not* have a (general equilibrium) model that integrates a model of economy with a model political stability.

Overview of Results

- **Methodologically:**
  - A general equilibrium model of the economy with political risk: **Integrates a model of the economy with production into a model of collective action with coordination and information frictions.**
  - Two global games linked through the economy in a general equilibrium framework.
- **Substantively:**
  - Unintended consequences of globalization and modernization: **They generate strategic forces that can reduce political stability and strengthen demand by elites for a strong, coercive state.**
  - Origins of capital control: **Capitalists want to impose capital control on *themselves* to manage their collective action problem.**
  - Relationship between economic coercion and political coercion, and the nature of right-wing authoritarian regimes.

Building Blocks

What should such a model look like? What are the most basic features of the economy and political collective action?

- **Economy:** Production + Market
  - **Production:** Labor + Capital + Technology. Cobb-Douglas:

$$AK^{\alpha}L^{1-\alpha}$$

  - **Market:** Competitive.
- **Political Instability:** Coordination and Information Frictions.
  - **Regime Change Global Game:** Enough people must protest to topple the regime + they're uncertain about the regime's strength.

Economy: Production + Market

- **Production.** Labor + Capital + Technology: $AK^{\alpha}L^{1-\alpha}$.
- Individuals either have capital (capitalists) or labor (workers):
- A worker can either work or revolt.
- A capitalist can either keep/invest his capital domestically or move it abroad.
- Not all capital can be moved (capital mobility), not all workers can/are willing to revolt.

$$(\underline{K}+K)^{\alpha}(\underline{L}+L)^{1-\alpha},\ \underline{K},\underline{L}>0.$$

- **Market.** Competitive $\Rightarrow$ wage (capital return) is its marginal revenue product.

$$w=(1-\alpha)\left(\frac{\underline{K}+K}{\underline{L}+L}\right)^{\alpha} \quad \text{and} \quad r_d=\alpha\left(\frac{\underline{L}+L}{\underline{K}+K}\right)^{1-\alpha}$$

Politics: Coordination and Information Frictions

- Regime Change Global Game: Enough people must protest to topple the regime + they're uncertain about the regime's strength.
- The regime collapses whenever the sum of revolters exceed a threshold $\theta \in \mathbb{R}$, about which players have private information.
- What happens when the regime collapses?
  1. All domestic capital and its returns are confiscated and distributed among all the workers.
  2. Those who participated in the revolution receive a warm-glow payoff (pleasure in agency (Wood 2003)) $\Rightarrow$ There is no predatory incentive, the source of conflict need not be inequality, e.g., could be religious grievances.

Model: Basics

Players and Actions:

- A continuum 1 of workers and a continuum 1 of capitalists.
- Each worker has 1 unit of labor. Each capitalist has $\overline{K}$ units of capital, of which $\underline{K} \in (0, \overline{K})$ units are immobile. The rest can be invested in domestic or foreign markets.
- **Stage one:** Each capitalist decides how to divide his mobile capital into domestic and foreign markets.
- **Stage two:** Each worker observes aggregate domestic capital and decides whether to work or revolt.

Model: Basics

Payoffs:

- Payoffs are realized after the success or failure of revolution.
- If the revolution succeeds, all domestic capital is confiscated and distributed evenly among *all* the workers. In addition,
- those who worked get their wages w.
- a fraction $1 - \underline{L}$ of workers get a warm-glow payoff s from participating in a successful revolution.

Model: The Economy

Markets and Production Technology:

- Let $L = \int l_i d_i \in [0, 1 - \underline{L}]$ be the aggregate labor of potential revolutionaries.
- Let $K = \int k_i di \in [0, \overline{K} - \underline{K}]$ be the aggregate mobile capital invested domestically.
- Cobb-Douglas production technology: $A\ (\underline{K} + K)^{\alpha}\ (\underline{L} + L)^{1-\alpha}$.
- Competitive Markets:

$$r_d = \alpha \left(\frac{\underline{L} + L}{\underline{K} + K} \right)^{1-\alpha} \quad \text{and} \quad w = (1 - \alpha) \left(\frac{\underline{K} + K}{\underline{L} + L} \right)^{\alpha}.$$

- Return on capital in foreign markets is $r_f \in [\underline{f}, \overline{f}]$.

Model: Politics

Revolution Technology and Information Structure:

- Revolution succeeds when the fraction of revolters exceeds a threshold θ.
- Players share a prior that $\theta \sim g(\cdot)$, and receive noisy private signals about θ:
- Workers: $x_i = \theta + \sigma_w \ \epsilon_i$, with $\epsilon_i \sim iid \ f_\epsilon(\cdot)$.
- Capitalists: $y_j = \theta + \sigma_c \ \eta_j$, with $\eta_j \sim iid \ f_\eta(\cdot)$.
- Capitalists observe r_f, but workers observe a noisy public signal of it: $\tilde{r}_f = r_f + \epsilon_f$.
- All the noises and the fundamental are independent of each other.
- We want signals, x_i and y_j, and the fundamental, θ, to satisfy MLRP (be affiliated), and hence we assume $f_\epsilon(\cdot)$ and $f_\eta(\cdot)$ are log-concave.

Model: Timing

1. Capitalists observe the return to foreign investment r_f and their signals y_j's about the regime's strength θ, and decide how to divide their capital between domestic and foreign markets.

2. Workers observe aggregate domestic capital, a public signal of foreign returns $\tilde{r}_f$, and their signals x_i's about the regime's strength θ, and then decide whether or not to revolt.

3. The success or failure of revolution is determined, payoffs are realized, and the game ends.

Strategies

- **Capitalists:** A pure strategy for a capitalist $j \in [0,1]$ is a mapping

$$\rho_j : \mathbb{R} \times [\underline{f}, \overline{f}] \to [0, \overline{K} - \underline{K}]$$

from his private signal y_j and the foreign rate of return r_f to a decision of how much capital $k_j \in [0, \overline{K} - \underline{K}]$ to invest domestically.

- **Workers:** A pure strategy for a worker $i \in [0,1]$ is a mapping

$$\sigma_i : \mathbb{R}^2 \times \mathbb{R}_+ \to \{0,1\}$$

from his signals x_i and $\tilde{r}_f$ and the aggregate domestic capital investment K to a decision whether to work or revolt, where $\sigma_i(x_i, \tilde{r}_f, K) = 0$ indicates that he works, and $\sigma_i(x_i, \tilde{r}_f, K) = 1$ indicates that he revolts.

- We focus on symmetric, monotone strategies. We characterize PBE in the limit when first the noise in the workers' private signals becomes vanishingly small and then the noise in the capitalists' private signals becomes vanishingly small (order of limits).

Strategic Inferno: Upper hell Circles

Capitalists

Complements: The more others move their capital abroad $\Rightarrow$ aggregate capital $\downarrow \Rightarrow$ return to labor and hence wage $\downarrow$

$$\Rightarrow \begin{cases} \text{(1) aggregate labor } \downarrow \Rightarrow \text{ return to capital } \downarrow. \\ \text{(2) likelihood of regime change } \uparrow. \end{cases}$$

(3) **Substitutes:** The more others move their capital abroad $\Rightarrow$ aggregate capital $\downarrow \Rightarrow$ return to capital $\uparrow$.

Workers

(4) **Complements:** The more others revolt $\Rightarrow$ likelihood of success $\uparrow$.

(5) **Substitutes:** The more others revolt $\Rightarrow$ labor supply $\downarrow \Rightarrow$ wages $\uparrow$.

Benchmarks

Benchmark 1. No information frictions: regime's strength is known

- Multiple equilibria, and no interesting comparative statics.

Benchmark 2. Exogenous Wages and Returns

- Regime changes whenever $\theta < \theta_e$:

$$\theta_e = (1 - \underline{L})\,(1 - w/s).$$

Can The Model be Simplified?

NO

If one wants to integrate a model of economy with one of politics (collective action), this is the bare minimum.

All those conflicting forces must be present...can we manage to tame them?

Equilibrium Characterization

There is a unique equilibrium in which the regime collapses if and only if $\theta < \theta^*$, where

$$\theta^* = (1 - \underline{L})\,(1 - w^*/s).$$

When wages and capital returns were exogenous:

$$\theta_e = (1 - \underline{L})\,(1 - w/s),$$

where s is the warm-glow from participating in a successful revolt.

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What's the difference then?

$$w^* = (\overline{K}^{\alpha} - (\overline{K} - \underline{K})\ r_f)\ (1 - \underline{L}^{1-\alpha})/(1 - \underline{L}).$$

Globalization

Increases in **capital mobility** or **foreign returns to capital** both increase the likelihood of regime change.

- **Globalization** $\longleftrightarrow$ market integration $\longleftrightarrow$ reduces the costs of capital movements $\Longleftrightarrow$ raises the effective foreign return to capital.
- **Economic Modernization** $\longleftrightarrow$ reinvestment from immobile agriculture sector to more mobile finance and service sectors $\Leftrightarrow$ higher capital mobility.

The processes of globalization and modernization carry within them the seeds of their own destruction: They generate opposing forces that work to undermine their continuation, indeed, aim to reverse their course.

Inequality

Recall the technology $(\underline{K} + K)^{\alpha}(\underline{L} + L)^{1-\alpha}$. Labor share, $1 - \alpha$, is a measure of inequality (Acemoglu et al. 2008; Piketty 2014).

- Suppose the warm-glow payoff from successful revolution is increasing in capital share $s'(\alpha) > 0$.
- The direct effect of variations in capital share (inequality) is ambiguous because technology and hence wages also change: conflicting empirical findings (Blattman and Miguel 2010).
- **The mediating effect of capital share on the destabilizing effect of globalization in conflict-prone societies:**

$$\frac{d}{d\alpha}\frac{\partial \theta^*}{\partial r_f} = \frac{\partial^2 \theta^*}{\partial \alpha \partial r_f} + \frac{\partial^2 \theta^*}{\partial s \partial r_f}\frac{\partial s(\alpha)}{\partial \alpha} < 0.$$

Approach of the Proofs: Workers

Suppose all other workers revolt whenever their signals $x_j < x^*(K)$. The revolution succeeds whenever

$$Pr(x_j < x^*(K)|\theta)\ (1 - \underline{L}) > \theta.$$

There is a unique $\theta^{**}(K)$ such that there is regime change whenever $\theta < \theta^{**}(K)$:

$$Pr(x_j < x^*(K)|\theta^{**}(K))\ (1 - \underline{L}) = \theta^{**}(K).$$

If we knew that best responses are also monotone, then:

$$Pr(\theta < \theta^{**}|x_i = x^*, \tilde{r}_f, K) \times s = E[w(\theta)|x_i = x^*, \tilde{r}_f, K].$$

Approach of the Proofs: Workers

Suppose all other workers take a cutoff strategy with cutoff x^*. Does i's best response take a cutoff form?

$$Pr(\theta < \theta^{**} | x_i, \tilde{r}_f, K) \times s > E[w(\theta) | x_i, \tilde{r}_f, K].$$

Let $\Delta(x_i; x^*)$ be worker i's net expected payoff from revolting versus not revolting:

$$\begin{aligned}
& \Delta(x_i; x^*) \\
= \; & Pr(\theta < \theta^{**} | x_i, \tilde{r}_f, K) \times s - (1-\alpha)\, E\left[\left(\frac{\underline{K} + K}{\underline{L} + Pr(x_j \geq x^* | \theta)(1-\underline{L})} \right)^{\alpha} \middle| x_i, \tilde{r}_f, K \right] \\
= \; & \int_{-\infty}^{\infty} \left(\mathbf{1}_{\{\theta < \theta^{**}\}}\, s - (1-\alpha) \left(\frac{\underline{K} + K}{\underline{L} + Pr(x_j \geq x^* | \theta)(1-\underline{L})} \right)^{\alpha} \right) f(\theta | x_i, \tilde{r}_f, K)\, d\theta \\
= \; & \int_{\theta=-\infty}^{\infty} \pi(\theta)\, f(\theta | x_i, \tilde{r}_f, K)\, d\theta,
\end{aligned}$$

Approach of the Proofs: Workers

Let $\Delta(x_i; x^*)$ be worker i's net expected payoff from revolting versus not revolting:

$$\Delta(x_i; x^*) = \int_{\theta=-\infty}^{\infty} \pi(\theta)\ f(\theta|x_i, \tilde{r}_f, K)\ d\theta,$$

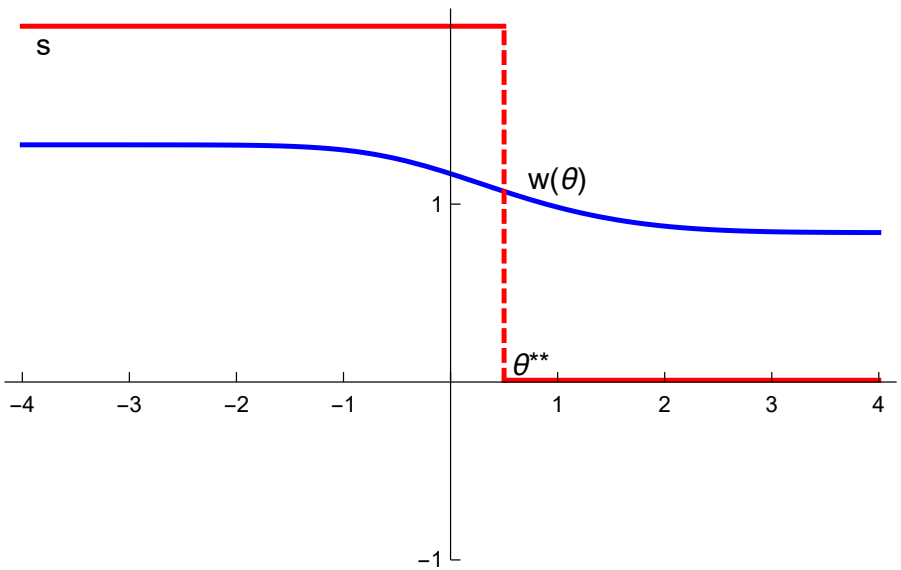
$$\pi(\theta) \equiv \mathbf{1}_{\{\theta<\theta^{**}\}}\ s - (1-\alpha)\ \left(\frac{\underline{K}+K}{\underline{L}+Pr(x_j \geq x^*|\theta)(1-\underline{L})}\right)^{\alpha}.$$

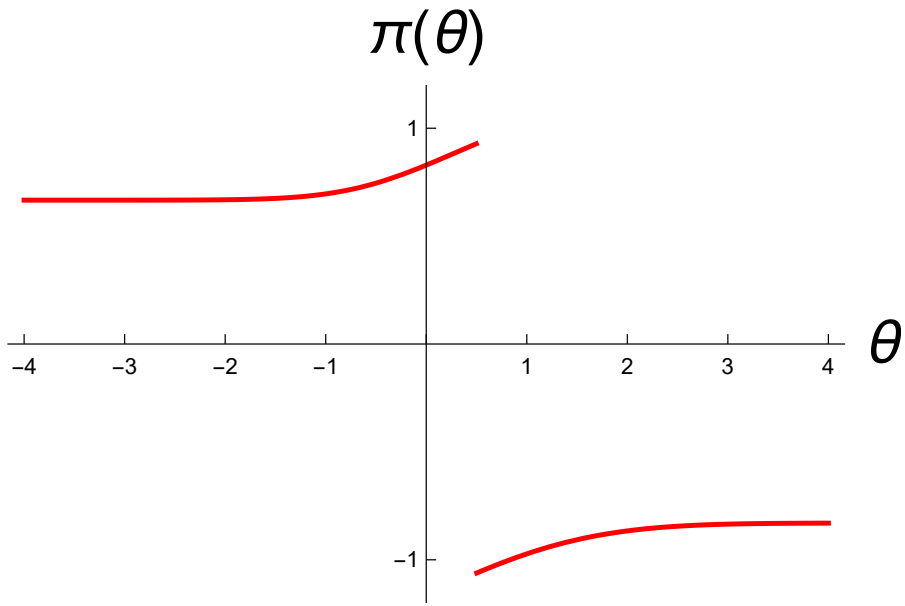
$$\lim_{\theta\to-\infty} \pi(\theta) = s-(1-\alpha)\ \left(\frac{\underline{K}+K}{\underline{L}}\right)^{\alpha} > s-(1-\alpha)\ \left(\frac{\overline{K}}{\underline{L}}\right)^{\alpha} > 0. \text{ (Assumption)}$$

If we draw $\pi(\theta)$ for $\theta \in (-\infty, \infty)$ how many times does it change sign? Once.

Approach is related to "Action Single-Crossing" in Morris and Shin (2003) and Athey (2001). It is Karlin's Theorem on Variation Diminishing Property of Totally Positive Functions of Degree 2 (TP_2, i.e., MLRP).

Single Crossing





Approach of the Proofs: Workers

$$Pr(\theta < \theta^{**} | x_i = x^*, \tilde{r}_f, K) \times s = E[w(\theta) | x_i = x^*, \tilde{r}_f, K].$$

Push signal noise to zero: $\sigma_w \to 0$ in $x_i = \theta + \sigma_w \epsilon_i$:

$$Pr(\theta < \theta^{**} | x_i = x^*) \times s = E[w(\theta) | x_i = x^*].$$

$$\begin{aligned}
& E[w(\theta)|x_i = x^*] \\
= \quad & (1-\alpha)\,(\underline{K}+K)^{\alpha} \int_{-\infty}^{\infty} \frac{1}{[\underline{L} + (1 - Pr(x_i < x^*|\theta))(1-\underline{L})]^{\alpha}}\, pdf(\theta|x_i = x^*)\, d\theta \\
= \quad & (1-\alpha)\,(\underline{K}+K)^{\alpha} \int_{0}^{1} \frac{dz}{(\underline{L} + z(1-\underline{L}))^{\alpha}} \\
= \quad & (1-\alpha)\,\frac{(\underline{K}+K)^{\alpha}}{1-\underline{L}} \left[\frac{(\underline{L} + z(1-\underline{L}))^{1-\alpha}}{1-\alpha}\right]_0^1 \\
= \quad & (\underline{K}+K)^{\alpha}\,\frac{1-\underline{L}^{1-\alpha}}{1-\underline{L}}.
\end{aligned}$$

Approach of the Proofs: Workers

When the noise in private signals is vanishingly small ($\sigma_w \to 0$), **the marginal worker with signal $x_i = x^*$ believes that labor supply is distributed uniformly in its range:**

$$\underline{L} + L(\theta)|x_i = x^* \sim U[\underline{L}, 1].$$

Approach of the Proofs: Workers

Push signal noise to zero: $\sigma_w \to 0$ in $x_i = \theta + \sigma_w \epsilon_i$:

$$Pr(\theta < \theta^{**} | x_i = x^*) \times s = (\underline{K} + K)^{\alpha} \frac{1 - \underline{L}^{1-\alpha}}{1 - \underline{L}}.$$

$$Pr(x_j < x^* | \theta^{**}) (1 - \underline{L}) = \theta^{**}.$$

Combine them and invoke our favorite statistical property to get:

$$\left(1 - \frac{1}{s} (\underline{K} + \mathbf{K})^{\alpha} \frac{1 - \underline{L}^{1-\alpha}}{1 - \underline{L}}\right) (1 - \underline{L}) = \theta^{**}.$$

Once we do more of these kinds of operations to endogenize K we will see that:

$$(\underline{K} + \mathbf{K})^{\alpha} = (\overline{K}^{\alpha} - (\overline{K} - \underline{K}) r_f).$$

Capital Control

Capitalists Face a Collective Action Problem

- When a capitalist decides whether to invest domestically or to move his capital abroad, he does not take into account that reductions in domestic capital reduce wages and increase the likelihood of revolution, thereby potentially hurting the capital that remains in the country.

To remedy these negative externalities, the capitalists may decide to give the state the authority to impose capital control. When?

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To remedy these negative externalities, the capitalists may decide to give the state the authority to impose capital control. When?

Capitalists ex-ante want the state to impose capital control if and only if foreign returns on capital are low.

Capital Control

- $\gamma \in \{0, 1\}$ captures capital control. $\gamma = 0$ means that capitalists can move their capital with no restrictions. $\gamma = 1$ means that capital is not allowed to move abroad.
- This changes capital mobility from $(\overline{K} - \underline{K})$ to $(\overline{K} - \underline{K}) \times (1 - \gamma)$.

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- This changes capital mobility from $(\overline{K} - \underline{K})$ to $(\overline{K} - \underline{K}) \times (1 - \gamma)$.

$$\theta^*_\gamma = (1 - \underline{L})\ (1 - w^*_\gamma / s).$$

$$w^*_\gamma = (\overline{K}^\alpha - (\overline{K} - \underline{K})\ (1 - \gamma)\ r_f)\ (1 - \underline{L}^{1-\alpha})/(1 - \underline{L}).$$

Obviously:

$$\theta^*_1 < \theta^*_0$$

Capital Control

Basic Tradeoffs:

1. Benefit: lower likelihood of revolution

$$\theta^*_{control} < \theta^*_{no\ control}$$

2. Cost: can't move capital even when a capitalist's subsequent information indicates likely revolution.

Suppose domestic capital returns are fixed to be r_d:

$$U_{control} \equiv Pr(\theta \geq \theta^*_1)\ r_d\ \overline{K}.$$

$$\begin{aligned} U_{no\ control} \quad &\equiv \quad Pr(\theta \geq \theta^*_0, y_i \geq y^*)\ r_d\ \overline{K} \\ &+ \quad Pr(\theta \geq \theta^*_0, y_i < y^*)\ r_d\ \underline{K} + Pr(y_i < y^*)\ r_f\ (\overline{K} - \underline{K}). \end{aligned}$$

Capital Control

Economic Forces

1. Non-strategic: Higher foreign returns goes against capital control.
2. Strategic: Higher foreign returns favors capital control, because it raises the capitalists incentive to move their capital abroad, increasing the likelihood of regime change.

Our Assumption ensures that when foreign returns are low, the strategic effect dominates.

Economic and Political Coercion

Coercive instruments of the state:

1. Economic Coercion: capital control.
2. Political Coercion: repress protesters $\Rightarrow$ raise the expected direct costs of protest.

What is repression:

$$Pr(\theta < \theta^{**} | x_i, \tilde{r}_f, K) \times s - c > E[w(\theta) | x_i, \tilde{r}_f, K].$$

Thus,

$$\theta^*_\gamma(c) = (1 - \underline{L}) \left(1 - \frac{w^*_\gamma + c}{s}\right).$$

Observation:

$$\frac{\partial \theta^*_\gamma(c)}{\partial c} = -\frac{1 - \underline{L}}{s} < 0, \quad \text{independent of cap control}$$

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Are they complements or substitutes? Two conflicting effects:

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Are they complements or substitutes? Two conflicting effects:

1. Boix Effect: capital control $\uparrow \Rightarrow$ endangered capital $\uparrow \Rightarrow$ more at stake $\Rightarrow$ repress more. (economic and political coercions are complements)
   - **Nazi Germany**
2. Marx Effect: capital control $\uparrow \Rightarrow$ likelihood of regime change $\downarrow \Rightarrow$ marginal return to repression $\downarrow \Rightarrow$ repress less. (economic and political coercions are substitutes)
   - **Latin American Military Reigmes**

Economic and Political Coercion: Nazis

- Nazi's harsh treatment of labor unions and the left is well-known;
- So is the capitalists' support of the Nazis, at least for the most part of the 1930s and partly to contain the revolutionary threat of the left (Shirer 1960).
- **Pre-war economic policy of the Nazis:** As early as 1934 when the regime was not still fully secured, as part of the economic recovery and social stabilization plans,

  "comprehensive control over foreign transactions were established in the so-called 'New Plan' drawn up by Hjalmar Schacht, President of the Reichbank [1923-30 and 1933-39] and Minister of Economics." In particular, "**capital could not be moved freely abroad**" (Overy 1996, p. 26).

Big Picture

There are two distinct grand explanations for why the the rich support dictators with strong coercive power (**capitalist-dictator alliance**):

1. to protect their wealth and status from the poor: A **Rousseauian approach** that emanates through Marxist theories.
2. to protect themselves from their own attrition (Greif and Laitin 2004; Guriev and Sonin 2009): a **Hobbesian approach** to central authority.

This paper combines these two channels and reveals the nature of their intimate relationship.

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  - Two global games linked through the economy in a general equilibrium framework.
- **Substantively:**
  - Unintended consequences of globalization: **Globalization and economic development generate strategic forces that can reduce political stability and strengthen demand by elites for a strong, coercive state.**
  - Origins of capital control.
  - Relationship between economic coercion and political coercion, and the nature of authoritarian regimes.

Benchmark 2: Exogenous Wages and Returns

Suppose $w < s$ and $r_d > r_f$. Workers face a standard global game:

- Revolt if and only if $x_i < x_e$.
- Fraction of revolters given θ: $Pr(x_i < x_e|\theta) \times (1 - \underline{L})$.
- There is a unique θ_e such that:

$$Pr(x_i < x_e|\theta_e) \times (1 - \underline{L}) = \theta_e.$$

- The marginal revolter with signal x_e must be indifferent between revolting or not:

$$Pr(\theta < \theta_e|x_i = x_e) \times s = w.$$

- A statistical property: $x_i = \theta + \sigma_w \ \epsilon_i$, with $\epsilon_i \sim f(\cdot)$

$$Pr(x_i < \hat{x}|\hat{\theta}) = 1 - Pr(\theta < \hat{\theta}|x_i = \hat{x}).$$

Regime changes whenever $\theta < \theta_e$:

$$\theta_e = (1 - \underline{L}) \ (1 - w/s).$$

The equilibrium is described by $(x^*, y^*, \theta^*, L(\theta), K(\theta), w(\theta), r_d(\theta))$:

- $L(\theta) = Pr(x_i \geq x^* | \theta)\ (1 - \underline{L})$ and $K(\theta) = Pr(y_I \geq y^* | \theta)\ (\overline{K} - \underline{K})$.

$Pr(x_i < x^* | \theta^{**}(K))\ (1 - \underline{L}) = \theta^{**}(K)$.

$Pr(\theta < \theta^{**}(K) | x_i = x^*) \times s = E[w(\theta) | x_i = x^*]$.

$$w(\theta) = (1 - \alpha)\ \left(\frac{\underline{K} + K}{\underline{L} + L(\theta)} \right)^{\alpha}.$$

$$\theta^{**}(K) = (1 - \underline{L})\ (1 - w^{**}(K)/s), \text{ with } w^{**}(K) = \frac{(\underline{K} + K)^{\alpha}\ (1 - \underline{L}^{1-\alpha})}{(1 - \underline{L})}.$$

$$\theta^* = (1 - \underline{L})\ \left(1 - \frac{w^{**}(K(\theta^*))}{s} \right), \text{with } w^{**}(K(\theta)) = \frac{(\underline{K} + K(\theta))^{\alpha}\ (1 - \underline{L}^{1-\alpha})}{(1 - \underline{L})}.$$

$Pr(\theta \geq \theta^* | y_j = y^*)\ E[r_d(\theta) | \theta \geq \theta^*, y_j = y^*] = r_f$.

$$r_d(\theta) = \alpha \left(\frac{\underline{L} + L(\theta)}{\underline{K} + K(\theta)} \right)^{1-\alpha}.$$

Literature

Substantive:

- 1- **Revolution and Protest:**
  - the complex interactions between the economy and regime change in a general equilibrium framework
  - the coordination problem among pro-regime players (capitalists) that would like to maintain the status quo
  - the consequences of this coordination problem for the state's policies of political coercion (repression) and economic coercion (capital control).

  In sum: a more complete picture of the subtle interactions between economics and politics in authoritarian regimes.
- 2- **Economy and Regime Change:** Acemoglu and Robinson (2001) and what followed, Persson and Tabellini (2009).
  - modernization hypothesis: (Lipset 1959; Rueschemeyer et al. 1992; Barro 1999; Acemoglu et al. 2009)
  - political barriers to development: (Grossman and Helpman 1994; Barro 1998; Przeworski et al. 2000; Acemoglu and Robinson 2006b)

Literature

- 3- **Capital flight and capital control:** capital control is favored by those who own less capital (Schulze 2000; Eichengreen 2003)
  - capital flight due to exogenous uncertainty (Alesina and Tabellini 1989), some endogenization with multiple equilibria (Chang 2010)
- 4- **Repression:** Boix (2003),...

Methodological: two global games linked through the economy in a general equilibrium setting.