ECONOMICS AND CONFLICT: THE DARK SIDE OF SELF-INTEREST AND ITS GOVERNANCE AS ECONOMIC ACTIVITIES

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no paper yet; presentation partly based on

-Garfinkel, Michelle R. and Stergios Skaperdas, "Economics of Conflict: An Overview," preliminary draft, March 2006 (prepared for inclusion in T. Sandler and K. Hartley (eds.), Handbook of Defense Economics, Vol. II).

-Skaperdas, Stergios, "Restraining the Genuine Homo economicus: Why the Economy Cannot Be Divorced from its Governance," Economics and Politics, (special issue in honor of Mancur Olson), July 2003, 15(2), 135-162.

Both papers available at:

http://www.socsci.uci.edu/~sskaperd/

The first principle of economics is that every agent is actuated only by self-interest. The workings of this principle may be viewed under two aspects, according as the agent acts without or with, the consent of others affected by his actions. In wide senses, the first species of action may be called war; the second, contract.

Edgeworth, *Mathematical Psychics,* 1881 (pp.16,17)

"[T]he efforts of men are utilized in two different ways: they are directed to the production or transformation of economic goods, or else to appropriation of goods produced by others.

Vilfredo Pareto, *Manual of Political Economy,* 1906 [1972, p. 341]

Self-interest and its dark side

- production vs infuence

- managers feathering their nests

- lobbying and rent-seeking

- stealing

- arming and fighting

- organized crime

  Production vs Appropriation

"Economics" out of "political economy"

Ceding areas of research to other disciplines (e.g., International Political Economy)

First (known) attempt at modeling before Jack:

Haavelmo, T. (1954), A Theory of Economic Evolution, North-Holland.

Main points:

- Conflict and its costs are economically very important

- Conflict and appropriation follow directly from the assumption of self-interest

- Modeling appropriation leads to very different findings and interpretations of reality

- First-best world not empirically plausible.

- Controlling and Governing conflict and appropriation are also important economic activities.

- For-profit governance dominant in history, but part of the problem.

- Modern Governance as a partial solution to the dark side of self-interest

1. The economic relevance of insecurity and conflict

2. On the received approach

3. Modifying the received model

4. Trade and conflict I: merchants and warriors

5. Trade and conflict II: competing for resources

6. Proprietary Governance: Autocracy and organized anarchy

7. Modern governance

8. Concluding Remarks

The economic relevance of insecurity and conflict

Since WWII:

- Civil wars in 73 countries with over 16 million deaths (Fearon and Laitin, 2003)

- Large other direct economic costs (arming, destruction, underutilization of resources; Collier et. al., 2003)

- Other welfare costs of conflict (Hess, 2003)

- Distributional and Social conflict (strikes and lock-outs, protests, military coups, ethnic, religious, or class rivalries, common crime)

- Absence of property rights (e.g., land) and its costs

Transnational Insecurity

Anarchy in international relations

Fewer interstate wars (and economic costs) since WWII

But, there was a Cold WAR (with costs)

Two current and future concerns:

- Resource contestation (Oil: Central Asia, South China Sea; Water: Nile, Middle East, South Asia) (Klare, 2001)

- Future "peer competitor" to US?

Costs of Conflict and Appropriation overwhelm costs of many other distortions.

On the Received Approach

Robinson (R) and Xena (X)

Two material goods: fish (f) and coconuts (c)

Robinson's endowment e_R converted one-for-one into fish

Xena's endowment e_X one-for-one into coconuts

Utility function, $U(f_i, c_i)$, linearly homogeneous.

Edgeworth's (1881) formulation

Problem of exchange between the likes of Robinson and Xena.

What is the most reasonable process by which the two sides will arrive at an exchange of some of Robinson's fish for some of Xena's coconuts?

What determines these exchange ratios or prices?

Are there conditions under which prices will be close to those that would prevail under perfect competition?

Strong tendency

Goods that are more valued have higher prices

Those who hold more valued goods receive higher incomes and utility.

Under competitive pricing

Robinson's equilibrium utility: $e_R \frac{\partial U(e_R, e_X)}{\partial f}$

Xena equilibrium utility: $e_X \frac{\partial U(e_R, e_X)}{\partial c}$

$$\frac{\partial U(E, E)}{\partial f} > \frac{\partial U(E, E)}{\partial c}$$

Major Caveat: What if coconuts are used as weapons?

Instead of *cooperative*, relationship is *adversarial*

Modifying the received model:

Robinson Versus Xena

$$e_R = f + g_R$$
$$e_X = c + g_X$$

$g_i \ (i = R, X) : \text{"Guns"}$

Quantities of fish and coconuts now variable

"Total utility": $U(f, c) = U(e_R - g_R, e_X - g_X)$

Guns used to determine distribution

$$V^R(g_R, g_X) = p(g_R, g_X)U(e_R - g_R, e_X - g_X)$$

$$V^X(g_R, g_X) = (1 - p(g_R, g_X))U(e_R - g_R, e_X - g_X)$$

$$\frac{\partial V^R(g_R, g_X)}{\partial g_R} =$$

$$\frac{\partial p(g_R, g_X)}{\partial g_R} U(e_R - g_R, e_X - g_X)$$

[Marginal Benefit of guns]

$$-p(g_R, g_X)\frac{\partial U(e_R - g_R, e_X - g_X)}{\partial f}$$

[Opportunity cost of guns]

Unique Nash equilibrium (g_R^*, g_X^*)

Xena *more powerful* $(g_R^* < g_X^*)$

iff $\dfrac{\partial U(e_R - g_R^*, e_X - g_X^*)}{\partial f} > \dfrac{\partial U(e_R - g_R^*, e_X - g_X^*)}{\partial c}$,

(Xena *less marginally productive* at the equilibrium point)

$\dfrac{\partial U(E,E)}{\partial f} > \dfrac{\partial U(E,E)}{\partial c}$.

Observations:

-More productive get less

-Peasants have been receiving less compensation than specialists in violence (lords, kings, mafiosi)

-Dynamic consequences of distribution

(incentives for innovation and investment; Baumol, 1990, Gonzalez, 2005).

-What about influence activities in organizations? (Milgrom and Roberts)

-Re: Identifying wages as proportional to marginal productivity in empirical studies.

Trade and Conflict I: Warriors and Traders

What if one could opt out of insecure trade?

   -By consuming their endowment

   -By producing something of less value, taking more leisure, going to the "woods"

(Suppose the former)

Exchange can be an equilibrium only if:

$$p(g_R^*, g_X^*)U(e_R - g_R^*, e_X - g_X^*) \geq U(e_R, 0)$$

and

$$[1 - p(g_R^*, g_X^*)]U(e_R - g_R^*, e_X - g_X^*) \geq U(0, e_X)$$

- Enforcement costs can foreclose exchange

- The more effective appropriation is, the more likely autarky is.

- The more productive side has more of an incentive to refrain from exchange

- Complementarity between trading and fighting (Vikings, Russians, Genovese, Venetians, English and Dutch East India Companies, Admiral Ho's expeditions)

- Home-market bias

Trade and Conflict II: Competing for a Resource

-Insecure resource ("oil")

-Groups contest with "guns"

-Guns vs. Butter

-Valued: Oil and Butter

-"small" country

- Insecurity shifts welfare down

- The higher the insecurity, the lower is insecurity.

- Countries importing oil gain unambiguously.

- Exporters of oil lose as long as its price is not too high.

- Tendency to over-export oil

[Reversal of comparative advantage relative to the absence of conflict (over a certain price range)]

- Price range over which increasing international price of oil associated with reduction in welfare (natural resource curse)

Two ways out of Anarchy (in Jack's words):

- Hobbesian (or, vertical) contract

- Lockean (or, horizontal) contract

Proprietary Governance:

Hierarchies, Kings, and Lords

Emergence of a "vertical" contract.

If those who control the means of violence can pacify their territories, what prevents them from taking away whatever they can from their subjects?

Or, Who is going to guard the guardians?

Monopolistic Autocracy

The "stationary bandit" in Olson (1991) and McGuire and Olson (1996)

-Technological advantage in the provision of collective protection and security.

-Higher security can induce more investment in infrastructural public goods and expanded trade.

-ruler could lower tribute so that he can stimulate these economic forces further.

Necessary condition: A high degree of certainty that he will be around in the future to reap the rewards of such policies.

Internal and external challenges reduce horizon

Rulers have much higher extractive powers than simple bandits or robbers have. (Marcouiller and Young, 1995; Moselle and Polak, 2001.)

Long horizon is by no means sufficient for following growth-promoting policies (Robinson,1997)

-Promoting trade implies that merchants becomes richer and perhaps ask for more rights and a share of power;

-Expanding education can make more of the population become conscious of its subservient status and demand reforms and a change in the status quo;

-Even building roads can make it easier for rebels to reach the capital and drive out the ruler.

President of Zaire Mobuto Sese Seko to President Juvenal Habyarintha of Rwanda:

"I told you not to build any roads... Bulding roads never did any good.. I've been in power in Zaire for thirty years and I never built one road. Now they are driving down them to get you."

Evidence on regimes with dynastic pretensions

Spain, Russia, France

What about *competition* among such states (e.g., North and Thomas, 1973)?

Competing Autocracies

The received argument: Rulers will offer lower taxes and a higher service level, the more rulers there are around.

Necessary conditions:

1. Low mobility costs

2. Ability to commit on the part of the ruler

Another type of competition:

Fighting for turf (like those of mafiosi and warlords)

This type of competition has very different effects: The more competition, the worse things get.

Autocratic rulers, left by themselves, find more profitable to just fight one another for territory and the tributary subjects that come with it.

Competition from city-states brings is different (Tilly, 1992)

Autocratic governance does not solve the problem of appropriation.

It only brings to a higher, more organized, level.

Restraints in Modern Governance

Socially contrived versus *self − enforcing* markets (Olson, 2000)

Property in Land

     well-defined laws

     land registries

     courts

     enforcement agencies

     professional infrastructure (lawyers, judges, engineers, civil servants)

every step needs to be close to 100% free of "corruption."

close to 100% beliefs that no radical change will occur in any of the above.

Representation, Checks and Balances

17th century England and the transfer of conflicts from the battelefield to the political and judicial arenas (North and Weingast, 1989); the King versus the nobles.

The *podesta* in 12th century Genoa (Greif, 1998)

Ceding power in exchange for peace

Land reform as a response to conflict and banditry (Horowitz, 1993, Grossman, 1994)

Employment subsidies (Zak, 1995, Grossman, 1995)

Generically, voluntary ex ante transfers to alleviate conflict (Rajan and Zingales, 2000)

Transition in South Africa (Rosendorff,1998)

Extension of the franchise as a commitment device (Acemoglu and Robinson, 2000)

Bureaucracy

The US civil service in mid-19th century

Limits to discretion

Low-powered incentives

Limitations on influence activities (Milgrom, 1988) and Milgrom and Roberts,1990)

Rent-seeking possibly reduced in hierarchies (Warneryd,1998)

Bureaucracy and corporate governance

Real alternatives to bureaucracy: Arbitrary, amateur, and corrupt political control of the levers of government; warlordism; organized crime.

Concluding Remarks

- Conflict and appropriation costly activities

- Payoffs and productivity

- Appropriation and the foreclosure of exchange

- Competing for resources and the natural resource curse

- Controlling appropriation, or Governance, is very costly.

- Highly paid managers, accountants, lawyers, and less well-paid regulators and secretaries are all involved in the business of engaging in or controlling the dark side of self-interest. So are policemen, gangbangers, mafiosi, judges, spies, diplomats, and army generals.

- Yet in modeling, empirical research, and policymaking, the dominant worldview is that of a first-best model, in which all these are costless.

Some areas for research:

- Competing for resources and economic growth

- Should you trade with your probable competitor?

- Conflict management as investment

- What is modern governance about?

- What do hierarchies and bureaucracies do?

Some related publications of Jack:

Hirshleifer, J. (1988), The analytics of continuing conflict, Synthese 76:201-33.

Hirshleifer, J. (1989), Conflict and rent-seeking success functions: Ratio vs. difference models of relative success, Public Choice 63:101-112.

Hirshleifer, J. (1991a), The paradox of power, Economics and Politics 3:177-200.

Hirshleifer, J. (1991b), The Technology of Conflict as an Economic Activity, American Economic Review, Papers and and Proceeings

Hirshleifer, J. (1994), The dark side of the force, Economic Inquiry 32:1-10.

Hirshleifer, J. (1995a), Anarchy and its breakdown, Journal of Political Economy 103:26-52.

Hirshleifer, J. (1995b), Theorizing about conflict, in K. Hartley and T. Sandler, eds., Handbook of Defense Economics, Vol.1, 165-189 (New York: Elsevier).

Hirshleifer, J. (2000), The macrotechnology of conflict, Journal of Conflict Resolution, December, 44: 773-792.

Hirshleifer, J., (2001) The Dark Side of the Force, New York: Cambridge University Press.

Durham, Y, J Hirshleifer, VL Smith, (1998), Do the Rich Get Richer and the Poor Poorer? Experimental Tests of a Model of Power, American Economic Review.

Hirshleifer, J. and Osborne, E. (2001) "Truth, Effost, and the Legal Battle," *Public Choice,* 108(1-2), 169-195.

Sidebar: Technologies of Conflict and Power

- The way inputs to insecurity and conflict are combined is not cooperative, but *adversarial.*

- Production functions inappropriate way of combining inputs

- Contest success functions as technologies of conflict and power.

Symmetric technology of conflict:

$$p_1(x_1, x_2) = \frac{f(x_1)}{f(x_1) + f(x_2)} \text{ where } f(\cdot) \text{ positive and increasing}$$

Asymmetric technologies (eg, offense vs. defense):

$$p_1(x_1, x_2) = \frac{a_1 f(x_1)}{a_1 f(x_1) + a_2 f(x_2)} \text{ where } a_i > 0$$

Allowing for a probability of a draw or impasse (Blavatskyy, 2004):

$$p_1(x_1, x_2) = \frac{a_1 f(x_1)}{a_0 + a_1 f(x_1) + a_2 f(x_2)}, \quad a_o > 0$$

Justifications and Derivations of Technologies of Conflict and Power:

- Axiomatic (Independence from third-party effort key axiom)

- Stochastic ($f(x) = e^{kx}$ derived from extreme value distribution when error term is additive; $f(x) = x^m$ derived from exponentional distribution when error term is multiplicative; MacFadden, 1975; Jia, 2005)

- Quasi-Bayesian (contestant trying to persuade audience; Skaperdas and Vaidya, 2005; appropriate for rent-seeking and influence activities)

Another functional form from the latter-approach

(Based on stochastic evidence production):

$$p_1(x_1, x_2) = \frac{1}{2} + \phi[h(x_1) - h(x_2)]$$

$h(\cdot)$ is positive and increasing; $\phi > 0$ (and further constrained)

Asymmetric form:

$$p_1(x_1, x_2) = \gamma + \phi[h(x_1) - h(x_2)] + Ah(x_1)h(x_2)$$

$\gamma \in (0, 1)$; A can be positive or negative but constrained