AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Trade in the Shadow of Power

Stergios Skaperdas

Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2014 Annual Meeting: Food, Resources and Conflict, December 7-9, 2014, San Diego, CA.

Copyright 2014 by Stergios Skaperdas. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

TRADE IN THE SHADOW OF POWER

Stergios Skaperdas (University of California, Irvine)
(Draws on joint work with M.Garfinkel and C.Syropoulos)

International Agricultural Trade Research Consortium Annual Meeting

December 7, 2014

On trade and war

"We cannot make war without trade nor trade without war"

(Governor-General of the Dutch East India Company to the directors of his company upon taking office.)
"If no Naval Force, no Trade"
(British Governor of Bombay Charles Boone in 18th century.)

On trade and security

A country of our size, with its focus on exports and thus reliance on foreign trade, must be aware that military deployments are necessary in an emergency to protect our interests, for example, when it comes to trade routes, for example, when it comes to preventing regional instabilities that could negatively influence our trade, jobs and incomes.
Horst Köhler, former President of Germany (NY Times, May 31, 2010)

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?
- For International trade without transnational governance (i.e., anarchy)

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?
- For International trade without transnational governance (i.e., anarchy)
- For Domestic trade, especially poor countries

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?
- For International trade without transnational governance (i.e., anarchy)
- For Domestic trade, especially poor countries
- *Power* comes (primarily) from the threat of use of force (or self-enforcement of property rights)

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?
- For International trade without transnational governance (i.e., anarchy)
- For Domestic trade, especially poor countries
- *Power* comes (primarily) from the threat of use of force (or self-enforcement of property rights)
- Costs of power-seeking/conflict vs. gains from trade

Trade and security

- Behind modeling and thinking about trade: Assumption of perfect and costless enforcement of property rights
- Assumption fails empirically (security expenditures significant)
- Does it matter?
- For International trade without transnational governance (i.e., anarchy)
- For Domestic trade, especially poor countries
- *Power* comes (primarily) from the threat of use of force (or self-enforcement of property rights)
- Costs of power-seeking/conflict vs. gains from trade
- *Distortions* of allocations under conflict?

This Presentation

- Trade openness and Domestic Conflict

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict
- How power considerations influence prices

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict
- How power considerations influence prices
- Power can be inversely related to productivity

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict
- How power considerations influence prices
- Power can be inversely related to productivity
- How Free Trade can be inferior to Autarky

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict
- How power considerations influence prices
- Power can be inversely related to productivity
- How Free Trade can be inferior to Autarky
- Distortions of comparative advantage

This Presentation

- Trade openness and Domestic Conflict
- International Trade and International Conflict
- How power considerations influence prices
- Power can be inversely related to productivity
- How Free Trade can be inferior to Autarky
- Distortions of comparative advantage
- The importance of governance: Domestic state capacity; International organizations, institutions, and norms

Related Papers

- Skaperdas (AER, 1992)
- Skaperdas and Syropoulos (AER P&P, 2001)
- Garfinkel, Skaperdas, and Syropoulos (JIE, 2008)
- McBride, Milante, and Skaperdas (JCR, 2011)
- Garfinkel, Skaperdas, and Syropoulos (Oxford Handbook, 2012)
- Garfinkel, Skaperdas, and Syropoulos (JIE, forthcoming)
- Sambanis, Skaperdas, and Wohlforth (APSR, forthcoming)

Overview

- Empirical relevance of conflict
- Trade openness and domestic conflict
- International Trade and International Conflict over a resource
- Insecure International Trade
- On the role of governance

The empirical relevance of conflict and power-seeking

- Trade and War over the past millenium (Findlay and O'Rourke, *Power and Plenty*, 2007)

The empirical relevance of conflict and power-seeking

- Trade and War over the past millenium (Findlay and O'Rourke, *Power and Plenty*, 2007)
- Defense Expenditures (2.6% of world GDP in 2008; varies from less than 1% to more than 10%)

The empirical relevance of conflict and power-seeking

- Trade and War over the past millenium (Findlay and O'Rourke, *Power and Plenty*, 2007)
- Defense Expenditures (2.6% of world GDP in 2008; varies from less than 1% to more than 10%)
- Internal security costs and ordinary crime.

The empirical relevance of conflict and power-seeking

- Trade and War over the past millenium (Findlay and O'Rourke, *Power and Plenty*, 2007)
- Defense Expenditures (2.6% of world GDP in 2008; varies from less than 1% to more than 10%)
- Internal security costs and ordinary crime.
- Distributional and Social conflict (strikes and lockouts, protests, military coups, ethnic, religious, or class rivalries, terrorism)

The empirical relevance of conflict and power-seeking

- Trade and War over the past millenium (Findlay and O'Rourke, *Power and Plenty*, 2007)
- Defense Expenditures (2.6% of world GDP in 2008; varies from less than 1% to more than 10%)
- Internal security costs and ordinary crime.
- Distributional and Social conflict (strikes and lockouts, protests, military coups, ethnic, religious, or class rivalries, terrorism)
- Civil wars (since WWII, in more than 73 countries with 20 million deaths and large other direct economic costs – arming, destruction, underutilization of resources; Collier et. al., World Bank, 2003)

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).
- Latest estimates of the cost of the Iraq and Afghanistan Wars: $4-6 trillion (Stiglitz and Bilmes, *Oxford Handbook*, 2012)

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).
- Latest estimates of the cost of the Iraq and Afghanistan Wars: $4-6 trillion (Stiglitz and Bilmes, *Oxford Handbook*, 2012)
- Transnational resource contestation (Oil: Central Asia, South China Sea; Water: Nile, Middle East, South Asia) (Klare, 2001)

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).
- Latest estimates of the cost of the Iraq and Afghanistan Wars: $4-6 trillion (Stiglitz and Bilmes, *Oxford Handbook*, 2012)
- Transnational resource contestation (Oil: Central Asia, South China Sea; Water: Nile, Middle East, South Asia) (Klare, 2001)
- Other welfare costs of conflict (Blomberg and Hess, *Oxford Handbook*, 2012: on average 9% of consumption; large variance)

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).
- Latest estimates of the cost of the Iraq and Afghanistan Wars: $4-6 trillion (Stiglitz and Bilmes, *Oxford Handbook*, 2012)
- Transnational resource contestation (Oil: Central Asia, South China Sea; Water: Nile, Middle East, South Asia) (Klare, 2001)
- Other welfare costs of conflict (Blomberg and Hess, *Oxford Handbook*, 2012: on average 9% of consumption; large variance)
- Great power rivalries – future "peer competitors" in multipolar world?

The empirical relevance of conflict and power-seeking

- Absence, or costly enforcement, of property rights (e.g., land).
- Latest estimates of the cost of the Iraq and Afghanistan Wars: $4-6 trillion (Stiglitz and Bilmes, *Oxford Handbook*, 2012)
- Transnational resource contestation (Oil: Central Asia, South China Sea; Water: Nile, Middle East, South Asia) (Klare, 2001)
- Other welfare costs of conflict (Blomberg and Hess, *Oxford Handbook*, 2012: on average 9% of consumption; large variance)
- Great power rivalries – future "peer competitors" in multipolar world?
- Conflict and power-seeking costs vs deadweight costs of taxation or trade protection.

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)
- Labor produces butter and guns ($B_i + g_i = L_i$)

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)
- Labor produces butter and guns ($B_i + g_i = L_i$)
- Utility function: $U_i(O_i, B_i) = O_i^{\alpha} B_i^{1-\alpha}$

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)
- Labor produces butter and guns ($B_i + g_i = L_i$)
- Utility function: $U_i(O_i, B_i) = O_i^{\alpha} B_i^{1-\alpha}$
- Arming used to capture the contested land (and its oil)

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)
- Labor produces butter and guns ($B_i + g_i = L_i$)
- Utility function: $U_i(O_i, B_i) = O_i^{\alpha} B_i^{1-\alpha}$
- Arming used to capture the contested land (and its oil)
- Share of $i(= C, D) : q_i = \frac{g_i}{g_C + g_D}$

Trade openness and domestic conflict

- Two factors of production (Land and Labor); Two groups ($i = C, D$)
- Endowments of Labor (L_i) secure
- $\sigma \in [0, 1]$ fraction of total land (T) secure and $(1 - \sigma)T$ contested. [Suppose $T_i = \frac{\sigma}{2}T$ for both i]
- Land produces only oil (O_i)
- Labor produces butter and guns ($B_i + g_i = L_i$)
- Utility function: $U_i(O_i, B_i) = O_i^{\alpha} B_i^{1-\alpha}$
- Arming used to capture the contested land (and its oil)
- Share of $i(= C, D) : q_i = \frac{g_i}{g_C + g_D}$
- (based on Garfinkel,Skaperdas, and Syropoulos, JIE, 2008)

Trade openness and domestic conflict (continued)

Timing:

1. Arming (g_C and g_D) and butter production ($B_i = L_i - g_i$) determined.
2. Contested land distributed. Endowments of land or oil: $(T(\frac{\sigma}{2} + q_C(1-\sigma)), T(\frac{\sigma}{2} + q_D(1-\sigma))$.
3. Butter and oil traded competitively either
   (i) domestically within the country under autarky or
   (ii) internationally with country taking world prices as given.

Trade openness and domestic conflict: Autarky

No international trade: Price determined domestically

- Arming: $g^A = \frac{1}{4} p^A (1-\sigma) T = \frac{\alpha(1-\sigma)}{2(1-\alpha)+\alpha(1-\sigma)} L$

Trade openness and domestic conflict: Autarky

No international trade: Price determined domestically

- Arming: $g^A = \frac{1}{4} p^A (1-\sigma) T = \frac{\alpha(1-\sigma)}{2(1-\alpha)+\alpha(1-\sigma)} L$
- Autarkic price of land and oil (relative to labor and land): $p^A = \frac{\alpha}{1-\alpha} \frac{2L}{T} \left[\frac{2(1-\alpha)}{2(1-\alpha)+\alpha(1-\sigma)} \right]$

Trade openness and domestic conflict: Autarky

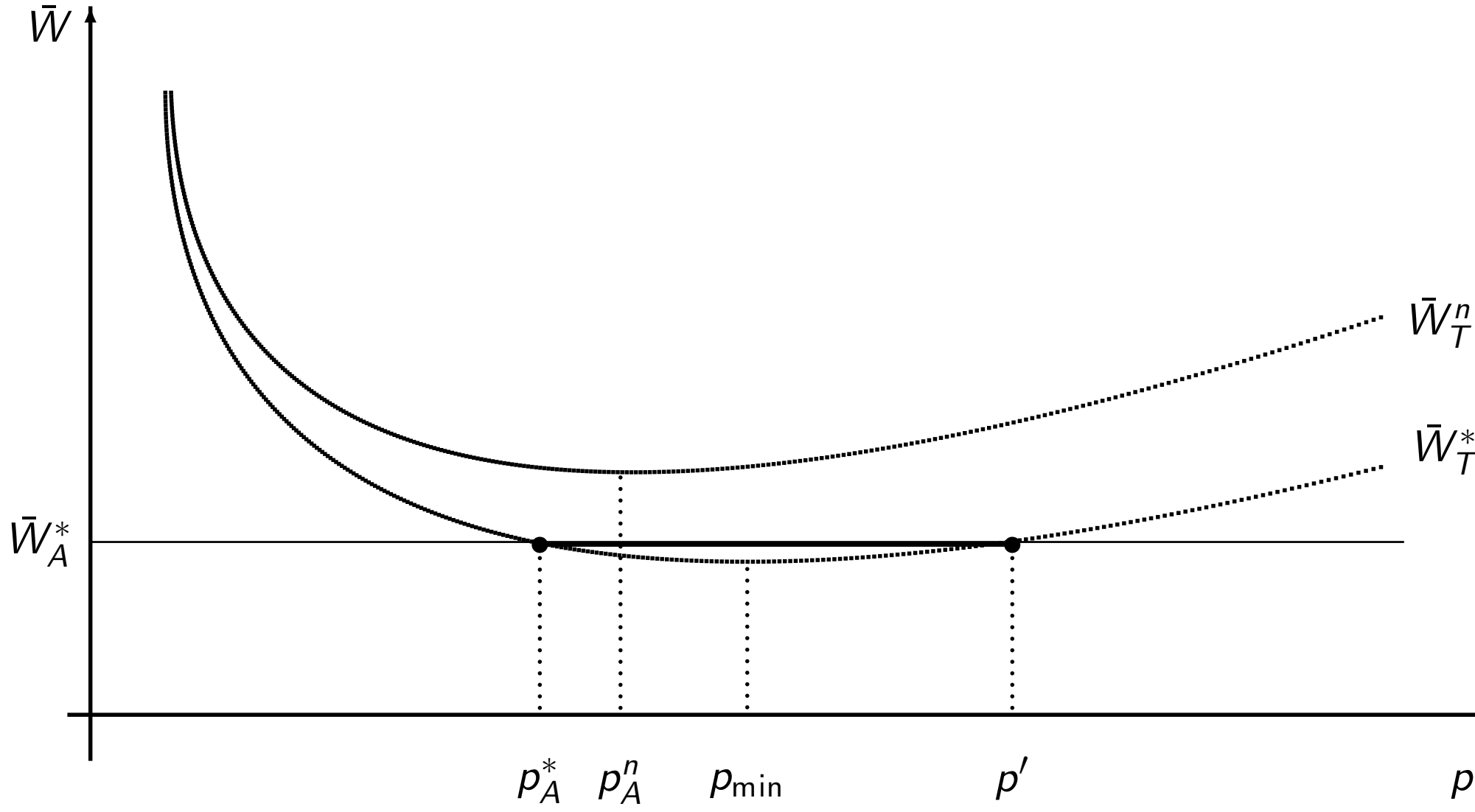
No international trade: Price determined domestically

- Arming: $g^A = \frac{1}{4} p^A (1-\sigma) T = \frac{\alpha(1-\sigma)}{2(1-\alpha)+\alpha(1-\sigma)} L$
- Autarkic price of land and oil (relative to labor and land): $p^A = \frac{\alpha}{1-\alpha} \frac{2L}{T} \left[\frac{2(1-\alpha)}{2(1-\alpha)+\alpha(1-\sigma)} \right]$
- Welfare: $V_i^A = V^A = \left[\frac{2(1-\alpha)}{2(1-\alpha)+\alpha(1-\sigma)} \right]^{1-\alpha} (T/2)^{\alpha} L^{1-\alpha}$

Trade openness and domestic conflict: Free Trade

- Price of land and oil determined in international markets: p
- Arming: $g^F = \frac{1}{4}p(1-\sigma)T$
- Welfare: $V_i^F(p) = V^F(p) = \gamma p^{-\alpha}\left(\frac{1}{4}pT(1+\sigma)+L\right)$
- Welfare minimized at $p^{\min} = \frac{\alpha}{1-\alpha}\frac{2L}{T}\frac{2}{1+\sigma}$ (usually autarkic price, but not here)

Comparing Autarky to Free Trade



Summary of Trade openness under Domestic Conflict

- Insecurity shifts welfare down.
- Costs of conflict vs gains from trade + other distortions
- 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)

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)
- Butter, Oil, and Guns produced using both land and labor (generalization of Heckscher-Ohlin)

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)
- Butter, Oil, and Guns produced using both land and labor (generalization of Heckscher-Ohlin)
- Arming under Autarky and Free Trade different in general; tendency of Free Trade to equalize arming (due to factor price equalization).

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)
- Butter, Oil, and Guns produced using both land and labor (generalization of Heckscher-Ohlin)
- Arming under Autarky and Free Trade different in general; tendency of Free Trade to equalize arming (due to factor price equalization).
- Free Trade inferior to Autarky over range of international prices.

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)
- Butter, Oil, and Guns produced using both land and labor (generalization of Heckscher-Ohlin)
- Arming under Autarky and Free Trade different in general; tendency of Free Trade to equalize arming (due to factor price equalization).
- Free Trade inferior to Autarky over range of international prices.
- Yet Free Trade can be a Prisoners'-Dilemma outcome.

Trade and international conflict (over a resource)

- (Garfinkel, Skaperdas, and Syropoulos, JIE, forthcoming; Skaperdas and Syropoulos, AER P&P, 2001)
- Butter, Oil, and Guns produced using both land and labor (generalization of Heckscher-Ohlin)
- Arming under Autarky and Free Trade different in general; tendency of Free Trade to equalize arming (due to factor price equalization).
- Free Trade inferior to Autarky over range of international prices.
- Yet Free Trade can be a Prisoners'-Dilemma outcome.
- Distortion of comparative advantage over a range of prices.

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S
- Specialization in cloth (c) for England and wine (w) for Spain.

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S
- Specialization in cloth (c) for England and wine (w) for Spain.
- Both can produce guns, so that $c = R_E - g_E$ and $w = R_S - g_S$.

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S
- Specialization in cloth (c) for England and wine (w) for Spain.
- Both can produce guns, so that $c = R_E - g_E$ and $w = R_S - g_S$.
- Utility function: $U(c_i, w_i) = c_i^{\alpha} w_i^{1-\alpha}$

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S
- Specialization in cloth (c) for England and wine (w) for Spain.
- Both can produce guns, so that $c = R_E - g_E$ and $w = R_S - g_S$.
- Utility function: $U(c_i, w_i) = c_i^{\alpha} w_i^{1-\alpha}$
- $\sigma \in [0, 1]$: fraction of each country output that is secure

An example with Insecure International Trade

- Two countries: E (England) and S (Spain); initial resources, R_E and R_S
- Specialization in cloth (c) for England and wine (w) for Spain.
- Both can produce guns, so that $c = R_E - g_E$ and $w = R_S - g_S$.
- Utility function: $U(c_i, w_i) = c_i^{\alpha} w_i^{1-\alpha}$
- $\sigma \in [0, 1]$: fraction of each country output that is secure
- Share of both insecure goods captured: $q_i = \frac{g_i}{g_E + g_S}$

Insecure Trade

Timing:

1. Arming (g_E and g_S), cloth and wine production take place.
2. Arming determines how the insecure outputs are divided. E keeps a $\sigma + (1-\sigma)q(g_E, g_S))$ share of c and obtains a $(1-\sigma)q(g_E, g_S)$ share of w; S obtains a $(1-\sigma)[1-q(g_E, g_S)]$ share of c and keeps a $\sigma + (1-\sigma)[1-q(g_E, g_S)]$ share of w.
3. c and w are traded competitively.

Trade and naval warfare between the 16th and 18th centuries.

Insecure Trade

- Price, given endowments in stage 2: $p^* = \frac{\alpha}{1-\alpha}\frac{w}{c} = \frac{\alpha}{1-\alpha}\frac{R_S - g_S}{R_E - g_E}$
- *Effective* price (after stage 1): $\bar{p} = \frac{\sigma\alpha + (1-\sigma)q(g_E, g_S)}{\sigma(1-\alpha) + (1-\sigma)(1-q(g_E, g_S))}\frac{R_S - g_S}{R_E - g_E}$
- Payoff functions:

$$\begin{aligned} V_E(g_E, g_S) &= [\sigma\alpha + (1-\sigma)q(g_E, g_S)](R_E - g_E)^{\alpha}(R_S - g_S)^{1-\alpha} \\ V_S(g_E, g_S) &= [\sigma(1-\alpha) + (1-\sigma)(1-q(g_E, g_S))](R_E - g_E)^{\alpha}(R_S - g_S)^{1} \end{aligned}$$

- Perfect security $(\sigma = 1)$: Ordinary competitive model
- For example, if $\alpha < 1/2$ (Cloth less valuable than wine), other things being equal, England enjoys lower welfare than Spain (because England produces the less valuable good).

Perfect Insecurity

$(\sigma = 0)$

- Let $R_E = R_S$. Then, the following conditions are equivalent:
  (a) $\alpha < 1/2$ (Cloth less valuable than wine);
  (b) $g_E^* > g_S^*$ (England arming more than Spain); and,
  (c) $q_E^* > 1/2$ (England getting a bigger share of the insecure output)
  (d) England will have higher Welfare than Spain.

Perfect Insecurity

$(\sigma = 0)$

- Let $R_E = R_S$. Then, the following conditions are equivalent:
  (a) $\alpha < 1/2$ (Cloth less valuable than wine);
  (b) $g_E^* > g_S^*$ (England arming more than Spain); and,
  (c) $q_E^* > 1/2$ (England getting a bigger share of the insecure output)
  (d) England will have higher Welfare than Spain.
- For any combination of R_E and R_S, an increase in α induces a reduction in g_E^* relative to g_S^* and therefore a reduction in q_E^*.

Imperfect Security

$(\sigma \in (0,1))$

- Let $R_E = R_S$. Then, the following conditions are equivalent: (a) $\alpha < 1/2$; (b) $g_E^* > g_S^*$; and, (c) $q_E^* > 1/2$.

Imperfect Security

$(\sigma \in (0,1))$

- Let $R_E = R_S$. Then, the following conditions are equivalent: (a) $\alpha < 1/2$; (b) $g_E^* > g_S^*$; and, (c) $q_E^* > 1/2$.
- For any combination of R_E and R_S, an increase in α induces a reduction in g_E^* relative to g_S^* and therefore a reduction in q_E^*.

Imperfect Security

$(\sigma \in (0,1))$

- Let $R_E = R_S$. Then, the following conditions are equivalent: (a) $\alpha < 1/2$; (b) $g_E^* > g_S^*$; and, (c) $q_E^* > 1/2$.
- For any combination of R_E and R_S, an increase in α induces a reduction in g_E^* relative to g_S^* and therefore a reduction in q_E^*.
- For any combination of R_E and R_S, an increase in σ induces a reduction in both g_E^* and g_S^*.

Imperfect Security

$(\sigma \in (0,1))$

- Let $R_E = R_S$. Then, the following conditions are equivalent: (a) $\alpha < 1/2$; (b) $g_E^* > g_S^*$; and, (c) $q_E^* > 1/2$.
- For any combination of R_E and R_S, an increase in α induces a reduction in g_E^* relative to g_S^* and therefore a reduction in q_E^*.
- For any combination of R_E and R_S, an increase in σ induces a reduction in both g_E^* and g_S^*.
- For any combination of R_E and R_S, E (S) will prefer some conflict to none if α is sufficiently small (large);

Imperfect Security

$(\sigma \in (0,1))$

- Let $R_E = R_S$. Then, the following conditions are equivalent: (a) $\alpha < 1/2$; (b) $g_E^* > g_S^*$; and, (c) $q_E^* > 1/2$.
- For any combination of R_E and R_S, an increase in α induces a reduction in g_E^* relative to g_S^* and therefore a reduction in q_E^*.
- For any combination of R_E and R_S, an increase in σ induces a reduction in both g_E^* and g_S^*.
- For any combination of R_E and R_S, E (S) will prefer some conflict to none if α is sufficiently small (large);
- For any combination of R_E and R_S, if α is sufficiently small (large) then the welfare of E (S) need not be monotonically increasing in the degree of security σ.

On the role of Governance

- Domestic conflict: Developing state capacity (Besley and Persson, 2011; McBride, Milante, and Skaperdas, 2011)

On the role of Governance

- Domestic conflict: Developing state capacity (Besley and Persson, 2011; McBride, Milante, and Skaperdas, 2011)
- History; actions of domestic rivals; actions of third parties (great powers, international organizations and institutions)

On the role of Governance

- Domestic conflict: Developing state capacity (Besley and Persson, 2011; McBride, Milante, and Skaperdas, 2011)
- History; actions of domestic rivals; actions of third parties (great powers, international organizations and institutions)
- International interactions (nominally) under anarchy

On the role of Governance

- Domestic conflict: Developing state capacity (Besley and Persson, 2011; McBride, Milante, and Skaperdas, 2011)
- History; actions of domestic rivals; actions of third parties (great powers, international organizations and institutions)
- International interactions (nominally) under anarchy
- International organizations, laws, institutions, and norms limit the worst effects of anarchy

On the role of Governance

- Domestic conflict: Developing state capacity (Besley and Persson, 2011; McBride, Milante, and Skaperdas, 2011)
- History; actions of domestic rivals; actions of third parties (great powers, international organizations and institutions)
- International interactions (nominally) under anarchy
- International organizations, laws, institutions, and norms limit the worst effects of anarchy
- Economic globalization without political harmonization difficult to sustain without problems (WWI)

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).
- Distortion of comparative advantage.

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).
- Distortion of comparative advantage.
- Wide set of conditions under which free trade inferior to autarky.

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).
- Distortion of comparative advantage.
- Wide set of conditions under which free trade inferior to autarky.
- Yet, free trade can be an equilibrium choice.

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).
- Distortion of comparative advantage.
- Wide set of conditions under which free trade inferior to autarky.
- Yet, free trade can be an equilibrium choice.
- How empirically plausible are first-best (Nirvana) models

Concluding Remarks

- Trade and Conflict obviously related but barely studied by economists
- Prices reflect power (arming and distorted factor endowments)
- Preferences and technologies can have "perverse" effects (e.g., inverse relationship of power and productivity).
- Distortion of comparative advantage.
- Wide set of conditions under which free trade inferior to autarky.
- Yet, free trade can be an equilibrium choice.
- How empirically plausible are first-best (Nirvana) models
- Critically important to think about power and its control in both domestic and international contexts.