Economics of Conflict, War, and Peace

Prof. Dr. Jurgen Brauer; Summer 2009
Chulalongkorn University; Bangkok, Thailand

Session 2.1
Contemporaneous/short-term effects of conflict

Group project

- Assignment due Th 11 June [1-2 paragraphs]
  - Thai/nick names/student # of group members
  - Research question to be addressed
  - Likely data to be used
  - Perhaps already an idea of the theory to be applied
  - [link to econ theory due by midterm Th 25 June, together with thorough outline of the paper]

Contemporaneous effects

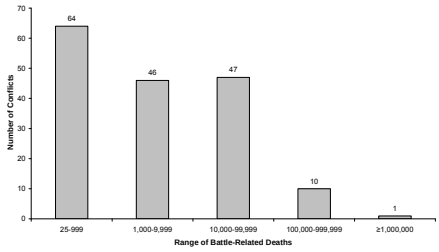
- Costs
  - Contemporaneous effects (short/medium term) (session 2.1)
  - Intergenerational effects (long-term) (session 2.2)
  - Transboundary effects (session 2.3)
  - Environmental effects (session 2.4)
- Outline
  - General idea/data
  - T. Brück's article (2005)
  - Anderton/Carter (2009) a/o Anderton/Anderton (1997)

Contemporaneous effects

- Contemporaneous, e.g., …
  - Lives lost
  - Permanent injuries
  - Refugees
  - Military expenditure
  - Asset losses [destroyed capital]
  - GDP/production losses [income losses]
  - Trade losses [specialization losses]

Contemporaneous effects

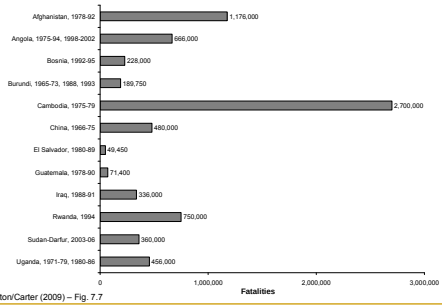
Range of battle-related deaths from armed civil conflicts, 1946-2005



Source: Anderton/Carter (2009) – Fig. 7.5

Contemporaneous effects

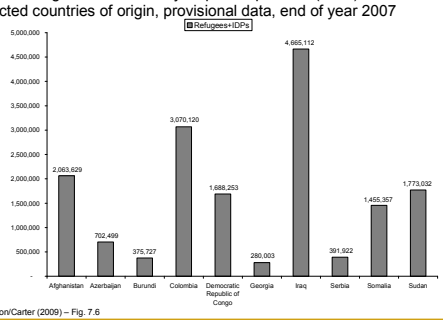
Estimated fatalities for selected genocides and politicides, 1965-2006



Source: Anderton/Carter (2009) – Fig. 7.7

Contemporaneous effects

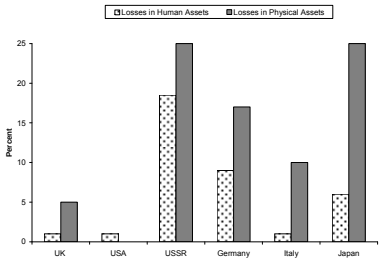
Number of refugees and internally displaced persons (IDPs) for selected countries of origin, provisional data, end of year 2007



Source: Anderton/Carter (2009) – Fig. 7.6

Contemporaneous effects

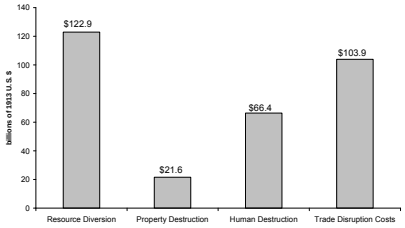
Destruction of human and physical assets during World War II (percent of assets)



Source: Anderton/Carter (2009) – Fig. 1.4

Contemporaneous effects

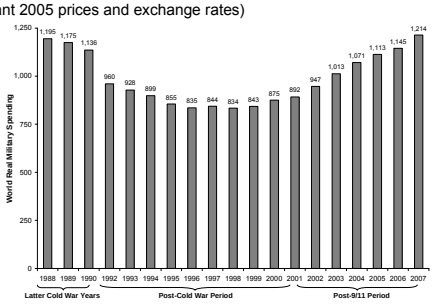
Diversion, destruction, and disruption costs of World War I



Source: Anderton/Carter (2009) – Fig. 6.6

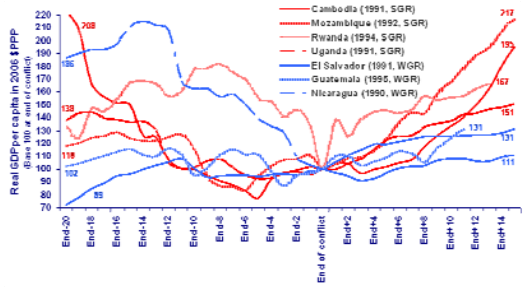
Contemporaneous effects

World real military spending, 1988-2007 (in billions of U.S. dollars at constant 2005 prices and exchange rates)



Source: Anderton/Carter (2009) – Fig. 10.1

Contemporaneous effects



Source: UNDP (2008, p. 111; Table 4.2)

Contemporaneous effects

Opportunity cost: foregone GDP

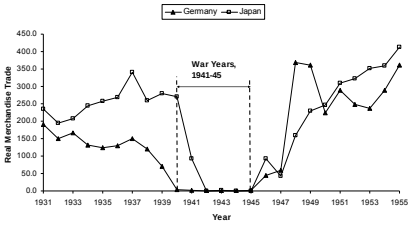
TOTAL, STATIC, AND DYNAMIC EFFECTS. For 2007, the total effect of peace might have been on the order of US$7.2 trillion (in nominal foreign-exchange based 2007 US$). About one-third of the total effect (US$2.4 trillion, or 4.4 percent of 2007 gross world product) is due to static peace dividend effects that accompany the reallocation of resources from violence to peace. Static means that the overall economic pie remains constant so that gains to some industries are offset by losses to other industries. No new economic activity is generated. However, the remaining two-thirds (U$4.8 trillion) are due to dynamic peace dividend effects that accrue when, due to peace, previously unharnessed economic resources are released. This US$4.8 trillion net economic gain amounts to an addition of 9 percent to the world economy.

PERSPECTIVE. To put the US$4.8 trillion number in perspective, it amounts to about one-third of the current economic heft of the United States (US$13.8 trillion in 2007).

Source: Brauer/Tepper-Marlin (2009) "Defining Peace Industries and Calculating the Potential Size of a Peace Gross World Product by Country and by Economic Sector". Report for Institute of Economy & Peace, Sydney, Australia.

Contemporaneous effects

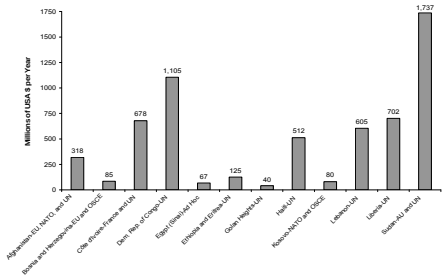
USA's real merchandise trade with Germany and Japan
(millions of U.S. dollars at 1913 prices)



Source: Anderton/Carter (2009) – Fig. 1.5

Contemporaneous effects

Annual cost of selected multilateral peace missions, reporting year 2007

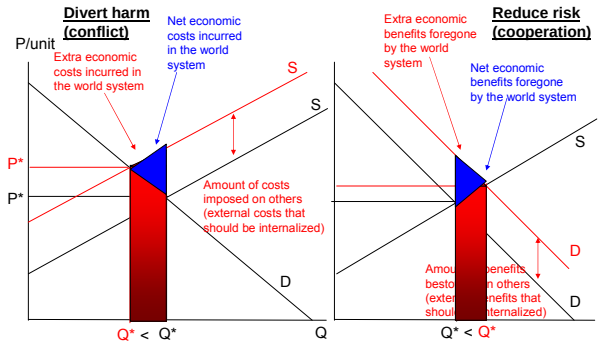


Source: Anderton/Carter (2009) – Fig. 1.6

Brück's model: the security economy

- Let's look at all this a bit more systematically.
  - Main point: view security as risk management
    - Risk: possibility of a harmful event (e.g., credit card fraud)
    - Variation/volatility of economic indicators (exchange rate risk)
    - Threshold crossing; risk as uninsurable vulnerability; irreversibility
    - Huge literature on risk: health econ, insurance econ, financial econ
  - The security economy: "those activities affected by, preventing, dealing with, and mitigating insecurity in the economy"
  - The security good
    - Individual countries fail to internalize the foreign costs and benefits of their actions and inactions concerning the underlying global risk.

Brück's model: the security economy



Brück's model: the security economy

- Summary of consequences:
  - National measures to divert harm are underpriced (too much supply) and oversupplied | (P* < P*) and (Q* > Q*)
    - We do too much to defend ourselves
  - National measures to reduce risk are underpriced (not enough demand) as well and undersupplied | (P* < P*) and (Q* < Q*)
    - We don't do enough to cooperate
  - We do exactly the opposite of what is needed!
    - Why? The free-rider (or easy-rider) problem

Brück's model: the security economy

- Insecurity imposes costs
  - (1) direct costs (*event* costs)
  - (2) indirect costs
    - (2a) first-order cost: *agents*' reactions to risk perceptions
    - (2b) second-order cost: *policy* responses to the event and to the agents' first-order reactions
- Economic tradeoffs

Brück's model: the security economy

- Indirect costs: agents' reactions/responses
  - (1) voluntary responses: e.g, firms putting up security fences, etc.; cost curves shift upward; price effects depend on demand elasticities; akin to payment of insurance premiums; costs will differ by riskiness of location (oil pipelines in Colombia vs internet firm in Bangalore)
  - (2) market-driven responses: employees/customers demand security features (workplace protection; conflict diamonds); also rolled into product price, depending on demand elasticities; but revenue gain reimburses for some of these costs

Brück's model: the security economy

- Indirect costs: agents' reactions/responses (cont.)
  - (3) reactions to mandated responses - 1:
    - Analysis via regulation and taxation theory
      - Regulation: legal requirements of firms; raises costs to all firms like any other regulation, but does not generate offsetting revenue; in a closed (national) economy, all firms are affected; but different regulations internationally imply that some firms in some countries obtain relative cost advantages => raises trade policy issues;
      - Taxes: taxes raise corresponding revenue from firms, whereas regulations do not
        - some sectors may be doubly affected: by security risk and by security legislation (regulation or taxation), raising equity issues => policy recommendation might be to implement a broad-based tax to distribute the risk burden more widely
        - example: freight/cargo sector

Brück's model: the security economy

- Indirect costs: agents' reactions (continued)
  - (3) reactions to mandated responses - 2:
    - Analysis via insurance theory
      - Ordinarily risk-pooling spreads risk and improves welfare
      - But moral hazard: insured agents take higher risks than non-insured agents (usually a good idea!): **but**, e.g., terror insurance will encourage more risky behavior, thus **raising** the risk of terror more than in the absence of terror-insurance
      - Adverse selection: more vulnerable targets are disproportionately likely to seek insurance but because of asymmetric information, insurance companies can't tell; insurance companies can **suspect**, however, and therefore refuse to write policies so that the market will be under-supplied;
      - Moreover: risks from war or terror attacks are correlated across policies so that insurance companies cannot effectively re-insure their own risks

Brück's model: the security economy

- Economic tradeoffs
  - (1) Security spending vs other spending
  - (2) Security vs efficiency
    - On the one hand: diversion
      - from **point A** to point B along the PPF
    - On the other hand: destruction
      - … e.g., more guard labor is not productive
      - from **point A** to point C inside the PPF
    - Overall effect => likely inward movement of PPF

Brück's model: the security economy

- Economic tradeoffs
  - (3) Security vs globalization and technological change
    - countries that are able to create and abide by international security standards may be at an advantage over countries failing to do so
    - countries falling behind in adopting such standards will lose out on the benefits of FDI, tourism, and other trade advantages
    - conceivably, countries could compete on security advantages to attract FDI (=> which might then also make them more attractive as terror targets)

Brück's model: the security economy

- Economic tradeoffs
  - (4) Security vs equity
    - issue regarding distributional costs of security measures
      - low-skills (guards) vs high-skills (computing, tracking)
      - more public sectors vs more private sector jobs
      - more internal trade vs more external trade jobs
      - compensation has to be linked to the nature of the security risk: e.g., countries at high terror risk, bearing high costs, may need to be rewarded with compensating free-trade opportunities
      - another equity issue: who has access to security goods? The rich, the poor?
      - *ex ante*: not clear who bears the adjustment burden

Brück's model: the security economy

- Economic tradeoffs
  - (5) Security vs freedom and privacy
    - Positive link between economic freedom and economic growth (Freedom House ranking)
    - Network economy and security economy are linked; low marginal values of internet data generate large social values; system protection globally requires tradeoff with protection of the billions of individual people, firms, and entities using the network
- Changing balance of type I and type II errors?
  - type I (innocent goes to jail) | type II (guilty goes free)
  - at the moment, most societies err on the side of type II; but network economies can make the consequences of a mistake immediately global and so a social reversal may occur by which to err on the side of type I (some authoritarian govt's have begun to exploit this thinking)

Brück vs Anderton/Anderton

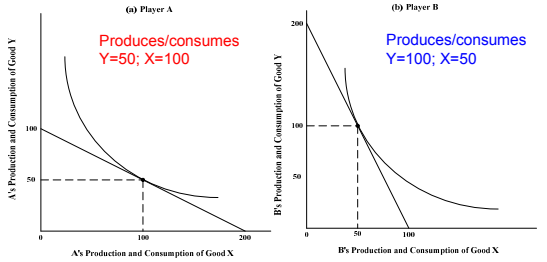
- Tilman Brück 's argument is put mostly in terms of PPF and public vs private goods production (we'll get back to this)
- The Anderton's use a different economic model to broaden the theoretical terms of understanding what's going on => use of the Edgeworth Box (connected to PPF as well)

The Anderton/Anderton model

Conflict, broadly defined, is the use of resources for creating or defending against appropriation. Appropriation can involve goods, incomes, resources, territories, or political power, and the players can be individuals, nations, governments, sub-national groups, or supra-national groups. The context of conflict is as broad as our definition and includes stealing, corruption, revolution, and warfare. Throughout the chapter we use the terms "weapons," "war," and

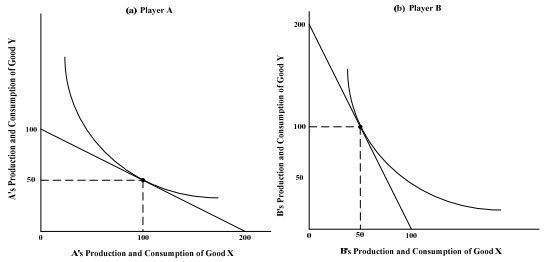
The Anderton/Anderton model

Optimal production and consumption in autarky

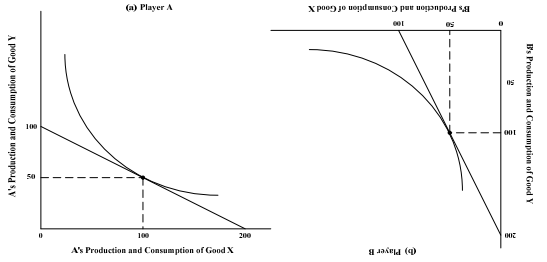


Source: Anderton/Carter (2009) – Fig. 12.5

The Anderton/Anderton model



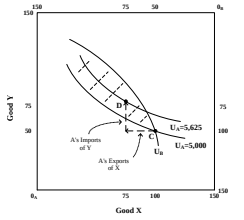
The Anderton/Anderton model



The Anderton/Anderton model

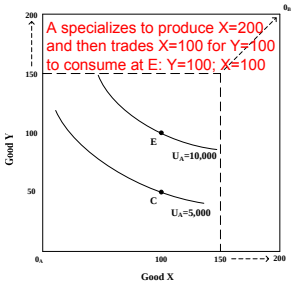
Gains from exchange in an Edgeworth box

A produces/consumes at C: Y=50; X=100
B produces/consumes at C: Y=100; X=50
A produces/consumes at D: Y=75; X=75
B produces/consumes at D: Y=75; X=75



Gains from specialized production and exchange

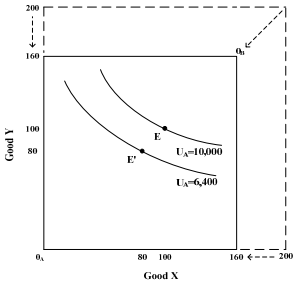
A specializes to produce X=200 and then trades X=100 for Y=100 to consume at E: Y=100; X=100



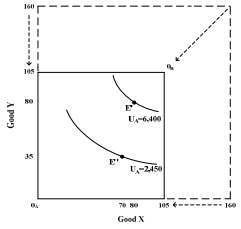
Source: Anderton/Carter (2009) – Figs. 12.6 and 12.7

The Anderton/Anderton model

Effects of diversion of resources to military goods



Effects of destruction and trade disruption



Source: Anderton/Carter – Figs. 12.8 and 12.9