IUE-EKOLIDER & METU-TEKPOL

Fourteenth Annual International Conference on Economics and Security

June 17-18, 2010
Izmir, Turkey

<table>
<thead>
<tr>
<th>ORGANIZED BY</th>
<th>ORGANIZED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Izmir University of Economics</td>
<td>Middle East Technical University</td>
</tr>
<tr>
<td>Research Center</td>
<td>Science and Technology Policies</td>
</tr>
<tr>
<td>EKOLIDER</td>
<td>Research Center</td>
</tr>
<tr>
<td>IUE-EKOLIDER</td>
<td>METU-TEKPOL</td>
</tr>
<tr>
<td>Izmir, Turkey</td>
<td>Ankara, Turkey</td>
</tr>
</tbody>
</table>
ORGANIZATION COMMITTEE

Prof. Dr. J Paul DUNNE (UNIVERSITY OF WEST ENGLAND)
Prof. Dr. Nadir ÖCAL (METU)
Prof. Dr. Jülide YILDIRIM (GAZI UNIVERSITY)
Assoc. Prof. Dr. Erkan ERDIL (METU-STPS)
Assoc. Prof. Dr. Hakan YETKINER (IUE-EKOLİDER)
Assoc. Prof. Dr. M. Teoman PAMUKÇU (METU-STPS)

CONFERENCE SECRETARIAT

Derya FINDIK | Middle East Technical University – Science and Technology Policies Research Center
Hadi Tolga GÖKSIDAN | Middle East Technical University – Science and Technology Policies Research Center
Emrah KARAOĞUZ | Izmir University of Economics - EKOLİDER
Yekta TAKIM | Izmir University of Economics - EKOLİDER
Nehir YASAN | Middle East Technical University – Science and Technology Policies Research Center

IUE-EKOLİDER
Research Center EKOLİDER
Izmir University of Economics
35330 Izmir, Turkey
Phone: +90 232 488 8386
Fax: +90 232 279 26 26
e-mail: defence2010@ieu.edu.tr

METU-TEKPOL
Science and Technology Policies Research Center
METU 06531
Ankara, Turkey
Phone: +90 312 210 38 10
Fax: +90 312 210 79 93
e-mail: tekpol@metu.edu.tr
http://www.stps.metu.edu.tr
INVITED SPEAKERS

KOLLIAS Christos (University of Thessaly, Greece)
KILLELEA, Steve (Institute for Economics and Peace)
DUNNE, J Paul (University of West England)

SCIENTIFIC COMMITTEE

Dunne, J Paul University of West England (UWE)
Öcal, Nadir Middle East Technical University (METU)
Erdil, Erkan Middle East Technical University (METU)
Yıldırım, Jülide Gazi University (GU)
Yetkiner, Hakan Izmir University of Economics (IUE)
Pamukçu, M. Teoman Middle East Technical University (METU)

SPONSORS

The Organization Committee gratefully acknowledges financial support from the following institutions:

The Scientific and Technological Research Council of Turkey (TUBITAK)

Central Bank of the Republic of Turkey (TCMB)
DATES and VENUE

Dates  Thursday, June 17- Friday, 18 2010
Venue  EKOLIDER
     Izmir University of Economics
     Izmir, TURKEY

COCTAIL

You are all invited to our welcoming cocktail at the backyard of the Lunch Hall in the University on June 16th, 18:00-20:00

REGISTRATION

Registration and Information Desk is located on the ground floor of the Conference Hall at Izmir University of Economics from 08:00 on Thursday, June 17 to 16.00 on Friday, June 18.

LUNCHES

Lunches will be served at the University’s Lunch Hall on June 17-18. Lunch vouchers will be provided to all conference participants.

CONFERENCE DINNER

Conference Dinner will be held on Thursday, June 17 at 19:30. Please indicate whether you will attend the Conference Dinner in your registration form and ask for your voucher.

ACCOMMODATION

Our participants may stay in any hotel in Izmir. Balcova Thermal Hotel is 5 minutes away by walk from the University. Crowne Plaza Hotel is 5 minutes away by taxi from the University. Please refer to the conference website for details
http://ekolider.ieu.edu.tr/eab/DEFENCE2010/accommodation.php
## PROGRAMME

### Thursday, June 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-09:30</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30-10:00</td>
<td>Opening Addresses</td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>Plenary Session</td>
</tr>
<tr>
<td>11:00-11:15</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:15-12:45</td>
<td>Sessions I &amp; II</td>
</tr>
<tr>
<td>12:45-14:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00-16:00</td>
<td>Sessions III &amp; IV</td>
</tr>
<tr>
<td>16:00-16:15</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:15-17:45</td>
<td>Sessions V &amp; VI</td>
</tr>
<tr>
<td>18:00-19:00</td>
<td>Plenary Session</td>
</tr>
<tr>
<td>19:00-22:30</td>
<td>Conference dinner</td>
</tr>
</tbody>
</table>

### Friday, June 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-10:30</td>
<td>Opening Address</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>Session Trustees Hall</td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Sessions VII &amp; VIII</td>
</tr>
<tr>
<td>15:00-15:15</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>15:15-16:45</td>
<td>Sessions IX &amp; X</td>
</tr>
<tr>
<td>16:45-18:15</td>
<td>Sessions XI &amp; XII</td>
</tr>
</tbody>
</table>

### Saturday, June 19

**Day Trip to Ephesus**

Participants of the day trip will depart from the University Campus at 09:30 and return back about 16:30.
# DETAILED PROGRAMME

## THURSDAY, 17 JUNE

### OPENING ADDRESSES

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 17</td>
<td>Conference Hall</td>
<td>09:30-10:00</td>
</tr>
</tbody>
</table>

Prof. Dr. Atilla Sezgin *(Rector, IUE)*  
Assoc. Prof. Dr. Hakan Yetkiner *(Director, EKOLİDER)*

### PLENARY SESSION

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 17</td>
<td>Conference Hall</td>
<td>10:00 - 11:00</td>
</tr>
</tbody>
</table>

*Defence and Peace Economics: A 20-year Retrospective*

Christos Kollias (University of Thessaly, Greece)  
Daniel Arce (University of Texas, USA)

### COFFEE BREAK

<table>
<thead>
<tr>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00-11:15</td>
</tr>
</tbody>
</table>
SESSIONS I & II  (Parallel Sessions)

June 17

11:15-12:45

SESSION I  Room: C407

Times of War and Peace: The Economics of Continuing Conflict and Production: Theory and Empirics
Raul Caruso (Università Cattolica del Sacro Cuore di Milano, Italy)

Terrorism and Capital Markets: The Effects of the Istanbul Bombings
Nikos Christofis (Leiden University, The Netherlands)
Christos Kollias (University of Thessaly, Greece)
Stephanos Papadamou (University of Thessaly, Greece)
Apostolos Stagiannis (University of Thessaly, Greece)

Peacekeeping Private Benefits and Common Agency
Uğurhan G. Berkok (Royal Military College of Canada, Canada)

Convenor: Jülide Yıldırım (Gazi University)

SESSION II  Room: C408

Economic Development and Terrorism: Is There a Causal Connection
Pınar Derin-Güre (Middle East Technical University, Turkey)

The Economic Repercussions of Terrorism on the Tourist Sector
Thomas Baumert (Universidad Católica de Valencia Facultad de Estudios de la Empresa, Spain)
Jerusalén Caro (Universidad Católica de Valencia Facultad de Estudios de la Empresa, Spain)
Joost Heijs (Universidad Complutense de Madrid, Spain)

Conflict and Terrorism and the Airline Industry
J Paul Dunne (University of the West of England, United Kingdom)

Convenor: Eftychia Nikolaidou (City College)

LUNCH  12:45-14:00
SESSIONS III & IV  
(Parallel Sessions)  
June 17  
14:00-16:00  

SESSION III  
Room: C407

Defense Expenditure and Income Inequality: The Case of India  
Guo Zhonghou (Wuhan University of Economics, Luojiadun, China)  
Yiwen Jiang (Wuhan University of Economics, Luojiadun, China)  

The Effect of Civilian Unemployment on Reenlistment Decision in Turkish Armed Forces  
Julide Yıldırım (Gazi University, Turkey)  
Nebile Korucu (İstanbul Kültür University, Turkey)  
Semsettin Karasun (Turkish Naval Forces, Turkey)  

Military Expenditure and Economic Growth: A Meta-Analysis  
Aynur Alptekin (University of Surrey, United Kingdom)  
Paul Levine (University of Surrey, United Kingdom)  

The Relationship between Economic Growth and Defense Spending in France: A Contest between Models  
Julien Malizard (University Montpellier 1, France)  
Convenor: Raul Caruso (Università Cattolica del Sacro Cuoredi Milano)  

SESSION IV  
Room: C408

Guns, Highways and Economic Growth in the US  
Christos Kollias (University of Thessaly, Greece)  
Suzanna-Maria Paleologou (University of Ioannina, Greece)  

Defence Spending and Economic Growth: A Panel Data Approach for the EU15  
J Paul Dunne (University of the West of England, United Kingdom)  
Eftychia Nikolaidou (International Faculty of the University of Sheffield, Thessaloniki, Greece)  

Defense Spending and Economic Growth in the MENA Countries: A Panel Data Approach  
Erkan Erdil (Middle East Technical University, Turkey)  
Hakan Yetkiner (Izmir University of Economics, Turkey)  

Stability of Long Run Military Expenditures: Evidence from Panel Cointegration Tests with Multiple Breaks  
Bulent Gülöglu (Pamukkale University, Turkey)  
Ensar Yesilyurt (Pamukkale University, Turkey)  
Filiz Yesilyurt (Pamukkale University, Turkey)  
Selami Sezgin (Pamukkale University, Turkey)  
Convenor: Ron Smith (Birkbeck College)  

COFFEE BREAK  
16:00-16:15
SESSIONS V & VI (Parallel Sessions)

June 17

16:15-17:45

SESSION V Room: C407

A Game Theoretical Analysis of Economic Sanction
Khalfany Ash Shidiqi (Universitas Gadjah Mada, Indonesia)
Rimawan Pradipto (Universitas Gadjah Mada, Indonesia)

Uninformed Rational Voters and the Democratic Peace
Petros Sekeris (University of Namur, Belgium)

The Persistence of Low Level Violence: An Economic Approach
Emmanuel Athanassiou (University of Athens, Greece)

Convenor: Julien Malizard (University of Montpellier)

SESSION VI Room: C408

Determinants of Defence Production: Panel Data Analysis
Ensar Yesilyurt (Pamukkale University, Turkey)
Bulent Guloglu (Pamukkale University, Turkey)
Filiz Yesilyurt (Pamukkale University, Turkey)
Sennur Sezgin (Pamukkale University, Turkey)

What Drives Milex in Zimbabwe: A Comparative Study
Zachary Tambudzai (University of KwaZulu-Natal, South Africa)
Geoff Harris (University of KwaZulu-Natal, South Africa)

Trends in Military Expenditure – The Role of Natural Resources
Sam Perlo-Freeman (International Peace Research Institute, Sweden)
Jennifer Brauner (International Peace Research Institute, Sweden)

Convenor: J Paul Dunne (University of West England)
## PLENARY SESSION

- **June 17**
- **Conference Hall**
- 18:00 - 19:00

**The Measurement of Peace**
Steve Killelea (Institute for Economics and Peace)

## CONFERENCE DINNER
- 19:00 - 22:30
FRIDAY, JUNE 18

PLENARY SESSION

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 18</td>
<td>Trustees Hall</td>
<td>09:30 - 10:30</td>
</tr>
</tbody>
</table>

The Economics of Violence
J Paul Dunne (University of West England, UK)

<table>
<thead>
<tr>
<th>SESSION BOARD OF TRUSTEES</th>
<th>Single Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 18</td>
<td></td>
<td>10:30-12:00</td>
</tr>
</tbody>
</table>

SESSION Board of Trustees

Value of Military Intelligence and Optimal Budget Allocation in an Arms Race Context
Eyal Pecht (Tel Aviv University, Israel)
Asher Tishler (Tel Aviv University, Israel)

Interagency Coordination in Intelligence
Ugurhan G. Berkok (Royal Military College of Canada, Canada)

From Conscription to Volunteers: Budget Shares in NATO Defence Spending
Vincenzo Bove (Birkbeck College, University of London, United Kingdom)
Elisa Cavatorta (Birkbeck College, University of London, United Kingdom)

Convenor: Christos Kollias (University of Thessaly)

LUNCH  
12:00-13:30
### SESSION VII

**The Effects of Economic and Political Factors on Terrorism**  
Sagit Hadi Akdede (Adnan Menderes University, Turkey)  
Ibrahim Çetinkaya (Aydın School of Policemen, Turkey)

**Economic Security in International Business: The Case of Slovene Enterprises in the Western Balkans Market**  
Udovič, Boštjan (University of Ljubljana, Slovenia)

**R&D Activity within the Turkish Defence Industry**  
Burçak Ozoglu Pocan (Middle East Technical University, Turkey)

Convenor: **Teoman Pamukçu** (Middle East Technical University)

### SESSION VIII

**The Global Economic Costs of Conflict**  
Olaf J. de Groot (German Institute for Economic Research, Germany)  
Tilman Brück (German Institute for Economic Research, Germany)

**Military Spending, Conflict and Economic Growth**  
J Paul Dunne (University of the West of England, United Kingdom)  
Mehmet Uye (University of the West of England, United Kingdom)

**The Euro-Mediterranean Partnership and the Economic Dimension in the EU’s Security Interests towards its Southern Mediterranean Region**  
Walid Abu-Dalbouh (University of Jordan, Jordan)

Convenor: **Selami Sezgin** (Pamukkale University)

### COFFEE BREAK

15:00-15:15
SESSIONS IX & X  
(Parallel Sessions)
June 18  
15:15-16:45

SESSION IX  
Room: C407

Non-linear Relationship between Economic Growth and Military Expenditure: An Application to the French Case
Julien Malizard (University Montpellier 1, France)

Modelling the Relationship between Defence, Non-defence Expenditures and Inflation within a Threshold Regression: Evidence from Turkey
Kadir Yasin Eryigit (Uludag University, Turkey)
Sibel Bali (Uludag University, Turkey)

Corruption, Military Spending and Growth
Giorgio D’Agostino (University of Perugia, Italy)
J Paul Dunne (University of the West of England, United Kingdom)
Luca Pieroni (University of Perugia, Italy)

Convenor: Nadir Öcal (Middle East Technical University)

SESSION X  
Room: C408

Ranking the Performance of European Armed Forces (EAF)
Marion Bogers (Netherlands Defence Academy, Netherlands)
Robert Beeres (Netherlands Defence Academy, Netherlands)

Tigers on the Retreat: How the Swiss Search for a Successor to its Outdated F-5 Fighters Resulted in a Contract Design Capable to Overcome Information Asymmetries
Peter T. Baltes (Swiss Military Academy, Switzerland)

Globalisation of the Arms Industry – Stakes and Reality
Renaud Bellais (EADS and Institut d’Etudes Politiques de Paris, France)
Susan T. Jackson (Stockholm International Peace Research Institute, Sweden)

Convenor: Ali Taşiran (Middlesex University)
SESSIONS XI & XII

(Parallel Sessions)

June 18

16:45-18:15

SESSION XI

Room: C407

Military Expenditure and Granger Causality: A Critical Review
J Paul Dunne (University of the West of England, United Kingdom)
Ron Smith (Birkbeck College, University of London, United Kingdom)

Defence Economy: A Detailed Survey of the Literature
Ensar Yesilyurt (Pamukkale University, Turkey)
Guloglu Bulent (Pamukkale University, Turkey)
Filiz Yesilyurt (Pamukkale University, Turkey)
Sennur Sezgin (Pamukkale University, Turkey)

Dynamics of Wars
Ron Smith (Birkbeck College, University of London, United Kingdom)
Ali Taşır (Middlesex University, United Kingdom)

Convenor: Paul Levine (University of Surrey)

SESSION XII

Room: C408

Military Expenditure and Human Development in Egypt
Hamid E. Ali (American University in Cairo, Egypt)

The Choice between Buying a New Porsche and Sponsoring Conflict Prevention! Why the Market for Prevention of Conflict Fails
Kyoko Mona (Economics Manhattanville College, U.S.A)

Convenor: Asher Tishler (Tel Aviv University)
INDEX of ABSTRACTS

THURSDAY, JUNE 17

PLENARY SESSION

Defence and Peace Economics: A 20-year retrospective
Christos Kollias
Daniel Arce ................................................................. 20

SESSION I

Times of War and Peace: The Economics of Continuing Conflict and Production: Theory and Empirics
Raul Caruso ................................................................. 21

Terrorism and Capital Markets: The Effects of the Istanbul Bombings
Nikos Christofis
Christos Kollias
Stephanos Papadamou
Apostolos Stagiannis ..................................................... 22

Peacekeeping Private Benefits and Common Agency
Ugurhan G. Berkok ........................................................ 23

SESSION II

Economic Development and Terrorism: Is There a Causal Connection
Pınar Derin-Güre .......................................................... 24

The Economic Repercussions of Terrorism on the Tourist Sector
Thomas Baumert
Jerusalén Caro
Joost Heijs ................................................................. 25

Conflict and Terrorism and the Airline Industry
J Paul Dunne ............................................................... 26

SESSION III

Defense Expenditure and Income Inequality: The Case of India
Guo Zhonghou
Yiwen Jiang...................................................................................................................................................27

The Effect of Civilian Unemployment on Reenlistment Decision in Turkish Armed Forces
Julide Yıldırım
Nebile Korucu
Semsettin Karasun............................................................................................................................................28

Military Expenditure and Economic Growth: A Meta-Analysis
Aynur Alptekin
Paul Levine...................................................................................................................................................29

The Relationship between Economic Growth and Defense Spending in France: A Contest between Models
Julien Malizard.............................................................................................................................................30

SESSION IV

Guns, Highways and Economic Growth in The US
Christos Kollias
Suzanna-Maria Paleologou.................................................................................................................................31

Defence Spending and Economic Growth: A Panel Data Approach for the EU15
J Paul Dunne
Eftychia Nikolaidou........................................................................................................................................32

Defense Spending and Economic Growth in the MENA Countries: A Panel Data Approach
Erkan Erdil
Hakan Yetkiner............................................................................................................................................33

Stability of Long Run Military Expenditures: Evidence from Panel Cointegration Tests with Multiple Breaks
Bulent Guloglu
Ensar Yesilyurt
Filiz Yesilyurt
Selami Sezgin................................................................................................................................................34

SESSION V

A Game Theoretical Analysis of Economic Sanction
Khalifany Ash Shidiqi
Rimawan Pradiptyo........................................................................................................................................ 35

Uninformed Rational Voters and Democratic Peace
Petros Sekeris..................................................................................................................................................36

The Persistence of Low Level Violence: An Economic Approach
Emmanuel Athanassiou..............................................................................................................................37

SESSION VI

Determinants of Defence Production: Panel Data Analysis
Ensar Yesilyurt
Bulent Guloglu
Filiz Yesilyurt
Sennur Sezgin.................................................................38

What Drives Milex in Zimbabwe: A Comparative Study
Zachary Tambudzai
Geoff Harris.................................................................................................................................39

Trends in Military Expenditure – The Role of Natural Resources
Sam Perlo-Freeman
Jennifer Brauner..............................................................................................................................40

PLENARY SESSION

The Measurement of Peace
Steve Killelea ........................................................................................................................................41

FRIDAY, JUNE 18

PLENARY SESSION

The Economics of Violence
J Paul Dunne ........................................................................................................................................42

SESSION Board of Trustees

Value of Military Intelligence and Optimal Budget Allocation in an Arms Race Context
Eyal Pecht
Asher Tishler......................................................................................................................................43

Interagency Coordination in Intelligence
Ugurhan G. Berkok..............................................................................................................................44

From Conscription to Volunteers: Budget Shares in NATO Defence Spending
Vincenzo Bove
Elisa Cavatorta..................................................................................................................................45

SESSION VII
### SESSION VIII

**The Global Economic Costs of Conflict**  
Olaf J. de Groot  
Tilman Brück

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
</tr>
</tbody>
</table>

**Military Spending, Conflict and Economic Growth**  
J Paul Dunne  
Mehmet Uye

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

**The Euro-Mediterranean Partnership and the Economic Dimension in the EU’s Security Interests towards its Southern Mediterranean Region**  
Walid Abu-Dalbouh

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
</tr>
</tbody>
</table>

### SESSION IX

**Non-linear Relationship between Economic Growth and Military Expenditure: An Application to the French Case**  
Julien Malizard

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
</tr>
</tbody>
</table>

**Modelling the Relationship between Defence, Non-defence Expenditures and Inflation within a Threshold Regression: Evidence from Turkey**  
Kadir Yasin Eryigit  
Sibel Bali

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
</tr>
</tbody>
</table>

**Corruption, Military Spending and Growth**  
Giorgio D’Agostino  
J Paul Dunne  
Luca Pieroni

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
</tr>
</tbody>
</table>

### SESSION X

**Ranking the Performance of European Armed Forces (EAF)**  
Marion Bogers

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
</tr>
</tbody>
</table>
Tigers on the Retreat: How the Swiss Search for a Successor to its Outdated F-5 Fighters Resulted in a Contract Design Capable to Overcome Information Asymmetries
Peter T. Baltes.................................................................57

Globalisation of the Arms Industry – Stakes and Reality
Renaud Bellais
Susan T. Jackson.............................................................58

SESSION XI

Military Expenditure and Granger Causality: A Critical Review
J Paul Dunne
Ron Smith........................................................................59

Defence Economy: A Detailed Survey of the Literature
Ensar Yesilyurt
Bulent Guloglu
Filiz Yesilyurt
Sennur Sezgin.................................................................60

Dynamics of Wars
Ron Smith
Ali Tasiran........................................................................61

SESSION XII

Military Expenditure and Human Development in Egypt
Hamid E. Ali.....................................................................62

The Choice between Buying a New Porsche and Sponsoring Conflict Prevention! Why the Market for Prevention of Conflict Fails
Kyoko Mona.....................................................................63
Defence and Peace Economics: A 20-year retrospective

Christos Kollias*, Daniel Arce**

Abstract
TBA

* University of Thessaly, Greece
** University of Texas, USA
Times of War and Peace: The Economics of Continuing Conflict and Production: Theory and Empirics

Raul Caruso*

Abstract
This paper presents a theoretical model of conflict between two agents characterized by a two-sector economy. In a contested sector two agents struggle to appropriate the maximum possible fraction of a contestable output. In an uncontested sector, they hold secure property rights over the production of some goods. Agents split their resource endowment between ‘butter’, ‘guns’ and ‘ice-cream’. Eventually, Butter and Ice-Cream produced by conflicting parties are both sold to the Rest of the world. Therefore, the opportunity cost of conflict depends also on relative profitability of contested and uncontested production. In particular, productivity of uncontested production and profitability of contested sectors are countervailing forces. The empirical section focused on a panel of Sub-Saharan African countries for the period 1995-2006. Results are not fully conclusive. However, there is robust evidence that prices of manufactures (interpreted as the uncontested ice-cream) are negatively associated with the likelihood of a civil war. The concluding remark seems to be that an increase in world prices of manufactures would make civil wars less likely.

*Università Cattolica del Sacro Cuore di Milano, Italy
Terrorism and Capital Markets: The Effects of the Istanbul Bombings

Nikos Christofis*, Christos Kollias**, Stephanos Papadamou**, Apostolos Stagiannis***

Abstract

Beyond the loss of life and personal injuries that the victims of terrorist actions suffer and the atmosphere of fear terrorists seek to create with their premeditated use of brutal violence, terror also has real economic and political costs that go beyond the immediate costs and damages of a terrorist attack. Terrorist actions can have a multitude of economic consequences that may adversely affect a number of economic indices, sectors and activities including their impact on capital markets. This paper sets out to examine the effect of these attacks on the Turkish Stock Market. It focuses its empirical investigation on the Istanbul stock-market and the impact that recent major terrorist incidents exerted on market behaviour. Findings reported herein indicate in some cases significant abnormal returns.

---

* Leiden University, Netherlands  
** University of Thessaly, Greece
Peacekeeping Private Benefits and Common Agency

Ugurhan G. Berkok

Abstract
Recent studies have suggested that peacekeeping operations are public goods but that there may be private country specific benefits. This paper presents a three country coalition game to examine the private benefit of peacekeeping accrued to developed nations such as Canada and the United States. The coalition model is then explored through the various United Nations missions to Haiti as case studies. Canada and the U.S. have used the mission to further their respective national interests and to complement the bi-lateral and multi-lateral security arrangements. In addition, the use of special trust account to finance UN missions, discussed in this chapter, provide an alternative to a non-UN financed missions and a means to sustain UN missions when the private benefits of nations are misaligned.

*Royal Military College of Canada, Canada
Economic Development and Terrorism: Is There a Causal Connection

Pınar Derin-Güre*

Abstract
Does economic deprivation lead to terrorism? This question has increasingly been asked in the media and in politics following the September 11, 2001 terrorist attacks. The conventional wisdom among policy makers is that poverty creates terrorism but several empirical studies have challenged this view. Krueger and Maleckova, 2003; Berrebi, 2003; Abadie, 2004; Piazza, 2006; Feldman and Ruffle, 2007; Krueger and Laitin, 2007; Kurridl-Klitgaard et. al., 2006; Dreher and Gassebner, 2007; Testas, 2004 have all found little or no correlation between economic conditions and terrorism. In this paper, I will reassess the evidence on the economic roots of terrorism. I question whether international, domestic, and separatist terrorism have economic causes by using a new and the most up-to-date dataset (Global Terrorism Data Base). This database has not been used in the literature in a similar study.

One of the main empirical problems in the economics of terrorism literature is the problem of endogeneity. Several studies have found that terrorism effect economic outcomes. (E.g. Abadie and Gardeazabal, 2003). Abadie (2004) mentions that as terrorism is adversely related to economic conditions and ordinary estimates of the effect of poverty on terrorism are biased downwards. All of the estimations in this paper are done using the lagged values of the economic conditions. Although we can argue that this might treat the problem to some extend it doesn't help us get rid of the endogeneity problem altogether. Abadie (2004) uses instrumental variables (IV) approach to solve the endogeneity problem and still find that economic conditions are not related to terrorist risk. Following Abadie (2004), I perform cross-section IV estimations using being landlocked and latitude as instruments. Panel data estimations in the paper are done using Generalized Method of Moments (GMM) Estimations. GMM estimations are useful in the presence of explanatory variables that are not strictly exogenous. This is the first paper that uses this estimation method to treat the endogeneity problem in the literature of economics of terrorism.

* Middle East Technical University, Turkey
The Economic Repercussions of Terrorism on the Tourist Sector

Thomas Baumert* Jerusalén Caro** Joost Heijs***

Abstract
The paper we propose studies the impact of terrorism on the tourist sector. Starting from a definition of terrorism as a sort of economic war which tries to economically erode its opponent, we analyze to which degree tourist travel behavior is altered by the fear of an attack. After reviewing the main findings of literature regarding this topic, we elaborated a bi-national study, where respondents (N = 216 in Spain; N = 216 in U. S.) read a single scenario describing a terrorist attack and then answered questions about emotional responses and future plans. A plot to destroy airplanes at the airport in Madrid (Los Angeles) was described. Between-subjects factors embedded in the scenarios were (1) a government announcement suggesting either great concern or that the situation was under control (2) a report that other people were either highly disrupted or going about business as usual (thus resulting in a 3x3 scenario). In the Spanish case, the behavior of an additional group formed exclusively by victims of terrorism (Spain has been suffering attacks by the Basque terrorist group ETA since the 1960s) was studied. As far as we know, this is the first time that this kind of study is applied to real victims of terrorism. Combining our result with those of previous literature, we try to estimate the real impact of terrorism on the tourist sector, which in fact might be less significant than believed up to now.

* Universidad Católica de Valencia Facultad de Estudios de la Empresa, Spain
** Universidad Católica de Valencia Facultad de Estudios de la Empresa, Spain
*** Universidad Complutense de Madrid, Spain
Conflict and Terrorism and the Airline Industry

J Paul Dunne*

Abstract
This paper reports on research in progress to study and measure the effects of large scale violent conflict, wars, or terrorism on the airline, airport, and tourism industries. This Economists for Peace and Security project is funded by the One Earth Future Foundation. The first stage of the project has involved identifying, acquiring, and analyzing airline and airport information pertaining to violent events. As the International Air Transport Association (IATA) would not share their members’ data, International Civil Aviation Organization (ICAO) data on airlines and airports is used. This is combined with the University of Maryland new Global Terrorism Database (GTD) of total, worldwide terror events, by month, January 1970 to December 2007; other strategic factors are measured by dummy variables. To account for economic factors as control variables monthly unemployment rates from the OECD. Empirical analysis of the major airlines, using cointegrating VAR techniques, have provided some intriguing results.

* University of the West of England, United Kingdom
Defense Expenditure and Income Inequality: The Case of India

Guo Zhonghou* Yiwen Jiang**

Abstract
While a substantial literature written on the individual topics of military economics and income inequality, little attention has been paid to the potential impact of defence spending on the inequality of a nation’s income. The traditional academic focus on the military has centered on issues such as spending impacts on employment, income and inflation. By now the relationship between defense spending and income inequality has been subject of interest for many parties. However the lack of availability of information on its statistics and data has been a stumbling block to more researches being conducted. Out of the few studies that have been done, results are often mixed. This paper examines the relationship between defence expenditure and income inequality in India for the period 1970–2009. In order to test for causality between defense spending and income inequality we utilized the autoregressive distributed lag model (ARDL) popularize by Pesaran et al. The ARDL has numerous advantages. Firstly, the ARDL approach is able to examine the presence of short run as well as long run relationship between the independent variables and the dependent variable. Secondly, the ARDL model takes a sufficient numbers of lags to capture the data generating process in a general to specific modeling framework. Empirical estimates reveal that military spending in India is indeed associated with increasing income inequality, after controlling for macro-economic variables such as taxes, economic growth, inGERest rates, inflation and non-military spending. As a result of this, the government can use defence spending as one of the major instruments to transfer income in India.

* Wuhan University of Economics, China
** Wuhan University of Economics, China
The Effect of Civilian Unemployment On Reenlistment Decision In Turkish Armed Forces

Julide Yıldırım* Nebile Korucu** Semsettin Karasun***

Abstract
The existing studies on the issue of reenlistment decision regard joining the army as a choice that an individual makes among alternative courses of action. Previous empirical research suggests that socio-economic background, higher educational benefits, civilian employment status and experience are among the determinants of reenlistment decision. This study investigates if unemployment has an effect on reenlistment decision of recruits for Turkish Armed Forces in a seemingly unrelated bivariate probit framework. Empirical analysis indicates that former civilian unemployment significantly increases the likelihood of reenlistment. Moreover, previous single equation models might be misspecified since the residuals of reenlistment and unemployment equations are correlated.

* Gazi University, Turkey.
** Istanbul Kultur University, Turkey
*** Turkish Naval Forces, Turkey
Military Expenditure and Economic Growth: A Meta-Analysis

Aynur Alptekin* Paul Levine**

Abstract
This paper surveys the literature on military expenditure and economic growth using meta-analysis techniques. There exists a vast empirical literature that examines the impact of military expenditure on economic growth. The outcomes of these studies have yielded controversial results. Therefore, meta regression analysis is conducted to review 32 empirical studies with 170 estimates to find the combined overall effect of military expenditure on economic growth.

The puzzle surrounding military expenditure-economic growth nexus is that, on the one hand there are security related positive effects on economic factors and supply-side spillovers; on the other hand there is the effect of diverting resources away from the civilian economy. Individual studies may choose a specific channel to address the impact of military expenditure and account for different control variables in their studies. In effect, it makes very difficult to summarize the findings using only qualitative survey methods. Therefore, there are two important issues which are addressed in this survey: First, contemplating for all the differences among these studies and quantifying the net overall effect and second, investigating whether there exists a 'genuine' relationship between military expenditure and economic growth.

Meta-analysis is a quantitative approach that allows for meaningful comparisons among empirical studies. Hence, in this survey the results of extant literature are converted into a comparable metric form. In doing so, the sources of differences among the empirical studies that produce conflicting results are examined in detail. This meta study uses fixed and random effects and meta regression analysis to assess the military expenditure-economic growth literature. Our results show that there exists a 'genuine' net effect. The net combined effect of military expenditure on economic growth is positive but the magnitude is very small.

---

* University of Surrey, United Kingdom
** University of Surrey, United Kingdom
The Relationship between Economic Growth and Defense Spending in France: A Contest between Models

Julien Malizard*

Abstract
This article aims to contribute to the debate on the relationship between economic growth and defense spending. We note a diversity of results probably linked to the multiplicity of models and channels from which military expenditure acts economic growth. Nevertheless, even if an abundant literature deals with this relationship, there is a lack of evidence concerning the French case.

As a consequence, the aim is twofold. Firstly, we provide an empirical contribution for France, over the period 1960-2008. Secondly, we provide a methodological contribution by comparing four models frequently used in the literature. For each model, we test several specications in order to check the result's robustness.

Our results are in line with the literature. Indeed, we find that defense spending crowds-out investment. For the Feder-Ram models, we cannot highlight any effect since the coefficients of defense are not significant and even if they are significant, there is multicollinearity problem. Then, concerning the sense of causality, we show that military expenditures are correlated with economic factors, so they cannot be regarded as exogenous, thereby distorting the single equation models. Nevertheless, we note little positive impacts of defense spending on growth. Finally, we estimate a SEM to avoid the endogeneity bias and to know how the effects balance.

We show that, in 3 equations framework, that defense spending has a very little positive impact to growth.

This also provides a methodological contribution. We confirm for France that conclusions are contingents from the model used. By doing a comparison of these models, we can observe that they are rather complementary than in competition. Indeed, with a particular model, we have a particular point of view of the defense-growth relationship. With this exercise, we can highlight each phenomenon within a particular framework, each model concerning the theoretical expectations. Nevertheless, all the effects presented by demand, supply models and Granger causality are revealed in the SEM. As a consequence, SEM seems to be the good choice for an overall understanding of the defense-growth relationship.

Furthermore, our research digs deeper in the differentiation between conflict types and the different effects that are found in different locations. While it is, for example, clear that most conflicts take place in Africa, it is not as obvious whether the largest share of conflict costs are accrued in Africa as the low GDP levels make the impact of conflict smaller in absolute terms. Finally, the paper includes a policy component when it looks at specific methods for reducing the impact of conflict and identifies specific channels that deserve more attention from policymakers.

* University Montpellier 1, France
Guns, Highways and Economic Growth in the US

Christos Kollias*, Suzanna-Maria Paleologou**

Abstract
The nexus between public expenditures and economic growth has been the subject of an extensive and often emotive theoretical and empirical debate in economic literature. During periods of recession, government spending can offer the required stimulus to the economy through capacity utilization and thus assist in the uphill road to economic recovery. From Roosevelt’s New Deal during the Great Depression, to Obama’s multi billion spending program to counter the recession that the 2008-09 financial crisis has caused, government expenditures are widely regarded as an important tool of intervention during downturns of the economic cycle. Such recession bailout programs mostly consist of spending on infrastructure. On the other hand, armaments expenditure is also regarded as having a stimulative impact on the economy and is seen as a counter cyclical economic instrument. This paper, attempts a comparative investigation of the nexus between economic growth and military spending on the one hand and highway expenditure on the other in the case of the United States.

* University of Thessaly, Greece
** University of Ioannina, Greece
Defence Spending and Economic Growth: A Panel Data Approach for the EU15

J Paul Dunne* Eftychia Nikolaidou**.

Abstract

During the last 30 years there has been an enormous amount of empirical work on the defence-growth nexus, using different methodologies, models, econometric techniques and focusing on individual case studies, cross-country studies or panel data studies. Despite the number and the variety of studies, the evidence on the defence-growth relationship is still far from conclusive. Rather surprisingly, no systematic work has been published in the relevant literature for the European Union (apart from a causality analysis) despite the continuous discussions for a Common European Defence Policy that would require an assessment of the economic effects of defence. To fill in the gap in the literature, this paper provides empirical evidence on the economic effects of defence spending using panel data methods and focusing on the EU15 over the period 1961-2007. Specifically, the paper estimates the growth model developed by Dunne et al. (2005) using a dynamic panel data models.

* University of the West of England, United Kingdom
** International Faculty of the University of Sheffield, Greece
Defense Spending and Economic Growth in the MENA Countries: A Panel Data Approach

Erkan Erdil* Hakan Yetkiner**

Abstract
This study investigates whether (the high) defense spending (as a share of GDP) has a positive or negative effect on economic growth in greater MENA region in a panel data set. In the paper, we first developed a simple model of economic growth to illustrate the relationship between defense spending and economic growth. Next, we switched to empirical testing of the model. The data are from 19 MENA countries for the period 1992-2007. Our panel data causality tests revealed that causality runs from defense spending to economic growth. Our dynamic panel data estimation of the model led us to conclude that defense spending has a negative effect on economic growth in MENA region.

*Middle East Technical University, Turkey.
**Izmir University of Economics, Turkey
Stability of Long Run Military Expenditures: Evidence from Panel Cointegration Tests with Multiple Breaks

Bulent Guloglu, Ersar Yesilyurt, Filiz Yesilyurt, Selami Sezgin

Abstract
In this study we aims to investigate whether there exists a stable long run relationship between military expenditures, income and population in 14 OECD countries over the period 1970-2007. During this period, we have witnessed important worldwide events, such as the invasion of Afghanistan by Soviet Union, Islamic revolution in Iran, the collapse of Soviet Empire and reunification of Germany, the first and the second Gulf wars, September 11 attack in USA etc. After having observed these events, it is not evident that the relationship between military expenditures and its determinants remains stable. To test the stability of military expenditures equation we employ two recently developed tests by Westerlund (2006) and Westerlund-Edgerton (2008). The first test developed by Westerlund (2006) allows us to test the null hypothesis of cointegration against the alternative of no-cointegration and takes into account unknown structural breaks in both the intercept and slope of the cointegrated regression. The second test developed by Westerlund-Edgerton (2008) tests the null hypothesis of no-cointegration and allows for unknown structural breaks in cointegration relationship. The number and timing of breaks can differ among countries. The tests results show that there is a long run(cointegration) relationship between military expenditures, income and population. The results also show except for Portugal there is at least one structural break in this relationship which occurs in different dates for the countries studied. In addition the dates of structural breaks corresponds to above mentioned events.

* Pamukkale University, Turkey
Abstract
Economic sanction has been widely used and increasingly a popular tool in maintaining peace and political stability in the world. The use of economic sanction, as opposed to the use of military power, to punish target countries have been supported by the Charter of United Nations (UN). Tsebelis (1990) modelled economic sanctions using game theory and found that any attempt to increase the severity of sanctions was counterintuitive, namely the policy reduced the likelihood of sender country(s) in enforcing economic sanction, however, it did not change the probability of the target country(s) in violating international agreement/law. This paper focuses on the refinement of the sanction game proposed by Tsebelis (1990) to analyse international relations. Recent findings from various studies on the effectiveness of economic sanctions have been used to reconstruct the game. In contrast to Tsebelis’ (1990) findings, any attempt to increase the severity of economic sanction may reduce the probability of the target country(s) in violating international agreement/law. A similar result was obtained in the case for which the sender country(s) applies any policy in preventing violation of international agreement/law by providing aids, assistances, and incentives to the target country.
Uninformed Rational Voters and Democratic Peace

Petros Sekeris

Abstract
The democratic peace argument underlines the higher propensity of conflict among non-democracies. In this paper we provide a theoretical foundation for this result. Autocratic regimes centralize the two core decisions that determine whether peace or war ensues: arming and waging war. As a consequence, if two autocrats face each other and conflict is modelled as a zero-sum game, the decision makers prove unable to credibly commit not to arm. In zero-sum games, however, armed contestants are at best indifferent between peace and war, thus implying that two autocrats are almost certain to wage war. Democratic regimes, on the other hand, necessitate their electorate's support to wage war against another country. The dissociation between the arming and fighting decisions blurs the citizen's knowledge of their own country's military potential, allowing in turn democratic rulers to credibly convince their opponent that war will not necessarily occur. Democratic countries can therefore at equilibrium abstain from arming, thus creating scope for peaceful outcomes.

* University of Namur, Belgium
The Persistence of Low Level Violence: An Economic Approach

Emmanuel Athanassiou*

Abstract
Low levels of violence are frequently maintained for long periods of time. This may be due to the desire on the perpetrator’s part to maintain a structure in place whereby a rapid racheting of the level of violence upwards is possible given the right opportunity.
Situations similar to these may be part of a larger ongoing rivalry between states or may exist within a state of itself. The difference between the two cases is the level of outside support offered to the perpetrators. In the extreme case the perpetrators have to fend for themselves, blurring the borderline between political violence and common criminal activity.
A three stage game is developed in order to examine the economic incentives arising in the case of enduring low level violence, involving three decision makers: the aggressor, the principal and the agent. In the first stage the aggressor decides on the level of violence he will inflict, aiming at the probabilities over which the principals productive outcomes are distributed. He is constrained by the need to find resources in order to carry out his activities and to conceal himself. The principal undertakes defensive expenditures, while having to share rents with the agent due to the latter’s limited liability. For some equilibria, it is profitable for the agent to accept a higher level of limited liability and thus effectively contribute towards defensive expenditures.

* University of Athens, Greece
Determinants of Defence Production: Panel Data Analysis

Ensar Yesilyurt, Bulent Guloglu, Filiz Yesilyurt, Sennur Sezgin

Abstract

The literature on defence economics mainly focus on defence expenditure. A few studies focused on defence production. It is because obtaining global data on defence production is problematic. Because of data limitations, 19 countries used for estimation between 1997 and 2002. In this study, determinants of defence production (2927-Weapon and ammunition) were analyzed. For this purpose, each country defence production was taken as an dependent variable. Explanatory variables are defence exports, defence spending, defence imports, and, real GDP in the world, the number of wars, world wars and civil unrest in the number of dead and wounded. The diagnostic results are satisfactory. Main results of this study are determinants of defence production firstly analysed extensively. Secondly, defence production determined by future defence spending of the arms importing countries due to defence production contracts.

*Pamukkale University, Turkey
What Drives Milex in Zimbabwe: A Comparative Study

Zachary Tambudzai* Geoff Harris **

Abstract
Many articles have been written on the subject of determinants of milex in developing countries, which is important given the negative effect of milex on economic development. Most of the papers have taken a quantitative or econometric approach. Few have attempted a qualitative approach that investigates underlying motives for huge milex especially in Southern Africa. This study tests a model located within the public choice approach to economics using data drawn from interviews with key informants and documentary sources to derive salient determinants of milex in Zimbabwe. A comparison is made with the South African scenario. The empirical findings suggest that Zimbabwe’s milex since 1980 has been influenced by internal political dynamics and to a lesser extend by economic factors. The most significant factors include regime security, elite corruption and liberation war hang-over and fear. In South Africa on the other hand, the milex level and composition are clearly formulated, transparent and are adhered to with respect to recurrent expenditures. However, recent military procurement history reveals increasing cabinet authoritarianism, a lack of transparency, significant opportunities for corruption and, arguably, inappropriate decisions.

---

* University of KwaZulu-Natal, Durban, South Africa.
** University of KwaZulu-Natal, Durban, South Africa.
Trends in Military Expenditure – The Role of Natural Resources

Sam Perlo-Freeman* Jennifer Brauner**

Abstract
Global military expenditure grew by 6% in real terms in 2009 according to SIPRI estimates, reaching $1531 billion in current dollars. All regions saw increases in 2009 except for the Middle East. While the global trend in recent years has been dominated by the US and to a lesser extent other major powers such as China and Russia, the developing world has also seen rapid increases. In many cases, natural resource revenues appear to have played a significant role in driving growth in milex and arms procurement in recent years in countries as diverse as Angola, Chad, Nigeria, Brazil, Venezuela, Iraq, Azerbaijan, Kazakhstan and Timor Leste. Natural resource extraction can generate conflict, and create an imperative to protect resource infrastructure from internal or external threats. At the same time it provides a ready source of government revenue, and in particular foreign currency. The lack of transparency often associated with such revenues may facilitate off-budget spending, or large corrupt arms purchases. Up to now, most econometric research has not considered the role of resource revenues as a determinant of milex. We provide a preliminary analysis in the case of Algeria, estimating milex as a function of oil revenues and other economic and security factors from 1975 to 2008.

*International Peace Research Institute, Sweden
**International Peace Research Institute, Sweden
The Measurement of Peace

Steve Killelea*

Abstract
The Global Peace Index is the first study ever to rank the countries of the world by their peacefulness. It is composed of 23 qualitative and quantitative indicators from respected sources and in 2010 has been expanded to rank 149 independent states. This has allowed a unique view of peace to be formed; fact-based and constructive in its approach to working on the many and varied global challenges that humanity is facing.

Based on the results from the Global Peace Index, this presentation examines two broad themes of peace. The first theme explores the relationships between peace and economic wealth, while the second brings a fact-based approach to establishing the conditions and causes of peace while analysing trends in peacefulness over the last four years. One of the findings of our analysis suggests that a 25 percent reduction in global violence would free up $1.8 trillion USD annually enough to pay off Greece’s debt, fund the achievement of the Millennium Development Goals and meet the EU’s 20-20-20 climate and energy targets. The research has further confirmed that the social structures and attitudes that characterise peaceful countries include: well-functioning government; sound business environment; good relations with neighbouring states; high levels of freedom of information; high participation in primary and secondary education; low levels of corruption; acceptance of the rights of others; equitable sharing of resources and respectful of human rights and tolerant.

* Institute for Economics and Peace
The Economics of Violence

Prof. Dr. J Paul Dunne

Abstract
This chapter considers macroeconomic aspects of violence. It moves beyond the usual focus on war to argue the economic importance of all forms and aspects of armed and unarmed violence. Violence refers to acts of self-harm, interpersonal violence, and collective violence. Self-harm includes suicide; interpersonal violence includes organized criminal violence as well as domestic and workplace violence. Collective violence generally denotes political entities that are in, or at risk of, internal or external violent conflict as well as those that are in an insecure postwar predicament or wrecked by pervasive armed criminal violence. In the past these different aspects of violence have been studied by different academic disciplines, with political scientists and defense economists tending to study the causes, consequences, and, lately, potential remedies of large-scale collective violence; and criminologists, public health experts, and crime economists tending to study interpersonal violence and self harm.
Recognizing the economic importance of all aspects of violence means that macroeconomic policy cannot be considered in isolation from microeconomic developments or from regional, sectoral, distributional, and other economic policies, nor from the social contexts in which violence takes place. The increasing complexity and interrelatedness of the various aspects of the economics of violence means that any discussion of the macroeconomic issues has to consider the cost of conflict and violence more broadly conceived. The chapter reviews violence, measures and measurements of the cost of violence, the economic causes and consequences of violence, some macroeconomic aspects of recovery from violence and postwar reconstruction, and some of the necessary framework conditions for recovery from violence.

* University of the West of England, United Kingdom
Value of Military Intelligence and Optimal Budget Allocation in an Arms Race Context

Eyal Pecht∗ Asher Tishler∗∗.

Abstract
The technology and information revolution, along with globalization, have placed intelligence as a major factor in achieving appropriate national security in the face of military threats in general and current trends in world terrorism in particular. High quality knowledge on the capabilities and intentions of rivals is a major factor in achieving a balanced military, meaningful deterrence capabilities, and success in warfare situations. Publicly available data show that direct investment in intelligence amounts to 5%-15% of the defense budget of most developed countries. The 2009 direct expenditure on intelligence by the USA was about $75 billion. The USA direct and indirect spending on intelligence (e.g. on integrative technologies) is estimated to be about 15% ($110 billion) of its national defense budget.

This study integrates military intelligence into the optimal allocation of the government budget into civilian and military expenditures. We develop and analyze several static (one-period) models in which two rival countries are engaged in an arms race. Intelligence activities include the process of data collection and knowledge analysis for decision making by the military and governmental hierarchies. Intelligence serves two goals: (a) evaluation of the rival's capabilities and intentions; (b) enhancing the capability of the military by increasing the effectiveness of its weapon systems and reducing the effectiveness of the rival's weapon systems.

We derive the optimal solution of the arms race, showing that the optimal expenditure on intelligence by each rival may or may not be a monotone increasing function of: (a) the government budget; (b) the effectiveness of the intelligence apparatus; (c) the decision makers' degree of conservatism. Furthermore, in some (extreme) situations one or both rivals may not invest any resources in intelligence. Finally, we present scenarios in which the two rivals face a ‘knowledge race’ in addition to the usual arms race. In such cases, a country with much higher intelligence effectiveness may force its rival to spend significant resources on intelligence and, thus, gain a substantial advantage in security and welfare.

∗ Tel Aviv University, Israel
∗∗ Tel Aviv University, Israel
Interagency Coordination in Intelligence

Ugurhan G. Berkok

Abstract
Intelligence being an input into preemption and ex ante deterrence of adversaries, an intelligence agency allocates resources to collect and analyze information to produce intelligence or assessments regarding an adversary’s capability and intent. There exists a tradeoff between collection and analysis in that while further collection is necessary for more credible evidence, analysis is required to produce the intelligence report as output.

Often, in emerging situations, the race against time is crucial in decision-making. We first model the agency decision of allocating resources to produce credible intelligence regarding the timing of the adversary’s next move. Since the adversary’s move’s timing is an “exogenously” given random variable and the agency’s reporting on the expected timing of that move is “endogenous”, the agency’s expected timing report must be produced ahead of the adversary’s move to be of any use, i.e. leading to any reward. Thus, the report production’s distribution must “lie to the left” of the adversary’s move’s distribution, which we take to be of first-order stochastic dominance. The tradeoff between collection and analysis is then affected in favour of the latter if the distribution of adversary’s expected move changes “leftward” and the situation becomes more urgent.

In the presence of two agencies with some overlapping jurisdictions, each has an incentive to share a more complete report as all intelligence shared is a public good and rewards do not accrue to shared reports with unprocessed information. This induces waits and/or unwillingness to share information or, in other words, incentives exist against agency coordination. Winner takes all incentives induce waits, i.e. failure in coordination, whereas sharing of rewards induces more collection and less analysis than in the optimum design of rewards.

* Royal Military College of Canada, Canada
From Conscription to Volunteers: Budget Shares in NATO Defence Spending

Vincenzo Bove* Elisa Cavatorta**

Abstract
NATO countries differ in the shares of defence expenditures devoted to personnel, equipment and infrastructure over time. One important factor which influences the different allocation of resources is conscription. Since 1989, 16 NATO members have suspended compulsory military services, moving to an All-Volunteer Force (AVF). The transition to AVFs has shifted the cost structure of military organisations and changed the incentives for recruitment and other expenses. This paper explains the shares of defence expenditure to personnel, equipment and infrastructure among NATO countries and how they respond to the transition to AVFs. We test whether the changes in costs have induced countries with AVFs to reduce force strength by substituting personnel for other inputs, with a pronounced technological emphasis. To understand the extent to which conscription and price changes affect the shares in defence spending we estimate the elasticities of substitution between different pairs of inputs. This analysis includes 14 NATO countries over the period 1970-2008. To our knowledge, this paper is the first disaggregated analysis of defence expenditure components applied to NATO countries.

Our model represents the military possibility frontier by a transcendental logarithmic production function with 4 inputs (personnel, equipment, infrastructure and others). We estimate the effects of price changes on the shares in defence expenditure through a translog cost function. Preliminary results suggest that the elasticity of personnel shares to changes in defence expenditure is less than one, while the elasticity of equipment and infrastructure is greater than one. Increases in the level of prices and the cost of labour decrease the shares for personnel and increase those for equipment and infrastructure. Infrastructure and other defence expenditures are responsive to changes in real interest rates. Overall, the transition to AVFs does not seem to have a significant impact on personnel shares. Finally, we estimate the elasticities of substitution by a nested CES production function.

*Birkbeck College, University of London, United Kingdom
**Birkbeck College, University of London, United Kingdom
The Effects of Economic and Political Factors on Terrorism

Sacit Hadi Akde
e, İbrahim Çetinkaya

Abstract
In this study, it is obtained the number of terror events including 97 countries from 1988 to 2003 and total number of fatality and total number of injured which were caused by terror events based on annually. The effects of economic and politic factors on international terrorism investigated by using econometric techniques such as panel count poisson, ordered probit and seemingly unrelated regression. Moreover, the relations between terror events and democracy are revealed by using similar econometric techniques.

According to econometric test results, increasing in GDPPC, trade volume, urbanization and education expenditure as a percentage of GDP decrease terror incidents. In addition to this result, increasing in the unemployment increases terror incidents. As a different result, an increase that happens in military expenditures increases the terror incidents.

* Adnan Menderes University, Turkey
** Aydin School of Policemen, Turkey
Economic Security in International Business: The Case of Slovene Enterprises in the Western Balkans Market

Udovič, Boštjan*

Abstract
The aim of the presentation is to present a modern approach to economic security, when analyzing enterprises’ activities in foreign markets. The modern understanding of economic security differs from the classical one in three ways. Firstly, the classical approach defined economic security narrowly as stability of factor-endowment and accession to the market. The modern approach to economic security widens the classical understanding of economic security. This understanding is now marked as ‘macroeconomic stability and security’ and presents only one out of four corners (other three are human security, social and societal security, technological security). The key element of the new economic security scheme is political security, which is a ‘linkage element’ that links all corners among them and stabilizes the system. Therefore economic security is stable if all four corners and the central element – political security – are stable.

Why was it necessary to extend the understanding of economic security? The key reason for the extension was that the classical system of economic security (now macroeconomic stability) was not able to reflect the current international business due to its narrow nature. Therefore, it was necessary to encompass other determinants and factors in the model, which influence on the conduction of international business in the age of globalisation.

We will test the theoretical conception of economic security on data obtained from the Slovene enterprises that are exporting or investing in the Western Balkan states (ex-Yugoslavia). We would like to prove how ‘feelings’ about economic security reflect the real – macro – situation in a country. Our hypothesis is that because of cultural and geographical proximity, economic security is felt differently as it should be, according to the obtained macro data.

* University of Ljubljana, Slovenia
R&D Activity within the Turkish Defence Industry

Burçak Ozoglu Pocan

Abstract
This paper aims to analyze the R&D activities within the Turkish Defence Industry, by taking into consideration the peculiar case of the military research and development. Although varying according to some national issues, the defence industry is considered to be an important source of innovation for many countries. The Defence Sector has the potential to spread the aggregated experience on innovative activities to other sectors. Military R&D programs mostly evoke innovation within civilian sectors, likewise private enterprises undertake the biggest portions of the procurement which is based on R&D at the market. The scope of this mutual relationship varies with the global position and the market characteristics of the country, the extend to which the government takes place in the defence sector, the overall structure of the national system of innovation, the policies and regulations on science and technology, the security concerns and strategies.

By accepting this framework, in order to analyze the R&D activity within the Defence Industry Sector this study will begin with the assessment of the modernisation and procurement processes of The Turkish Armed Forces (TAF). These processes assign the network of R&D in the Defence Industry. The main actors of this network are: The Undersecretariat for Defence Industries (SSM) of The National Ministry of Defence; The R&D Command Post of The Ministry; Public R&D Institutes specialized in the defence sector and the Defence Industry Firms. The Scientific and Technological Research Council of Turkey (TÜBİTAK) also participates the network via S&T strategy forming and funding activities.

The main object of this work is to explore the dimensions of the above mentioned network and demonstrate the main issues of the R&D in the Turkish Defence Sector.

*Middle East Technical University, Turkey
The Global Economic Costs of Conflict

Olaf J. de Groot* Tilman Brück*

Abstract
There is a substantial body of research on the calculation of the costs of conflict, but so far no satisfactory method has been proposed that is able to combine costs stemming from different sources in one comprehensive framework. In this paper, we propose to use cross-country analysis to estimate the total costs accruing annually due to the occurrence of conflict. Such cross-country analyses have been proposed before, but there is scope for further improvement in the estimations. In particular, the usage of dynamic system estimators and thorough data imputation techniques should make the analysis more consistent. In addition, greater attention to the channels through which conflict costs accrue aids the completeness of our estimation. For example, the inclusion of spillover effects, as well as long-term intertemporal effects has been largely ignored previously, even though these effects have been the subject of specific channel studies.

Furthermore, our research digs deeper in the differentiation between conflict types and the different effects that are found in different locations. While it is, for example, clear that most conflicts take place in Africa, it is not as obvious whether the largest share of conflict costs are accrued in Africa as the low GDP levels make the impact of conflict smaller in absolute terms. Finally, the paper includes a policy component when it looks at specific methods for reducing the impact of conflict and identifies specific channels that deserve more attention from policymakers.

* German Institute for Economic Research, Germany
Military Spending, Conflict and Economic Growth

J Paul Dunne* Mehmet Uye**

Abstract
The economic effects of military spending is an important issue for low and middle income countries, particularly for regions with high levels of conflict in the region and generally poor economic performance. There has, however, been a limited amount of empirical work on the area, particularly work that takes into account the years following the Cold War. This paper provide a brief review of the relevant empirical literature, which suggests that there is little or no evidence for a positive effect on economic growth and that it is more likely to have a negative effect, or at best no significant impact at all. A growth model based on Dunne et al (2006), which includes military spending and overcomes some of the limitations of earlier models, is then estimated on a panel of countries using SIPRI, IFS and World Bank data for 1988-2006. This finds unequivocal negative impacts of military spending on growth, consistent with the results for all countries. Breaking down the sample into those involved in conflict and those not provides some further intriguing findings.

* University of the West of England, United Kingdom
** University of the West of England, United Kingdom
The Euro-Mediterranean Partnership and the Economic Dimension in the EU’s Security Interests towards its Southern Mediterranean Region

Walid Abu-Dalbouh *

Abstract
Since independence, the modern states of the Arab world have run into various economic, social, and political problems. Politically, the deteriorating and unresolved Arab-Israeli and Palestinian-Israeli conflicts have immensely affected the stability of the region, as well as its social and economic development. For years, huge budget expenditures have been dedicated annually for defence reasons - it is estimated that the Middle Eastern states spend fifty billion dollars annually on military outlays at the expense of vital economic and social activities.

At the same time, the region is generally associated with notoriously weak democratic structures and fragile self-governing institutions. ‘Arab exceptionalism’, for example, has become a well-known terminology since the worldwide democratisation expansion of the 1980s. Economically, the Arab World – particularly the Mediterranean region – has lagged behind the economies of most third world countries. Poor economic performance, poor trade and industrial growth, and low per capita income rates, coupled with high unemployment and redundancy rates, are clear indicators of a catastrophic situation. During the 1980s, the Mediterranean Arab region scored the lowest per capita growth rate globally. Socially, the health and educational services barely provide the minimum requirements for many segments of the population, particularly in the villages and rural areas. Poverty is sweeping the region with continued sluggish GDP growth rates that have eventually exacerbated the deterioration of the health and educational sectors. In this respect, “World Bank projections of annual GDP growth for the Middle East and North Africa (MENA) region average about 3.2 percent. At this rate about 11 million people will be living below the poverty line ($1 a day at 1985 purchasing power parity prices) in 2004, and about 40 million people will be living below their domestic poverty line” (Eeghen, 1998: 227).

With this background, the Arab world, along with other developing countries, are subject to global and regional forces. One of the major regional initiatives was the launch, in November 1995, of the Euro-Mediterranean Partnership (EMP) between fifteen EU Member States (MS) and eleven Southern Mediterranean States (SMS) - including the Palestinian Authority (PA). One of the distinctive features of the partnership is the introduction of ‘stability’ as a central policy objective. Indeed, the notion of stability is a recurring concept in EU’s external relations with its neighbouring regions. However, despite the centrality of the notion of stability, the literature has failed to clarify the conceptual ambiguity surrounding the term and its implications for the nature of the Euro-Mediterranean Partnership (EMP). On the other hand, literatures have nonetheless link “stability” with the notion of “economic security” particularly. They frequently revolve around those key factors associated with political dissatisfactions amongst Arab nations along the economic and socio-economic disparities between the two shores the Mediterranean that trigger migrants to illegally migrate to Europe and as a result generate serious security dilemma facing the recipient states. In fact, economic conditions in the south is becoming not only a contentious security issues in the North but also a mounting heated security dilemma facing the governments in the southern rim of the Mediterranean particularly when considering the poor democratic conditions in the region. Thus, the question worth asking here is to what extent the EU financial assistance – under EMP- deems significant to overcome such economic situations in the south?

* University of Jordan, Jordan
In parallel, it is also worth asking is the extent to which economic factors – according to the current EU’s financial assistance distributions - shall solely influential to influence events in the region?
Non-linear Relationship between Economic Growth and Military Expenditure: An Application to the French Case

Julien Malizard*

Abstract
The relationship between economic growth and military spending has been widely debated, since Benoit's pioneering study. If the debate is not over, this is mainly due to the multiplicity of channels through which defense affects growth. As indicated by Dunne, Smith and Willenbockel (2005), there are three main channels: demand, supply and security. The major issue in order to estimate the defense-growth relationship is to know how these forces combine each others. As stated by Deger (1986, p. 203), "the sum total of channels form a rather complex phenomenon and the final effect may be difficult to estimate". Such an analyze has been frequently noted in the literature but it is only recently that empirical tests have been achieved, following the progress of estimation methods. In the defense-growth literature, there are only a few studies dealing with non-linearity and there is a lack of evidence for France. This article contributes to the debate over the impact of military expenditure on growth with an application to the French case over the period 1962-2007. Our result suggests that the Logistic Smooth Transition Regression (LSTR) model is suitable for understanding the defense-growth relationship. As a consequence, we have to consider asymmetric effect of defense: for important variations of output, military expenditure exerts a negative impact whereas the opposite happens for moderate growth rate. There is also an asymmetric effect of military expenditure in quantitative terms. Indeed, when the output's variations are high (both positive and negative), the impact of defense is more unfavorable than the positive impact when these variations are weak. What can we learn with these results? Our estimation reveals that for moderate growth rate, the military expenditure's impact is positive. With the publication of the "White Book", it has been decided to foster defense spending after 2012. Since the growth prospects are bleak, we might expect that this rise will have positive effect on French economic factors.

* University of Montpellier 1, France
Modelling the Relationship between Defence, Non-defence Expenditures and Inflation within a Threshold Regression: Evidence from Turkey

Kadir Yasin Eryigit\textsuperscript{*} Sibel Bali\textsuperscript{**}.

Abstract
It is generally accepted that defence expenditures have important effects on the economy through several channels. In the literature, however, there are limited studies investigating the relationship defence expenditures and inflation, which is the main concern of macroeconomics, and the results of empirical research are controversial. The reasons for these conflicting results may arise from some methodological problems and data features, such as structural breaks or regime shifts, countries’ demand and supply conditions, the share of imports in defence spending etc. Accordingly, this study examines the differential impacts of defence and non-defence expenditures on inflation within an expectations-augmented Phillips curve framework in the context of Turkey, following Sahu et al. (1995) and using a threshold regression approach proposed by Hansen (2000) for estimation and inference. The data used in this study are annual covering the period 1950-2008, and the main question addressed by the empirical analysis is whether the threshold effects of growth rates of defence and non-defence expenditures exist on inflation in Turkey.

\textsuperscript{*} Uludag University, Turkey
\textsuperscript{**} Uludag University, Turkey
Corruption, Military Spending and Growth

Giorgio D’Agostino* J Paul Dunne** Luca Pieroni***

Abstract
This paper considers the complementary effect of corruption and military spending on economic growth within an endogenous growth model. The model considers the impact of total public spending as well as the allocation of resources between categories and the links between corruption and economic growth introduce non-linearities into the model. Estimating the model with a sample of African countries, that have World Bank data on corruption confirms the expectation that corruption and military burden lower GDP per capita growth. The results also show that if the complementarity between military spending and corruption is ignored, the impact of both on economic growth is underestimated.
Ranking the Performance of European Armed Forces (EAF)

Marion Bogers* Robert Beeres**.

Abstract
The Lisbon treaty presents important innovations to the European Defence field. The mutual solidarity clause and the commitments to further develop military and diplomatic capabilities lay a foundation for a more collective European Defence. A more common European defence policy raises the issues of burden sharing and of relative performance measurement of the EAF. In the paper, we compare the performance of the EAF using four dimensions (input, throughput, output and outcome). In order to express the performance, differing indicators are formulated for each of these four dimensions. The data used to calculate the indicators are based on publications of NATO, the European Defence Agency (EDA) and the International Institute for Strategic Studies (IISS) over the period of 1995-2008. Interestingly, depending on the selection of indicators the armed forces of each European country hold various positions on the performance ranking lists. For instance, the armed forces of Bulgaria outrank all the other armed forces on the input dimension. However, on the output dimension Bulgaria comes in last. On the other hand, Ireland ranks last on our input dimension. However, Ireland ranks first on the output dimension. The implication of our study is that to rank the performance of EAF in a meaningful way, it makes sense to combine various indicators. One limitation of our study is that - given the ongoing modernization of the armed forces and the increasing importance of technological superiority in addition to the deployment of troops - the focus of the information collected is too much oriented on the number of (deployed) troops. Therefore, the real contributions of the more technically oriented operational commands (the air force and navy) are not given enough weight.

---

* Netherlands Defence Academy, Netherlands
** Netherlands Defence Academy, Netherlands
Tigers on the Retreat: How the Swiss Search for a Successor to its Outdated F-5 Fighters Resulted in a Contract Design Capable to Overcome Information Asymmetries

Peter T. Baltes

Abstract

The efficiency of deals in arms procurement is often hampered by information asymmetries between suppliers and their governmental counterparts: Is a cost overrun really necessary to fulfil the contract specifications? Or is the supplier’s claim based on false evidence to extort some extra profit? The paper highlights some new insights into the mechanism design required to resolve such problems.

Since 2007, Switzerland has been searching for a replacement for its outdated Northrop F-5. In January 2009, the competitors for this deal were confronted with a request for proposal featuring a rather unusual two-part inquiry: The bid should not only include the price for delivering 22 fighter aircraft (“price option”), but also the number of fighters the manufacturer was willing to sell for the fixed amount of CHF 2.2 billion (“quantity option”).

The reason behind this particular design can be traced back to the ongoing political tug-of-war between the stakeholders in Switzerland’s national security: The supporters of the replacement were only able to obtain sufficient acquiescence by committing the program to a “hard” budget constraint. However, the two options in the request for proposal can result in a (unintended) second effect: It decreases the supplier’s incentive to make unjustified claims of cost overruns. By a simple mathematical model the conditions that must be met to achieve this result are identified.

In conclusion, the paper shows a new way to overcome problems of information asymmetries in arms procurement. It also explains why arms manufacturers are willing to agree to deals that force them to participate in “value-destroying” offset-business operations. Moreover, it highlights the importance of timing to the efficiency of a procurement process – for example, when to join the bandwagon of procuring a new weapon system in a multinational setting.

* Swiss Military Academy, Switzerland
Globalisation of the Arms Industry – Stakes and Reality

Renaud Bellais* Susan T. Jackson**

Abstract
Since the end of the cold war and the initial cuts in military spending, the arms industry has been experiencing a deep structural transformation. In the United States the consolidation was launched by William Perry’s Last Supper; and a similar process took place in other major arms-producing countries, even though with a delay compared to the mega-mergers in the USA. Nevertheless such transformation goes beyond a simple adjustment to budget cuts in the early 1990s.

Indeed the arms industry has changed profoundly because of technological advancement, which has progressively created a contradiction between the cost of weapons systems and the size of most domestic markets – except the United States. Even though the cuts in military expenditure revealed such contradiction, technological advancement and the resulting transformation were bound to impact industrial trends since the beginning of the 1980s because of the impact these had on which companies and countries could compete and in what ways.

The logical consequence of such short-term and structural evolutions is that companies in the arms industry are looking to access markets beyond national borders. This trend was quite impressive since the early 1990s, first through joint ventures then with mergers and acquisitions (M&As). Such transformation becomes a policy concern, since the core regulatory framework has been built on a national basis and there are very limited structural and regulatory means for dealing with an international or, even a transnational, industry in such a sensitive activity as weapons development and production.

It is therefore interesting to wonder whether it is possible to qualify such transformation of the arms industry as an internationalisation process and whether it can be compared to the globalisation of commercial activities. Indeed the proposed contribution aims to define the key dimensions of internationalisation more generally and assess whether such dimensions are applicable to the arms industry. Such an examination is a necessary element in assessing the current regulatory framework and its appropriateness.

The proposed contribution will present cross-border M&As since the early 1990s and examine their essential features in order to better understand this transformation. In other words, can we compare what has happened and continues to happen in the arms industry with the globalisation experienced by commercial industries? Is the arms industry becoming transnational? Alternatively are national regulatory frameworks still operative, which would imply that internationalisation is still under control and restricted to certain features.

It will especially use the approach developed by Paul Dunne, Maria Garcia-Alonso and Paul Levine in their 2002 paper "Concentration in the International Arms Industry" and by Elisabeth Sköns' PhD dissertation The Arms Industry and Globalisation (2009).

---

* EADS and Institut d’Etudes Politiques de Paris, France
** Stockholm International Peace Research Institute, Sweden
Military Expenditure and Granger Causality: A Critical Review

J Paul Dunne* Ron Smith**

Abstract
A large literature has used Granger (1969) Causality, GC, techniques to examine the interaction of military spending with the economy and are a useful statistical technique to answer a specific though quite limited question: does one variable help predict another? Although the limitations are well known, they are often not emphasised in the applied literature and so may be forgotten. This paper considers the econometric and methodological issues involved and applies the test to US and other country data. It shows that when done in the context of a VAR the test results are sensitive to the number of variables, the lag lengths, treatment of deterministic elements, the sample or observation window used, the treatment of integration and cointegration and the significance level used. Statistical measures may not be informative about these choices and since the parameters are not structural they may not be stable over different time periods or different countries. To determine how Granger causality relates to economic causality requires an identified structural model, and different, observationally equivalent, just identifying assumptions may give very different causal pictures. Nonetheless, trying to develop more structural models seems to be potentially more fruitful than less theoretical statistical approaches.

* University of the West of England, United Kingdom
** Birkbeck College, University of London, United Kingdom
Defence Economy: A Detailed Survey of the Literature

Ensar Yesilyurt, Bülent Guloglu, Filiz Yesilyurt, Sennur Sezgin*  

Abstract  
The aim of this literature survey is to investigate the defence economy in different aspect. To that end, we reviewed defence studies between 1970 and 2010. Studies on causality and defence-growth relationships, guns versus butter, defence expenditure and government expenditure, arm-race model critically analysed. And also theoretical and descriptive studies examined and criticised.  
In the conventional literature survey the only concern is the author and data evaluations. This study investigates further details: What is motivation of the defence studies? Is there any relationships studies’ origin of country, university and findings. All these questions answered. Consequently, the study focus on a more detailed perspective on defence economy.

*Pamukkale University, Turkey
Dynamics of Wars

Ron Smith* Ali Tasiran**

Abstract
In this paper, we investigate the determinants of wars using the Uppsala Conflict Data Program (UCDP) Conflict Termination Dataset 1946-2007. Duration models are applied to analyze the dynamics of terminated conflicts that ended with victories and peace or ceasefires or idle or show low activities. Single and multi-spell log-logistic hazard models and semi-parametric competing risk Cox models are estimated. The findings reveal that major conflicts end faster than minor conflicts and internal wars have longer spells than wars between states. Moreover, the longer conflicts are in Asia, Middle-East, Africa and America, the shorter ones in Europe. There are some small differences for the determinants of terminated wars and wars with low activities or no activities.

*Birkbeck College, University of London, United Kingdom
**Middlesex University, United Kingdom
Military Expenditure and Human Development in Egypt

Hamid E. Ali*

Abstract
The allocation of resources among competing uses as expressed in guns and butter arguments are widely publicized in the voluminous of research in economics and public policy. The reduction in military spending can provide more budgetary resources to spend on social programs include education, health and food subsidies. In most development countries include Egypt are yearning for development and stability where military spending is perceived as public investment. Moreover, the common themes among the empirical studies on relation between military spending and social spending are the lack of theoretical framework to justify the model results.

In this paper we will make a contribution to the ongoing debate by providing a theoretical model framework to explain how the military expenditure is crowding-out social programs. In addition we will use empirical analysis of Seemingly Unrelated Regression (SUR) and Generalized Methods of Moments (GMM) to discuss the robustness of the crowding-out phenomena using time series data of 1988 -2006. Our results lend us to believe that the crowding out is not dollar for dollar in education and military spending. Moreover, no crowding out in case of health, in fact there is crowding in. These findings depart from the current empirical models.

* American University in Cairo, Egypt
The Choice between Buying a New Porsche and Sponsoring Conflict Prevention! Why the Market for Prevention of Conflict Fails

Kyoko Mona

Abstract
The paper discusses a public economics view of why global peace is still not achieved. Using formal public economics theory, the paper highlights the difference between the final product “peace” and the intermediate product “prevention of conflict”. Under special circumstances, “peace” can be provided by the private market, whereas “prevention of conflict,” which has pure, global, and intergenerational public good qualities, may not be. We argue that nonexistence of the intermediate market is one of the main obstacles for achieving pure peace. Hence, the paper stresses the importance of the intermediate market for achieving the final product.

The paper adapts a general equilibrium framework which assumes that there is one benevolent world government and two “offered substitute” goods: 1) “prevention of conflict” and 2) “war”. When one good is offered in larger quantities, the quantity of the other good offered should necessarily decline. Therefore, if the market for one good does not exist, the quantities of the other good offered will exceed the optimal amount. Under this bad equilibrium, the prices of the both goods will be distorted. We show that the price of war under the bad equilibrium is less than and the price of conflict prevention is more than the optimal respective prices. We also show in this paper that the marginal benefits of private gain from war, defined as profits earned by the defense industries, exceeds marginal cost of public bad of war, which we obtain by measuring the value of human lives, health, medical expenses, and long term structural damage.

* Economics Manhattanville College, USA