

## **ABSTRACTS**

### **The True Value of Peace: Theory and Application**

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#### **ABSTRACT**

This work establishes a framework of analysis for government budget allocation in situations of uncertainty, with an application to the Arab-Israeli conflict. The model we consider is a non-cooperative (Cournot) arms race between a developed country that is characterized by high GDP and a less developed country with lower GDP. The elements of the model are military and civilian expenditures. Each country's budget is determined exogenously as a result of bureaucratic procedures.

We define the national level of security of a country by a measure of its military capability and its potential rival's military capability. We also define the country's perception of the probability of war, which is a measure of intimidation or deterrence. Each country may have a different belief about the probability of war between itself and its rival. The damage from a war is defined as a percentage of civilian expenditure (obviously, the potential for damage of the wealthy country is greater than that of the poor one). Each country intends to maximize its expected social welfare, taking into consideration the possibility of war.

We use the model to predict the optimal quantities of weapons of the two countries engaged in the arms race, and show how the equilibrium strategies depend on the key model parameters. We then consider an extension to a three-player game, consisting of a single developed country, which is an adversary of two allied less developed countries. The three-player game incorporates the effect of alliances on the perception of security and thus on the procedure of budget allocation. The results indicate that a higher degree of alliance ensures the best equilibriums for all countries.

The primary contribution of this study is in developing an analytical framework that defines the expected welfare of a nation in situations of uncertainty. It also defines how welfare is affected by perceptions of security, war damage and deterrence. Furthermore, it presents the influence of military alliances on national security and the various response strategies for different alliance arrays. The validity of the theoretical models is evaluated utilizing real-world data.

## **The Peace Dividend: Theory, Model and Empirical of China**

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### **ABSTRACT**

So far, there are many articles do researches on the relationship of China's defence expenditure and economic growth, but the conclusions are not the same, and no one had ever studied China's peace dividend deeply. So this paper chose this research direction, to study China's peace dividend based on the influence of defence expenditure to economic growth.

This paper collects the China's date of 1952 to 2006, use the Feder-Ram model to regresses them, examines the size effects and externalities of China's defense spending and non-defense spending then studies the effects of peace dividend to China's economy.

The paper is divided to four sections. The first section studies the defense and economy background of China's peace dividend. The second section uses Feder-Ram model to measure the externality of China's defence expenditure. The third section examines the peace dividend of China and the last section give a conclusion.

## **What underlying beliefs and attitudes drive Zimbabwe's Military Expenditure? : A Qualitative Approach**

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### **ABSTRACT**

Many articles have been written on the subject of determinants of military expenditure in developing countries, which is important given the negative effect of military expenditure on economic development. Most of the papers on determinants have taken a quantitative or econometric approach. Few have attempted a qualitative approach that investigates underlying motives for huge millex especially in Southern Africa. This paper uses primary data sources (from informal interviews and interactions) and reviews of secondary literature from publications by various stakeholders, including newspapers to derive salient determinants of millex in Zimbabwe. The study is based on public choice theory which applies economic principles to political variables to derive conclusions. The preliminary empirical findings suggest that Zimbabwe's military expenditure since 1980 has been influenced more by internal political dynamics and beliefs, and to a lesser extend economic factors. The most significant factors include regime security, elite corruption, lack of accountability and audits, secrecy and confidentiality, liberation war hang-over and fear of the unknown.

JEL Classification Numbers: H56

## **Reconstruction of the Defence Industry in Westerns Balkan**

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### **ABSTRACT**

First and foremost it is important to stress that this paper deals with the huge transformation of arms manufacturing facilities that were originally shared by the republics of the former Yugoslavia, with the exception of Slovenia. Paper attempts to describe the process of formatting defence industrial bases in newly established states, followed by the presentation of their present production capabilities and institutional-legal framework in which they have to operate. Further on this paper seeks answer how the national defence industries in the region have reacted to the decline in the domestic demand for military equipment and the temporary loss of traditional foreign defence markets as well as associating NATO and EU. To answer this question, paper examines the conversion, privatization and internalization process of defence industry in Westerns Balkan in the last years. Special attention is given to the evaluation of existing bilateral and multilateral regional defence industry cooperation. Since the future for defence industry in Westerns Balkan does not look very optimistic, the paper offers some practical suggestions for effective reconstruction in the conclusions.

Key words: defence industry, Westerns Balkan, defence markets, conversion of defence industry, privatization of defence industry, defence industrial cooperation

## **Revisiting Industry Structure, Procurement and Innovation in the UK Defence Sector**

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### **ABSTRACT**

In a paper presented at the 2007 CARECON Conference in Bristol, we investigated the implications for innovation of the changing structure of the UK defence industry since the end of the Cold War. We noted that industrial organisation economics suggests that there is a relationship between the level of competition in an industry and the level of innovation in that

industry. Our 2007 paper presented evidence to suggest that UK industry's own funded R&D for defence purposes has fallen dramatically since the end of the Cold War and ascribed this in part to industry consolidation and in part to the effect of changes in the UK defence procurement regime.

However, we also noted the limitations of our approach - not least a dependence upon an input measure of innovation - namely R&D spending. Our new paper revises and updates our 2007 paper in three ways:

- We present an analysis of an output measure of innovation - patents - to show that patenting by UK defence companies has fallen since the end of the Cold War (a trend that supports our general line of argument);
- We draw on data from face-to-face interviews with industry, government defence acquisition officials and officials with responsibility for defence science and technology policy to provide qualitative support for our argument;
- We consider our analysis against the background of the UK's Defence Industrial Strategy and Defence Innovation Strategy and consider the implications for the future of defence innovation in the UK.

### **The RMA and Australia 's Defence Industry Base: 1996-2006**

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#### **ABSTRACT**

This paper traces the impact of RMA thinking on defence capability demand in a middle-ranked defence spender, Australia, closely allied to a superpower, the USA. Our ultimate interest lies in the implications for Australia's defence industry base (ADIB). Serious debate about RMA ideas started in Australia in 1996 and we track the experience of Australia's largest 40 defence firms from then to the present, observing changes related specifically to the RMA.

Our hypothesis is that demand for new and replacement defence capability inputs in Australia is the dominant factor shaping the ADIB. Australia has never had significant defence exports and the entry, survival and exit of defence suppliers reflect almost exclusively the opportunities offered in the domestic market and the capacity to meet them profitably. The structure of the ADIB thus reflects: the nature and evolution of demand for Australian Defence Force capability, the ability of the ADIB to respond effectively to that demand, and the determination of the Australian government to direct work to the ADIB.

The view that changes in the ADIB are largely induced by demand to meet ADF requirements allows us to understand why the impact of RMA thinking can be seen in changes to industrial structure and capability - but also why the ADIB had developed production capabilities clearly related to RMA-type ideas well before RMA language and concepts had entered currency. This approach also provides us with a focus for understanding how diffusion and absorption of RMA technology are driven in Australia and the role that competition has played in the process.

## **On the Optimal Defense Budget Allocation Process**

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### **ABSTRACT**

Countries spend substantial resources on military procurement and the maintenance and training of their armies as a deterrent and to win any conflict that may erupt. Determining the size of the defense budget and its allocation among the various defense expenditures poses a complicated decision problem as it is extremely difficult to define and measure defense output and, thus, assess the real alternative cost in terms of civilian goods.

Though the defense budget is the subject of heated public debate, the existing academic research has little to say about the process of allocating resources and the players participating in this process. This study explores the optimal defense budget allocation process in an arms race setup with decentralized decision making. The decision makers participating in this game are the Ministry of Finance, the Ministry of Defense, the Prime Minister and a hostile country. We present a two-stage decision model. In the first stage, the Ministry of Finance maximizes what it perceives to be the country's utility function by allocating the (exogenous) government budget between civilian and defense expenditures. Simultaneously, and non-cooperatively, the Ministry of Defense maximizes what it perceives to be the country's security level by allocating the defense budget across the various defense expenditures. In the second stage, the Prime Minister decides on the country's defense budget. The Ministries of Finance and Defense know that the Prime Minister, who makes the last call, will make a compromise between their proposals and, thus, take his decision into account.

The paper addresses issues such as why the Ministry of Defense always asks for a higher defense budget than the Ministry of Finance offers, the effects of the arms race on the size of the defense budgets, how a decentralized decision process affects the defense budget, and more. The relevance of these models is tested with data on the Arab-Israeli conflict.

## **The privatization and outsourcing of military activities**

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### **ABSTRACT**

The trend towards increased privatization and outsourcing of military activities has led to a rapid expansion of the military services segment of the arms industry over the past few decades. Military services include technical services such as IT and equipment maintenance, operational support such as facilities management and logistics, and actual armed force – companies providing armed security in conflict zones. This paper presents an overview of the different types of military services, the size of the market, and the companies involved. It also discusses some of the many economic, political and peace and security ramifications of the growing – and controversial – military outsourcing trend.

## **The Developmental Impact of Military Budgeting and Procurement - Implications for an Arms Trade Treaty**

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### **ABSTRACT**

The purpose of this paper is to establish how literature relating to the economic implications of military expenditure (miles) and arms imports for developing countries could be used to influence international arms trade regulation, for example in the case of an eventual arms trade treaty. To this end, the paper conducts a literature survey on two broad, but interlinked, areas. The first is the literature on the economic effects of miles and arms imports on economic growth, social expenditure and debt in developing countries. The specific characteristics of arms imports, which are likely to make their developmental impact more negative, are also discussed. The second area surveyed is literature on governance issues relating to military budgeting and arms procurement. This section is based on SIPRI's work on budgeting for the military sector in Africa, where it is argued that the level of military spending is not as relevant as the process in which the military budget is decided, from a policy perspective. Severe deficiencies in these processes, found in SIPRI's African case studies, are likely to lead to excessive, inefficient military spending.

Corruption can undermine processes that on paper are transparent, accountable and rational, and can lead to excessive spending on arms unrelated to actual security needs. We discuss the evidence and implications of corruption in the international arms trade, and the role of both exporting and importing countries in encouraging or enabling it.

Transparent, accountable budgeting and procurement processes based on a rational assessment of security needs are crucial both from the point of view of security and of minimizing the potential harmful economic impacts of excessive miles. Likewise, efforts by both exporters and importers to tackle corruption are needed to ensure that arms imports are genuinely required for security, and are not used for rent-seeking by decision-makers.

## **The Demand For India's Military Expenditure**

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### **ABSTRACT**

Although a number of studies have concerned the demand for military expenditure in developing countries, there are few such studies for India. The goal of this paper is to attempt to fill this gap and identify the demand for military expenditure in India by applying the autoregressive distributed lag (ARDL) approach to cointegration. Based on the standard

neoclassical theory (Smith, 1995), the effects of economic factors, social factors, political and military factors on India's military expenditure are investigated for the period 1960-2005. The empirical findings indicate that India's military expenditure are significantly influenced by India's GDP, the government's non-defence expenditure, political stability and border wars with Pakistan and China.

## **The Demand for National Security Expenditure in Greece: Some Preliminary Empirical Findings**

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### **ABSTRACT**

Recent years have seen major international developments that have fundamentally affected the concept of national security. During the Cold War, national security for most countries was almost exclusively associated with an external military threat emanating from a rival state (or states) that posed either an imminent or a potential military threat to a country's national interests. Defending national interests meant the allocation of scarce resources to building a national defence capability to deter military action on the part of the rival. In this context, spending on the armed forces represented the cost of national security. Given its relatively high military burden, Greece has attracted considerable attention in the literature, with a number of papers investigating the determinants of military spending through the estimation of models of the demand for greek military expenditure. In the post-Cold War era, the need to define national security in a broader way was dramatically highlighted with the 9/11 terrorist attacks and the emergence of terrorism and asymmetrical threats as a major factor that influences national security. In the context of this broader definition, military spending is no longer sufficient as a measure of the costs of providing national security. The costs of other institutions and security forces that are involved in national security must be accounted for. Indeed, in the case of Greece, apart from its external national security concerns, it has over the years faced serious security challenges from both domestic as well as international terrorist activity. This paper, adopting this broader approach to national security, estimates a demand function for security expenditure in Greece, incorporating both external security threats, emanating both from its traditional adversary in the region, as well as threats posed by terrorist activity. To this effect, the national security expenditure variable used in the empirical estimations herein, includes both spending on the armed forces as well as budgetary outlays on other security forces, the mission of which is primarily to deal with security challenges posed by terrorist groups and their activity.

## **The Demand for Military Expenditure: Evidence from the EU15 (1961-2005)**

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### **ABSTRACT**

In recent years, there have been a growing number of studies that investigate the economic effects of military spending using a variety of estimation methods and focusing either on individual countries or on groups of relatively homogenous countries. The situation is not the same as far as the demand for military expenditure is concerned, where less attention has been given and the majority of empirical studies have focused on individual countries, with only a few focusing on groups of countries and employing cross-sectional or panel data approaches. A region that has not attracted any research interest regarding the determinants of military expenditure is the European Union (EU) with the exception of individual country studies (mainly for the UK, Greece, France, Spain, Portugal). This paper argues that understanding the determinants of military spending in these countries is very important, especially given the discussions in recent years towards the development of a Common European Security and Defence Policy (CESDP). It then follows Dunne et al. (2003) and employs the Autoregressive Distributed Lag (ARDL) approach to cointegration to estimate a general model of aggregate defence spending for each of the 15 core EU countries over the period 1961-2005. The findings indicate that there is very little uniformity in the factors that determine each country's demand for military expenditure, something that needs to be borne in mind by policy makers when burden-sharing issues are considered in the development of the CESDP.

Keywords: Military expenditure, demand, European Union, Autoregressive Distributed Lag (ARDL)

## **An Empirical Analysis for the Economic Causes of Conflicts of Middle Eastern Countries**

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### **ABSTRACT**

Conflicts are one of the main concerns that any country has in spite of the political, social or economic situation that a country may be in. Conflicts are generally categorized as 'major' and 'minor' based on the level of intensity and the number of causalities. The Middle

Eastern countries experienced a dramatic increase in the number of conflicts in the 1990s. In this paper I will investigate the causes of unprecedented changes in conflict incidences using a panel of conflict estimates for 10 Middle Eastern countries for the period 1963-1999. The fixed effects model is used to control for unobservable country-specific effects that result in a missing-variable bias in cross-sectional studies. More importantly, the fixed effects model is chosen since the main goal of this study is to investigate what factors have caused substantial changes in number of conflicts over time within countries rather than to explain variation in conflicts across the 10 countries.

Keywords: Conflicts, income inequality, panel data, military expenditure, economic growth.

## **Military Spending and Growth in Developing Countries**

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### **ABSTRACT**

This paper considers the link between arms spending and economic growth for developing countries, in particular whether high spending on arms is likely to have a negative effect on economic growth and what benefits that might be gained by reducing it. It first provides an up to date review of the available applied literature, which varies in its theoretical perspectives, empirical methods coverage of countries, length of time series, and quality and significance. This 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. To contribute further to the debate the paper then undertakes an analysis of military spending and growth for low and middle income countries for the years 1988-2006 using SIPRI, IFS and World Bank data. A growth model is developed which includes military spending and this is estimated using various panel data methods. Finally, some conclusions are drawn regarding the policy implications for the developing world.

## **An Economic Development Road Map for Promoting Israeli-Palestinian Cooperation**

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### **ABSTRACT**

In this paper we propose an interregional framework as a policy tool for identifying sectors that can stimulate Palestinian economic development while recognizing the reality of the Israeli-Palestinian economic interdependencies. Specifically, this paper emphasizes the potential role of bi-national trade channels to promote Israeli-Palestinian cooperation. To that end, we apply an interregional input-output model to 14 sectors of the Palestinian and Israeli economies and their trading relationships. We then investigate the impact of an exogenous foreign injection under alternative trade scenarios. The results suggest that foreign aid injections to the Banking and Construction sectors in Palestine make the highest impact on Palestinian output. On the other hand, if the primary objective is to promote employment, then injections should be concentrated on the Community, Social, Personal and Household Services sectors.

## **A Duration Model of How the Weak Win Wars**

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### **ABSTRACT**

Modern war is rarely a classic confrontation between the armed forces of two or more states. The huge imbalances economic and political power and military might have led to the development of new forms of waging conflict that challenge the conventional view of the war. In *How the Weak Win Wars*, Ivan Arreguin-Toft (2001, 2005), argues that when a strong

actor faces a weak factor, the strong actor is likely win if the two adopt similar strategies, since the strong is able to exploit its greater resources. However the strong actor is likely to lose if they adopt different strategies because this nullifies the resource advantage. A game theoretical model of differentiation of this sort asymmetric warfare is presented in Dunne et al. (2005). The note by Smith (2006) suggests a simple parametric version of Arreguin-Toft (2001, 2005) and estimates it on his data. He finds that differentiation, i.e. if the two sides adopted different strategies has a significant effect both on the duration of war and on the probability that the weaker side will win. In this paper, we further develop the asymmetric warfare model as a duration model and study the transitions when the weak power wins the war by taking into account the differentiation. For this purpose, we look at first the determinants of war and examine how armed conflicts end and then concentrate on asymmetric warfare. The UCDP Conflict Termination Dataset 1946-2005 is used in the analysis and the preliminary results are reported here.

### **Further Education or Reenlistment Decision in Turkish Armed Forces: A Seemingly Unrelated Probit Analysis**

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#### **ABSTRACT**

Much of the research on the issue of enlistment examines joining the military as a choice that an individual makes among alternative courses of action, such as against further education, civilian employment, marriage and family or a combination of these. Previous empirical research regarding Turkish Armed Forces provided information about the magnitude of an individual's enlistment probability and how that probability depends on his personal characteristics, family background, employment situation, and expectations for further education. As previous empirical evidence supports the hypothesis that the decision to re-enlist is affected by conscripts' decision to pursue further education, this study models the joint decision to re-enlist and to have further education in a seemingly unrelated bivariate probit framework. Preliminary empirical evidence suggests that the geographical background, mothers' education level, intension of further education and economic welfare is influential in the re-enlistment decision. Moreover, the further education decision appears to be determined by family and sibship characteristics, education level and unemployment duration.

**Keywords:** Re-enlistment decision, further education, Turkish Armed Forces, Seemingly unrelated probit.

## **Potential Linkages between Defense, Education and Economic Growth: Evidence from Turkey**

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### **ABSTRACT**

It is fact that defense activities have both positive and negative externalities on the economy. A number of empirical studies have attempted to analyze these effects on the other public expenditure and economic growth. In most of these studies empirical evidences are consistent for developed countries but not for developing countries. These evidences, however, may change depending on the structure of country's economic and geopolitical positions. Our starting point is that necessities of Turkey's defense expenditures because of her geopolitical position and terrorist attacks as well as investments in human capital for developing process. For this reason in this study we investigate long-run relationship between education, defence expenditure and economic growth for Turkey. In our review, we use cointegration method based on vector autoregressive (VAR) techniques. However, since structural changes occur in time series data, Johansen (1988, 1996)'s cointegration procedure is not applicable. Instead, Johansen et al. (2000)'s cointegration procedure that permits multiple structural breaks is performed. In addition, vector error correction (VECM) restriction tests are also performed to see impacts of structural breaks on long-run linkage between education, defence expenditure and economic growth. The data we use in this study are annual public education expenditure, defence expenditure and total government expenditure as a percentage of gross domestic product (GDP) and growth rate of real gross domestic products (i.e. economic growth rate), covering period 1925-2005.

**Key words:** Education, human capital, public education, defence expenditure, crowding-out effect, cointegration, vector error correction, structural breaks.

## **The Effects of Terrorism and Defence Expenditures on Economic Growth in Frequently Terrorist Attacked Countries**

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### **ABSTRACT**

This paper has investigated effects of terrorism and defence expenditure on economic growth using by Feder-Ram model with panel data for frequently terrorist attacked countries for low and high income during the period of 1989-2002. The test results of the random effects and fixed effects models indicate that the externality of defence expenditure on economic growth has a negative significant effect in high income countries and has a negative insignificant effect in low income countries. The size effects of defence expenditure have a positive and significant effect on economic growth in both high and low income countries. While terrorism has a negative effect on economic growth in low income group, the effect of terrorism incidents on the economic growth in high income group countries is not significant.  
Keywords: Terror, Terrorism, Defence Expenditure, Feder-Ram Model, Panel Data

## **Regional Effects of Terrorism on Economic Growth in Turkey**

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### **ABSTRACT**

This paper analyses the effects of terrorism on economic growth across provinces of Turkey for the time period 1987-2001. Following a traditional global regression analysis, spatial variations in the relationships are examined with geographically weighted regression (GWR) to reveal some geographical variations in the results. Empirical findings suggest that there is a considerable variation in speeds of convergence of provinces, which cannot be captured by the traditional beta convergence analysis. Even though the traditional convergence analysis suggests that terrorism hinders economic growth, its provincial effects are more pronounced for the Eastern and South Eastern provinces compared to the Western provinces.

Key words: Terrorism, convergence, spatial regression, geographically weighted regression, Turkey.

## **The Determinants of Concern about Terrorism**

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### **ABSTRACT**

The large concern about terrorism by individuals has been shown by various polls and studies across different countries. The fact that emotions influence economic behaviour has been argued in the literature for a while. However, the determinants of these concerns are less well known. Applying econometric techniques to nationally representative survey data we analyse the individual determinants of concern about terrorism in Germany. We also compare these to those for crime, other public goods and private goods. We show that worries about terrorism are driven by similar determinants as those about crime but not as those for other worries.

Keywords: Terrorism, Peace, Crime, Fear, Attitudes

## **Should We Use a Long R&D Program or a Sequence of Short Ones?**

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### **ABSTRACT**

Defense R&D projects are extremely expensive ventures, lasting 10 years on average, that are managed according to the generally accepted procedures of project management, concerning standards, methodologies, and contracting methods. As the greater part of the project specifications and plans are formulated in the initiation stage, this stage is of high importance to project success.

The rapid changes in technologies, requirements, arenas, rivals, etc, of today's dynamic world make it increasingly unlikely that a 10-year project will proceed and come to a successful conclusion as initially planned. Goals change, plans change, and sometimes even the need the project was established to fulfill no longer exists.

This paper examines the possibility of achieving the desired objective by a sequence of shorter projects (denoted SQ) instead of one long program (denoted LG). Indeed, practices have recently been developed that implement the principles of the SQ approach (JCTD, Agile PM, Spiral Development, etc), though organizations choose the approach (SQ or LG) to manage a project, according to their habits, traditions and other considerations, without adhering to any accepted methodology. Developing a framework and analytical model to examine the advantages of each of the two approaches, we find the critical budget value below which the LG approach is preferable while above it the SQ approach yields higher project value. We also analytically characterize the optimal approach as a function of the model parameters. The model sheds light on the influence of various parameters on the

preferability of the two approaches, and builds the infrastructure for future research to investigate more thoroughly in which cases it is preferable to implement long projects as a sequence of shorter ones. A correct decision on the proper approach at the outset can be the difference between an important operational project and a white elephant that is a technological achievement with no real contribution.

## **Supplier Companies of Main Contractors in the Turkish Defense Industrial Base**

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### **ABSTRACT**

Since 1970s, Turkey is placing a significant amount of effort to establishing and maintaining her own Defense Industrial Base (DIB). Given the current struggles of the international market and Turkey's own challenges as a developing country, it has been a complicated evolution. Recently ambitious goals, such as increasing average portion to meet the requirements through local infrastructure to 50% until 2011, or increasing yearly export of Turkish defense industry to one billion USD, are being pursued through demanding local participation and offset requirements in procurement, through placing emphasis on competitiveness of the defense products and through participation in international cooperation. With the significant amount of money spent on defense equipment and the role attributed to DIB in technological and industrial development of the country, economic analysis can provide valuable insights for decision makers both in formulating and in evaluating the results of policies. One crucial area to be researched would be the status and role of supplier companies of main contractors in the national DIB.

This study aims to define a general framework for the role of supplier companies in the DIB of a developing country such as Turkey, provide a general profile of the supplier companies in Turkish DIB, and suggest a research agenda. The discussions in the study are based on the framework containing the role of suppliers in the DIB, strategies that can be utilized by the suppliers, and their capabilities. The general profile of the suppliers in the Turkish DIB is derived from basic statistics obtained from the Turkish Defense Industry Products Catalogue 2007-2008 published by Ministry of National Defense and subjective information from open sources. The study, then, derives some conclusions and proposes a research agenda on supplier companies in the DIB.

## **Sturm Ruger & Co: Financial Analysis of a Major Firearms Manufacturer.**

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### **ABSTRACT**

Sturm Ruger & Co is a major American firearms manufacturer (handguns and longguns). It is one of the very few gunmakers whose shares are publicly traded and is the world's only firearms manufacturer for which financial records are publicly available as far back as 1991. While criminologists, political scientists, economists and others have debated the many consequences of firearms misuse and abuse, especially with regard to nonconventional conflict, civil war, and urban crime, virtually no literature exists on the operations of gunmakers that supply an important input to these activities. This paper examines a consistently successful gunmaker and uses the information to help assess the larger U.S. and global firearms industry.

## **Defence Economy of Kyrgyzstan**

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### **ABSTRACT**

This paper provides a country survey of the Kyrgyz defence economy. Kyrgyzstan is small landlocked country situated in Eastern Central Asia. It borders Kazakhstan, Uzbekistan, Tajikistan and China and contains about five million people. Although The Kyrgyz Republic introduced the most liberal reforms in Central Asia, its economy remains unstable with low level of economic growth. Moreover, Kyrgyzstan has a weak state structure, a history of ethnic tension, inequality and poverty. Defence burden of economy is 1.3 in 2006. Because of lack of capacity of Kyrgyz armed forces, the country faces Uzbek government military activities in the outside and political instability inside the country. The first part of the paper presents a brief economic background of Kyrgyzstan, its armed forces and its structure. The remains of the paper focus on the macroeconomic impacts of the defence spending in Kyrgyzstan. The study concludes that defence expenditure of Kyrgyzstan is less than optimal and it retard to development of the economy.

Keywords: Kyrgyzstan; defence expenditure; economic growth; conflict, small arms

## **Optimal Military Spending in the US: A Time Series Analysis**

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### **ABSTRACT**

Endogenous growth theory suggests that a channel through which the economic growth can be affected by government policies is the supply-side effect of productive public spending. The model proposed by Barro (1990) predicts that this relationship is nonlinear, meaning that a growth maximizing level of government spending may exist, in the sense that additional public spending increases (or decreases) growth if government spending is below (above) the optimum. Moreover, disaggregating the government spending by function allows a model to be derived that assesses the marginal impact and empirically tests for a nonlinear relationship with economic growth (Devarajan et al., 1996; Shieh, et al., 2002; Cuaresma and Reitschuler, 2003; Pieroni, 2008).

This paper extends previous work by including a nested functional decomposition of military spending in consumption and investment and considering military spending as a potential productive component of the fiscal policy. This allows standard Barro type theoretical results to be obtained for the optimal size of each category and the implications of the nonlinearity hypothesis for government military and non-military spending to be assessed. Post World War II US data are used to estimate the non-linear growth model, with a nested estimation procedure using state-dependent (state-varying) coefficients, in which the relevant state variable is government size. The robustness of the nonlinearity in the models government consumption and within the components of government spending is then tested. The results suggest the presence of nonlinearity in the data for all specifications. In contrast to Mittnik and Neumann (2003), theoretically consistent results for the optimal size of the components of government spending are found.

## **Europe of defence: From the Power to Say to the Power to Make An Economic Perspective**

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### **ABSTRACT**

In the new international environment, will the European power be maintained, reinforced or on the contrary decline? The new threats in contemporary international relations raise many ideological, institutional and economic challenges. The maintenance of a solid arms industrial base in Europe seems one of the conditions for power. The future and the design of this power is however doubly problematic. On the one hand, it is clear that all Europeans do not share the same conception of the power of Europe. On the other hand, the

future of the European defence industry is uncertain because of the American firms' technological advance.

For historical reasons, the reflection on the European defence issue has been structured around all vague imposed formulas formulated by consensus and confined in reduced circles. The progress of the Europe of defence is therefore difficult but nevertheless real. Contrary to the famous formula of Mark Eyskens, former Belgian Prime Minister, Europe cannot be considered anymore as an "economic giant, a political dwarf and a military larva". Even if concrete achievements fall short of promises, the Europe of defence has much progressed since the beginning of 21th century. However, as it is the case in other sectors of Europe's construction, the Europe of defence oblige to reconcile the desirable and the feasible, the theory and the practice, the desire of action and the reasons of inertia.

It seems interesting to analyze the concrete advances in the field of the European defence and their consequences for the European power, from both an economic/industrial and strategic perspective.

Our paper will focus on two main issues :

-The relationship between politics, the military and the armaments industry : the European common security and defence policy is to be an integral part of the EU foreign policy. In 2000 was signed a Framework Agreement to restructure European military industry. The aim of the Agreement was to harmonise regulations and facilitate co-operation between arms producing companies in the six countries in the production and export of military equipment. The aim is to give the arms industry a competitive advantage on international markets. The lobbying of the arms industry has successfully impacted on political decisions, notably with the creation of an European Defence Agency.

-The European military and security research : the attacks of 9/11 and in Madrid and London have placed security at the centre of the European political agenda. Security is included in the 7th Framework programme and has been allocated a budget of 1,3 billion for 2007-2013. As for defence R&D spending, it has declined relative to global spending on R&D and its role is not as important as it was during the 1950s and 1960s. The transatlantic gap on military spending on R&D has implications for relative military capability and defense equipment quality between Europe and the United States. As for the impact of this gap for European economic competitiveness, it is a controversial issue.

## **Conflict, Institutions and Arms Reduction An Economic Analysis**

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### ABSTRACT

The pursuit of power and the pursuit of plenty appear to be strongly connected. The increasing number of trade agreements makes the study concerning the effect of such institutions on the level of conflict a heated debate. The idea that peace can be reached through free trade and the formation of an institution is not fully investigated. In this paper, we assess the validity of such argument through the analysis of the effect of trade agreements and organizations on reducing armed conflict. The willingness to join or establish such institution is given by the membership fee paid by the member states. We find that the optimal level of membership fee a country is willing to pay depends on the level of destruction the country anticipates to face if it engages in a militarized conflict. We show that the range of the membership fee is sensitive to the forms of contest success functions (CSFs) discussed in the conflict literature.

Keywords: Conflict; Institutions; Arms Reduction; Peace

JEL codes: D74, H56

## **Indicators of Energy Security in Industrialized Countries**

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### ABSTRACT

After providing a brief survey of existing attempts to define or measure energy security we suggest the distinction between ex post and ex ante indicators. A price based ex post indicator which also takes into consideration the primary energy mix and import fraction is proposed and then illustrated for selected industrialized countries. The indicators show differences across countries and over time.

## **Measuring Ethno-Linguistic Affinity between Nations**

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### **ABSTRACT**

Research on ethno-linguistic ties has so far mostly focused on domestic measures of ethno-linguistic heterogeneity. Little attention has been given to the possibility that ethno-linguistic relations between countries may affect outcomes, particularly in a spatial econometric context. In this paper, I propose a way of measuring Ethno-Linguistic Affinity between nations. This newly proposed index measures the percentage of identity characteristics two randomly drawn individuals from two different populations can be expected to share. I show that this measure has a number of attractive theoretical characteristics, which make it particularly usable and continue to factually construct such a measure for all countries in Africa. Africa is a particularly interesting continent in this context, because ethnic issues play an important role here. A lot of previous research has also gone into the spill-over effects that take place in Africa. Finally, I show an application of my proposed measure of Ethno-Linguistic Affinity. Some authors have previously attempted to show that conflict is likely to spill over between African nations. Combining my new measure of Ethno-Linguistic Affinity with simple geographic distances, I can set up a proposed map how spill-overs may be taking place. Using Maximum Pseudo-Likelihood estimations for a logit regression on conflict initiation, it turns out that the new measure yields results that indicate that spill-overs take place, along ethno-linguistic lines. Conversely, when considering only a geographic measure of distance, this effect can not be found, which proves that the ethno-linguistic lines indeed play a pivotal role in the spill-over of conflict.

Keywords: Ethno-Linguistic Heterogeneity; Spatial Econometrics; Conflict; Africa

JEL code: F51, C21 1

## **A Framework for Strategic Cultural Analysis and its Relevance to the New Economics of Security**

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### **ABSTRACT**

Reaching a new common understanding for economics and security in any milieu arguably must start with a critical analysis of the internal and external fundamentals/key drivers that created a particular culture and color its ongoing perception of itself, and its interactions with other cultures, whether by design or in response to events. This paper presents a workable Framework for Strategic Cultural Analysis (FSCA) for policy makers and field personnel to more effectively analyze cultures/societies/organizations whether they are nation states, emerging states, broken states, tribes or insurgent cells. FSCA synthesizes and simplifies multiple, and proven, cultural and decision-making analytics. It demands that military, diplomatic and academic practitioners of Strategic Cultural Analysis be present at the creation/birth of any national security policy--or common understandings developed and

codified by collaborative groups--that lead to policy acceptance, ratification and execution. FSCA accredits itself well for use by any organization, in any country. A Framework for Strategic Cultural Analysis addresses problematic matters highlighted in the U.S. Defense Science Board's Task Force on Strategic Communications (January 2008). The harsh message from that report is that U.S. national security has been weakened by the refusal of policymakers to embrace Strategic Cultural Analysis.