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Supply-Side Peacekeeping: Theories and New Evidence from a Panel Data Analysis

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Supply-Side Peacekeeping: Theories and New Evidence from a Panel Data Analysis

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Abstract

Why do nations with heterogeneous economies, geographic positions and institutions agree to dispatch their troops to remote conflict areas? This paper explores the domestic and international determinants of countries' contribution to peacekeeping operations from 1999 to 2009. Individual nations make their decision about where, when and how to send their military personnel as well as the justifications on which they base their involvement in sovereign states. Moral imperative for peacekeeping may be universally accepted but a country decision to participate is also based on self-interest combined to the geo-strategic dimension and finally constrained by political and technical considerations. Empirical results suggest that at the domestic level technical forces, such as the sustainability of multiple missions and military capabilities, all play a role. At the international level peacekeeping contributions are driven by the security threat that a conflict poses and the number of displaced people.

Keywords: Peacekeeping, Panel Data, Voluntary contributions
JEL Classification : C33, D74, H56

1 Introduction

Peacekeeping operations and crisis management missions are building blocks of global security as never before. In the Cold War era superpower rivalries limited the scope for international responses to regional conflict. However, after the Soviet Union collapsed, in the 1990s, crises in the Balkans, Somalia, Cambodia and elsewhere saw a widespread practice of external intervention with the aim of building "'sustainable peace"'. The UN alone experienced an eight-fold increase in the frequency with which it launched

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new operations, an average of one new mission every six months. In the light of this impressive rise, regional organizations, ad-hoc coalitions of states and individual countries have taken on larger peacekeeping responsibilities in conflicts around the globe. Peace operations are important, they can contribute to the maintenance of regional peace and stability; reduce the likelihood of unwelcome interventions by regional powers; promote the economic stability and manage the refugee problem. The record of UN peacekeeping operations is well-known, with some impressive failures of the early and mid 1990s, in Angola, Somalia, Rwanda and Bosnia, but also some striking success, following the end of civil wars in Cambodia, El Salvador, Mozambique and East Timor. Understanding the conditions associated with peace operation success (the life with third party forces against life without them) has been the focus of most scholars of peace operations. However there are three dimensions to peacekeeping; demands, the situation that invite foreign military intervention; supply, the forces behind countries' voluntary contribution to peace operations; and the success of the operation, which is determined by the nature of the interaction. The high demand for multilateral military forces in Africa and the Middle East ensures that the supply of uniformed personnel is a recurrent, urgent and intensifying challenge for the international community. Understanding the willingness of third party states to provide peacekeeping is important to explain the uneven record of achievements and to coordinate an effective response.

Bringing sustainable peace by means of external power is an ambitious commitment which requires a high level of involvement. Worldwide demand for missions is still growing at a fast pace, however the supply-side of peace operations has come under incredibly difficult strains. The demand for troops continues to outstrip supply, although the gap between these two dimensions of peacekeeping is difficult to quantify. In the last few years the surge of violence in many parts of the world saw many already over stretched operations, close to collapse on the ground.

In many instances, ill-equipped and weakly empowered peacekeepers have to police large territories and in countries like Congo, Chad, Sudan, overstretch remains a serious problem. Given the sheer size of the countries, the large number of troops deployed remains insufficient. In DRC, for example, the UN deploys 16,500 troops in a country of 2,345,410 square kilometres, a ratio of one soldier for every 100 square kilometres. It is not only a question of willingness to provide peacekeepers or political weakness to launch new operations. Inadequate economic resources in a global financial crisis is another worrying factor. Indeed, there has been a slowing down of overall deployment in the last few years: over the decade that followed the end of the Cold War there was an average annual increase of 15-20 %. In 2008 the number of troops deployed rose by 8.7%, only because of a 20% increase in NATO deployment in Afghanistan. However, figures are often misleading and except for ISAF, the developed world contribution seems to be declining. One thing about UN peacekeeping thta is certainly true is that it relies overwhelming on the troops of developing economies. Data from SIPRI shows that since 2003 developing countries peacekeeping through the UN has exceeded all others forms of peacekeeping and

it is the only activity showing a steady upwards increase. Moreover, among developing economies, those who were former host countries, are now the new contributors, as is the case with Jordan, Namibia, Zimbabwe and Baltic States. Many scholars try to understand why, if the international community as a whole is so committed to peace, the poorest countries are the ones for the most part supporting this objective. We think that looking only at developing countries' contribution still leaves a highly heterogeneous group: sub-Saharan Africa, semi-industrialized South America, the oil-rich Middle East, the emerging economies and population giants of China and India. Bellamy and Williams (2009) claim that Western countries' peacekeeping effort is conducted through "hybrid operations", where troops work in tandem with the UN forces but outside UN command . They suggest that Western peacekeeping is not declining, it has just evolved in complexity.

Peacekeeping is the most common type of action by armed force today, a purposeful dispatch of national troops into another sovereign country, and can be identified as a subset of military intervention. A good definition of military intervention is provided by Pickering and Kisangani (2009), as the movement of regular troops or forces (airborne, seaborne, shelling, etc.) of one country inside another, in the context of some political issue or dispute. Methodological issues arise when we try to determine which foreign deployments of troops should be counted as peacekeeping. The operational criteria that is most commonly used, e.g. by SIPRI, is that the operation is conducted either under the authority of the UN or by regional organizations and ad hoc coalitions of states that were sanctioned by the UN or authorized by a UN Security Council resolution, with the "stated intention to: (a) serve as an instrument to facilitate the implementation of peace agreements already in place, (b) support a peace process, or (c) assist conflict prevention and/or peace-building efforts". However in some cases the stated goal may be just a rhetoric of the intervention and may not reflect the real motivations of the intervener. In fact the largest foreign troop deployments are carried out by the US, the bulk of which are not associated with UN missions, but could be justified by the US as fulfilling peacekeeping missions. Fig 1 and 2 contrast the number of US troops in foreign countries with the number of UN troops in peace operations. The difference is striking. The scales do not overlap, US troops in foreign countries today are more than 400.000, five times the maximum number of troops deployed by UN.

Notwithstanding the disagreement about how to categorize different operations and different contributors, there is certainly a need for greater Western involvement in multilateral peace operations; only developed countries can provide specialized personnel, logistical support and specialized vehicles (e.g. Armoured Personnel Carrier, helicopters, tanks). Many missions also require airlift, engineers to provide roads and bridges and sometimes satellite imaging and secure communication.

The precise degree of participation is the subject of intense debate at the international community and domestic level. Although the literature on peacekeeping is large, few studies deal with the participation dilemma. Why have so many states agreed to supply troops in peacekeeping operations in the second decade after the end of the Cold War?

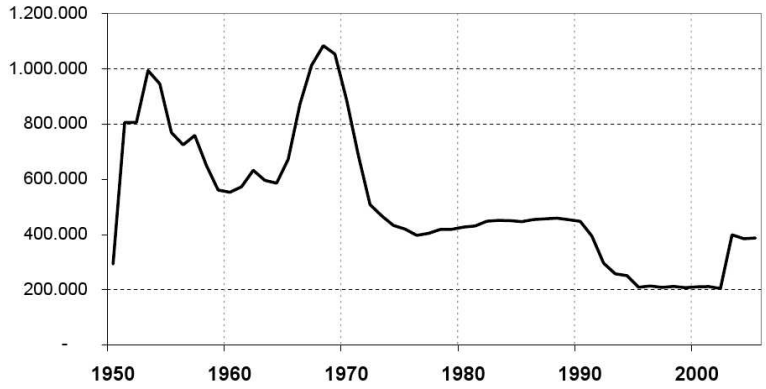

Figure 1: Number of US Troops in Foreign Countries. Source: US Department of Defence and The Heritage Foundation

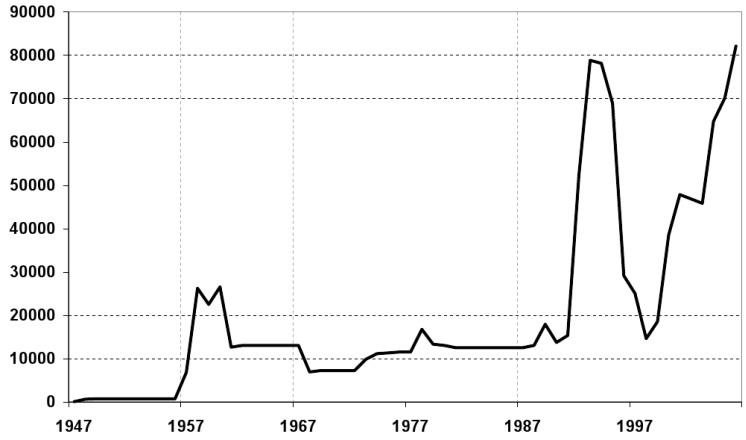

Figure 2: Total size of UN Peacekeeping Forces. Source: Peace and Security Section of the UN Department of Public Information and the Department of Peacekeeping Operations

Is peacekeeping just a self-interested action to preserve or increase a country's standing and power in the world? Understanding why and where countries strategically decide to intervene is central to evaluating the success of past operations.

We briefly review the empirical literature on the set of motivations at work behind peacekeeping participation. We identify the few studies that address empirically the problem of troops' provision. We also evaluate a range of reasons that have been suggested by a number of scholars as explaining peacekeeping contribution. We examine the main theoretical arguments on military intervention, to develop strong testable hypotheses. While there is an unquestionable set of non-testable aspects of benefits that result from troop contribution, there are also testable financial and security advantages of intervention. Subsequently, we investigate the extent to which peacekeeping voluntary contribution can be explained by standard economic models. Next we present a panel analysis of individual countries personnel contributions to peace operation in the period 1999-2009. This is followed by a discussion of the econometric issues involved in the analysis of panel data and a presentation of the methods used in the empirical analysis. Panel data methods allow both the cross-sectional and the time-series dynamics to be taken into account. We test a set of hypotheses that can be grouped according to a three dimensions: conflict and operation characteristics, participant technical capabilities and target region economic salience in terms of trade openness and investment in the target region. A good number of motivations is also explained by the diversification of peacekeeping contributors. Therefore we attempt a broader comparison of UN peacekeeping against other regional organizations to provide a better understanding of participation dynamics. Then we will discuss the inferences we might draw from the empirical investigation.

2 Literature review

Surprisingly there is a modest understanding about how countries decide to intervene in UN operations. Compared to the extensive literature on conflict resolution, the research on the provision of military personnel in multilateral peace operations is poor. We can separate the literature on the basis of the methodology applied; case studies, descriptive statistics and empirical research.

The bulk of studies is on the motivations behind particular countries' participation, made on a case-by-case basis. This approach uses an intensive investigation of a particular operation to obtain a rigorous account of peacekeeping motivations. However, case studies suggest a degree of caution, because there are always many obstacles when it comes to the in-depth exploration of a particular country's policy. Indeed, this would require a deep understanding of the relationships between various state apparatus and institutions, and an intensive historical investigation of foreign policy decisions. Generalizing on the base of case-studies is dangerous for two reasons; what may account for contribution in one country may contradict the conclusion for another country and the more country-specific the case-study, the more difficult is to draw general conclusions.

Descriptive statistics draw general conclusions without the need to rely on detailed case studies. In this category, one of the most comprehensive studies, that by Bobrow and Boyer (1997), focuses on the troop and financial support for PKOs. They claim that the post-Cold War period has seen a rise in the diversity of contributors and beneficiaries. The changing set of states suggests a diverse set of motivations. The majority of studies are a descriptive analysis of whether the wealth of states has conditioned contributions to UN operations. Differences between types of governance and levels of income, development and involvement in international organizations are also presented as explanations for the disparities between states' contributions to UN missions. Daniel and Caraher (2006) finds that in the period 2001-04 the bulk of contributors is constituted by democratic, rich and middle income, stable and highly and lesser developed states. However, the qualitative nature of some country-specific benefits has prevented any empirical analysis.

The applied literature on the determinants of peacekeeping contribution is diverse. The quantitative studies draw a number of empirical generalizations and can be further divided into three broad groups according to the question they attempt to address. The first group analyses the reasons behind military interventions by external powers. The second branch focuses on the factors that make UN intervention more or less likely. The third group analyses exclusively the peacekeeping financial burden sharing.

The first branch tends to exclude multilateral interventions from its analysis. One of the earliest attempts is Mitchell (1970) who identifies four factors behind military interventions: 1) the characteristics of the country in conflict; 2) the characteristics of the intervener; 3) the character of the international system; and 4) the linkage patterns between the groups in the target and intervener. This last argument is consistent with Carment and James (1995) findings. They argue that the decision to intervene is heavily influenced by the ethnic affinities between the potential intervener and the target. Pearson (1974) identifies both affective and instrumental reasons behind foreign military interventions such as territorial acquisition; protection of social groups in the target; safeguard of diplomatic interests; ideology and regional power balances. Regan (1998) uses the characteristics of the conflict to identify which types of conflicts attract outside intervention. He claims that intense conflicts are unlikely to attract outside actors, while those that involve humanitarian crises are quite likely to do so. He also finds that the number of shared borders have a counter-intuitive effect, the greater the number, the less likely the intervention.

Through all of this research, we do not have a set of strong logically consistent and empirically verified conditions that make a foreign military intervention in intrastate conflicts more likely. Moreover, the focus has only been on the selection process that determines which conflicts attract interventions. However, the "conflict typology" alone cannot explain the spread of intervention profiles and the decision about participation. We complement this limited literature with the inclusion of the conflict's characteristics together with the specific providers' features, taking into account both domestic and international considerations. Nonetheless, we are wary of the fact that the comparison

between unilateral and multilateral intervention is not straightforward. In unilateral interventions the nature of the decision faced by the policy-makers and the costs and benefits derived by the participation are different from those associated with multilateral interventions.

Second, there are those studies focusing on UN intervention [e.g. Doyle and Sambanis (2000); Beardsley (2004)], and assuming that UN is a rational unitary actor in the international system with his own set of preferences. However, UN is not a state in its own right and both its capabilities and their deployment come from its member states. Any individual state in the international community has its own preferences, there are collective action problems and what is individually rational for a state might not be collectively rational for the UN. The reasons must be found in the capitals of provider-states, not in New York. Although the international system has properties and dynamics of its own, the participation to peacekeeping is reducible to the level of individual state behaviour. Together, member states' domestic factors, shaped by the international system, determine the UN capacity for action.

The third group analyses exclusively the peacekeeping financial burden sharing, to grasp the ratio of excludable to public benefits generated by peace operations. These empirical studies have found mixed results. With the so-called exploitation hypothesis, Olson Jr and Zeckhauser (1966) claim that large countries accept a disproportionate share of the peacekeeping burden, because they have the greatest part of benefits from peace and stability. However, Khanna et al. (1999) found no statistical evidence of a positive correlation between UN peacekeeping actual payments and countries' GDP for 29 countries (mainly NATO members) from 1976 to 1999. Their findings indicate no disproportionate burden sharing and a degree of commitment to international security. Instead, Shimizu and Sandler (2002) found statistical evidence that burden-sharing is disproportionate during the post-Cold War period (1994-2000), indicating that peacekeeping has a relatively large share of purely public benefits, which leads to some exploitation by the small. More recently, Gaibulloev et al. (2009) suggest that during 1994-2006 non-UN peacekeeping was driven by self-interest in the form of participant-specific benefits, while UN peacekeeping depended on the contribution of others, therefore displaying global public benefits.

We think that the ability to provide troops and pay the human costs makes the decision criteria somewhat different from those associated with a financial contribution. Financial arrangements do not have to consider the many factors at play in the decision to supply troops such as the risk of casualties or the stress on the military. National offers to provide personnel are subject to their overall national capacity, taking into account force size, prior and concurrent commitments, and logistical capabilities. Every troop contribution, every big or small, has an impact on the success of the operation. Therefore, unlike the monetary contributions, the quality of the "'product" provided is relevant. A country may volunteer to send only infantry personnel, others may send armoured reconnaissance elements, artillery batteries or service support personnel. Many troop-contributing countries commit also the equipment necessary to support their personnel.

Therefore, the decision to dispatch soldiers, and the "'force generation", follow a different procedure and implies a different decision making process.

3 Why states choose to intervene

The collective responsibility for international security and the compliance to the UN norm of collective security provision would entail that all states, when capable of providing troops to peace missions, will do so, if needed. However, being able to deploy military forces does not always translate into having or choosing to do so. National militaries have been traditionally conceptualized as defenders of the homeland from outside invasions or to initiate a war of aggression to conquer territory, resources and thus power. This also means that often military operations were localized around the national borders. The end of the Cold War has introduced the idea of policing independent states' territory or protecting their governments' stability. Partly as a consequence of this new idea, in many states started a process of re-directing their armed forces from a focus on self-defence to the projection of troops beyond the national territory, principally in multilateral peace operations. [1] Individual nations make their decision about where, when and how to send their military personnel as well as the justifications on which they base their involvement in sovereign states. Moral imperative for peacekeeping may be universally accepted but a country decision to participate is also based on self-interest combined to the geo-strategic dimension and finally constrained by domestic and technical considerations. Peacekeeping diverts financial national resources from domestic to international priorities, reducing at the same time the number of troops available to assist the national governments. The desire to make peace is thus intertwined with other motives. We find helpful to differentiate among motives concerning the domestic political features of the intervener, decisions related to technical considerations and reasons linked to the international system, therefore to the nature of the conflict and the region at stake.

3.1 Domestic component

We can identify several domestic dynamics associated with deciding to intervene: the public pressure; the tolerance of casualties; the procedural obstacles; and simple political considerations. To a certain extent there might be a purely humanitarian altruistic motivation; the principle that something must be done to stop the killing and human suffering associated with civil wars. Such an approach is particularly manifested when public opinion and media pressure urge national governments to intervene. Public demands for action are reactive; they arise after widespread media coverage of human rights violations has raised public awareness. Intervention in this case helps to protect a government from

[1] Quoting Kennedy (2006), "four hundreds years ago Swedish, Danish, Italian and French soldiers hacked and burned their way all over Europe.; during the past fifty years they instead have been sending peacekeeping contingents everywhere from the Congo to the Middle East". Western participation is seen as a shift from national egoism to a higher level of international morality

domestic critics. The physiological effect of the media coverage of civil wars encourages leaders to want to be seen as being responsive to the human tragedy. Although the public opinion is often not well informed about the issues at stake in international crises, it might have a strong influence on the decision-making elites. Similarly, a public that feels insecure and has a perception of international security threats is likely to support demanding international operations. Americans in 2001 believed that intervention in Afghanistan was necessary to protect the most vital of US interests: the security of people and homeland. As a result, the US intervened with overwhelming force with the intent to topple the ruling regime. This event highlights a basic principle in the intervention dynamics: in presence of a clear threat to national interests, there is no lack of political will and the deployment is rapid and powerful (Lahneman, 2004).

However, in some countries public openness to peace operations does not automatically extend to actions involving combat and politicians have to carefully justify the operation's nature. The political system of wealthier countries has a greater sensitivity to the higher value of life associated with economic growth. This sensitivity leads to engagements with lower risk of casualties. The tolerance for causalities is often an obstacle, and it is deemed to be one of the causes behind the unexpected US withdraw from Somalia in 1994. This mechanism applies in particular to democratic countries where popular consensus is vital to politicians seeking re-election or possessing a tiny parliamentary majority. Countries are in general very cautious about intervening in risky conflicts where national security is not at stake. Intervening countries have to demonstrate to their domestic populations that their military efforts are worthwhile, successful and at a tolerable cost (Freedman, 2007).

Procedural obstacles are also a severe limit to deployment. The institutional arrangements, the differences in the roles of policymakers and in the degree of parliamentary involvement in decision-making can lead to different approaches to intervention. The participation in UN operations, although undertaken as part of a multilateral and internationally legitimised deployment, is subject to a formal approval at the national level. Some legal and constitutional frameworks set limits on the action national leaders can take. In the case of EU members for instance, armed forces may be deployed only with prior parliamentary consent and this veto power make it more difficult for governments to order and sustain the deployment of forces outside the nation's boundaries. As opposed to Western countries, a weak system of checks and balances on executive action could help to explain the ease with which African countries deploy troops in UN operations, although we have never found any argument in the literature for this hypothesis. Robust rules of engagement and an international command are also difficult to be accepted by states that seek more control over the operation. We should add that many nations have severe restrictions on the deployment of conscripts, which in few armies made up the bulk of active personnel.

However, sheer political considerations are the ultimate determinants. States have different views about the primary function of the armed forces. Some favour force projection

over territorial defence. In countries like UK force projection is the overarching purpose of the armed forces and their sphere of influence and interests is seen well beyond their region. [2] The image of itself as a guardian of the global order is responsible for the attitude towards military intervention (Heiselberg, 2003). On the contrary, there is a wide group of countries with long-standing foreign policy against sending troops abroad. Germany for instance rejects its past military excess and as a consequence German strategic culture has often valued military force only as a deterrent. Indeed, German strategic culture has often come to prominence as a "culture of restraint" (Giegerich, 2008). Also the support for missions may be strictly associated to the public confidence that national forces could achieve their goals. Austrian historical experience of being on the loosing side in both world wars has created the feeling that security could be achieved by neutrality and that war is unwinnable because of its perceived weakness (Giegerich, 2008). For less democratic countries that have experienced military involvements in national politics, peacekeeping can be a stratagem to insulate domestic politics from military interference by diverting armed forces from the domestic to the international arena, like Latin American states, such as Argentina (Norden, 1995). Velazquez (2002) defines this strategy as "diversionary peace". In the field of political concerns, we include less persuasive arguments. National leaders may fear that, while abroad, troops may change their mind about their country, the political system, the culture and the religion. National pride and inferiority are also at play here: national troops might make a poor impression compared to troops of more advanced nations when working together (Daniel et al., 2008).

3.2 Technical factors

Among the internal determinants of a country's intervention profile we would expect to find the institutional decision-making process, the strategic culture of a country, the national identity, the historical experience and the public opinion, namely the domestic consensus on participation, broadly reflected in the support of international deployment. However, technical factors can easily hamper this support and the willingness to participate. Technical factors, such as the number of national armed forces personnel; the military expenditure per capita; the mission costs and reimbursements; and the participation in multiple missions, are often significant obstacles to increasing peacekeeping forces. In many instances soldiers, including those employed in advanced militaries, are neither trained nor expected to deploy abroad, being conscripts or reserve forces. Some smaller nations do not have contingents (as opposed to individual military, police and civilian personnel) that meet minimum UN standards for deployment. Only 62 UN Member States - roughly 40 % of the total - maintain forces ready for more intensive missions (Center on International Cooperation, 2009).

As a consequence, a minority of states, those that are superior in ground force quality and numbers, are expected to deploy forces when they are already sustaining missions

[2] Ministry of Defence of the United Kingdom, Strategic Defence Review: Modern Forces for the Modern World, July 1998

elsewhere. They function on the basis of the "rotation cycle"concept. The concept predicts that when a peace unit is deployed (on average for six months), one is preparing to deploy and a third one is in post-deployment rest. This cycle means that a more accurate indicator of the stress on the military is given by three times the percentage of a nation's force deployed at one time (Daniel et al., 2008) . Deploying forces abroad for some states means the reduction in their ability to protect their homeland. Indeed, the primary concern of many states remains their own defense. Over half the top 20 troop suppliers to UN operations border on at least one fragile state (Center on International Cooperation, 2009). This last point is particularly true for countries with a critical force to space ratio, like many African countries that can hardly protect their territorial integrity.

An implicit assumption behind technical limitations is that the participation in UN operations negatively affects the participation in another set of operations, say non-UN. Obviously, a soldier or helicopter under NATO command cannot simultaneously be in a UN mission.The participation in one set of operations negatively affects the participation in the other. An assumption of competitive relationship is also at play here (Daniel et al., 2008). NATO members have also to meet their alliance commitments in terms of manpower and materials required to achieve set objectives and might not be able to "generate" additional forces, (indeed the NATO procedure for staffing an operation is often referred to as "force generation").

Financial costs limit the number of troops that a nation can deploy. Money is perhaps the motivation more often brought forward for developing countries' contribution to peacekeeping. There is some doubt about UN inclination to subsidize developing countries' troops during peace missions (i.e. the UN pays them for borrowing their troops). The myth of mercenarism and the "mercenarization" of UN forces has been often denounced by several practitioners and scholars, among others Kinloch-Pichat (2004). He claims that the defects ascribed to ad-hoc national contingents are those "historically attributed to mercenary forces: foreign allegiance, corruption and unwillingness to take the necessary risks when it comes to fighting". Peacekeeping contracts are lucrative and are often used as leverage, in order to influence the providers of troops. The cost of UN peacekeeping missions include the compensation for troop contribution at a rate of US$ 1,028 per month per troop, the repayment for use of provider's own equipment and clothing (US$68), the repayment for personal weaponry (US$5), a supplementary pay for specialists (US$303), and disability costs.[3] Although the reimbursement should be contextualized by taking into account the exchange rate, for those countries who deploy large peacekeeping forces, the earning is a significant proportion of the defence budget, even in countries with a large standing army. Bangladesh, for example, earns US$300m a year, a huge reimbursement for a low-income economy. Around half goes directly to the soldiers. [4]

[3] UN Department of Peacekeeping Operations website

[4] "Major Furuque Hassan, a military intelligence officer in Dhaka, is a representative Bangladeshi peacekeeper. His one-year tour in Cote D'Ivoire netted him savings of 2m taka ($30,000), enough to buy two plots of land back home. He describes the tour as his pension fund, a reward for 15 years of service."

Findlay (1996a) argues that some poor countries can make a profit on peacekeeping, however "the UN is so slow in paying and the amount so relatively niggardly that this cannot be a sole motivating factor". According to McDermott (2000), only 30% of peacekeeping assessment are paid in the first three months and 60% in the first six months. Poorer troop contributing countries, who send the lowest paid forces, are reimbursed more than their actual costs. A system of fixed reimbursement redistributes resources to developing countries, without requiring that that surpluses be reinvested in equipment or training useful to the UN (Durch, 1993). A main concern is that well equipped and well trained troops from Western countries are less inclined to participate in UN operations in the developing world. Indeed, Western governments have to fill the gap between what the international system is willing to pay for peacekeeping troops (as reflected by the UN reimbursement) and the amount they actually pay volunteer troops. Also, the value of life increases as the nation develops (Seiglie, 2005), therefore UN cash remuneration might not suffice to offset the risks and costs of contribution. The conclusion is that regions with a huge demand for peacekeeping have a low-quality provision of troops.

Bilateral military aids from rich allies is also a good incentive to provide peacekeeping services, like the US military assistance to Bangladesh (Krishnasamy, 2003). The post-conflict reconstruction market, and the provision of services, is generally secured by firms whose home countries took part in the operation. Finally, the armed forces of developing countries may also receive better equipments from Western contributors, as happened in Somalia and in Bosnia (Findlay, 1996b).

Peacekeeping is certainly habit forming: the greater is the record of commitment established, the more expected will be the deployment in future conflicts. Long-term data suggests the persistent presence of selected countries in the over-contribution side of peacekeeping; once states start deploying forces to peace operations, they do not stop. India, Pakistan, Bangladesh and Jordan are examples of states who sustain a definitive commitment to peace. Peacekeeping might be habit forming because commitments are never short term. Also the defence establishment may consider peacekeeping as a way to enhance their visibility and increase the defence budget. Finally, the expertise acquired during past operations may lead to a comparative advantage in peace missions. Due to the rotation cycle, even a small contribution over a long period means that a large proportion of military personnel gain experience abroad. In many instances the experience of peacekeeping operations helps in domestic counter-insurgency, and this might be the case of India in Assam, Kashmir and Punjab (Sorenson and Wood, 2005). Forty-four countries have also established peacekeeping training centres, in order to foster the cooperation among the peacekeepers, to improve their expertise and for a better understanding of the war environment through the exposure to conflict. The previous engagement, and maybe performance, along with ad-hoc facilities might lead to future willingness to participate.

(The Economist, Feb 21st 2007)

3.3 International component

Bellamy et al. (2004) categorize the motivations behind the intervention through the relation between the intervener's standing in the international distribution of power and the host country. They find four categories: great powers; regional hegemons; former colonial powers; and neighbours. Unquestionably, status considerations, along with international strategic concerns, the consolidation of neighbourhood stability, the protection of resources' supply routes and the presence of expatriate communities play a role in the decision to intervene. A vague commitment to international security can not be invoked as sole motivation.

To begin with, military contribution to international crisis management is strictly linked with the level of ambition of countries and regional organizations. Ambition is a reliable measure of the desire to establish and assert a role in international security matters. Peacekeeping is part of a strategy that fosters the integration and increases the states' recognition into international and regional organizations. Thus it is not only about national standing in the UN but also the European position in NATO and African involvement in the AU. A security policy paper published by the Austrian Ministry of Defence in 2006 argues that the level of ambition,(and therefore the maximum military contribution to international crisis management), is a consequence of the international position of a state in terms of geography, prestige and involvement in international organizations. [5]. Ambition is the product of a "political system dealing with a diverse set of internal and external pressures" (Giegerich, 2008)

The combined forces of the permanent five member of the Security Council constitute a fair chunk of peacekeeping troops. As Kennedy (2006) describes in his history of the UN, the authority over international order was centralized in the hands of the great powers. The permanent members of the security council were identified as providers of international security , unlike the weak countries like former Czechoslovakia and Ethiopia who were consumers of security. P5 participation in various peace operations may serve to legitimate their permanent seat in the Security Council.

Canada, Scandinavia and other members of the traditional peacekeeping "fire brigade" consider participation as a way to enhance their standing in the international community and a prerequisite for middle power status in the UN (international actors worthy of respect). The "rising great power" theory suggests that there are a number of normative expectations towards the emerging powers in the international community. India and Pakistan like to see global policing as a sign of their emergence as a world power (players of global scope). Brazil, Nigeria and South Africa may link participation to their desire to be seen as regional leaders and as candidates for a permanent seat in the Security Council. China, a non-democratic country in the Security Council, may want to project the

[5]Heiko Borchert, Johann Frank and Gustav E. Gustenau, 'Politischer Wert/ Nutzen von Engagements im Bereich des internationalen Krisenmanagements unter besonderer Beachtung von Beitrgen und Entwicklungsoptionen des sterreichischen Bundesheeres', Austrian Ministry of Defence, 'Beitrge zur Sicherheitspolitik' [security policy papers], January 2006

image of a "responsible country" , committed to sustaining the UN system. Moreover, in dealing with its incongruities, China tries to be perceived as the distinctive power, which supports the interests of the developing world (Zhongying, 2005). Germany, Japan and South Korea may see participation as a part of "their coming out as normal countries that possess regionally economic and military clout" (Daniel et al., 2008). Contributing to the international security, peace and justice through the military is again seen as normatively acceptable by both the population and the international community. Argentina's deployment of troops in UN PKOs was a way to regain some of the prestige it lost during the Falkland War (Sorenson and Wood, 2005). In essence peacekeeping displays most of the characteristics of a "club good" (Solomon, 2007).

States are also drawn to the incentive of responsibility within or over a mission. Countries that are given operational command positions in the field tend to be more committed to operations. Brazil agreed to the mission in Haiti in part to show its commitment to hemispheric security - and a Brazilian Force Commander has taken greater risks with Brazilian troops than would have been possible for an officer from another country (Center on International Cooperation, 2009).

Governments that emerge from the authority of an external power (or those formerly under a military regime) may use peacekeeping to signal the end of an internationally ostracised governments and the begin of a new era for the foreign policy (Findlay, 1996b). Peacekeeping enhances national prestige, therefore it is not only the national armed forces that seek a national role and gain benefits, but also "the foreign ministry, perhaps prodded by its mission to the UN in New York (Findlay, 1996b). Similarly, refusing to participate may be seen as an attempt to avoid blackballing. The UN mistrust of Iran, North Korea and Israel intentions dampen any domestic willingness to participate. Taiwan would probably face criticism from China and so on.

The main peacekeeping countries are not expected to stimulate, even indirectly, the global arms race. However, table 2 shows that 17 of the 30 top contributing countries in the last decade are also ranked among the largest arms exporters. This seems to be the most frequent common feature among the top contributing countries. Thus, countries whose reputation is based on their participation in peace operations are the main world supplier of conventional weapons. On this point, Neack (1995) argues that this correlation casts doubts on their commitment to the international security. Indeed, the idealist theory of promoting peace cannot reconcile this inconsistency. Moreover, although arms transfers are consistent with the realist view that both arms sales and peacekeeping serves the same national interests, "UN peacekeeping may be interpreted as a palliative administered after the self- interested act of selling arms ignites regional animosities"(Neack, 1995). However the measure of export is aggregate, therefore most countries do not sell to the same places they send peacekeepers. We argue that the relations is partly explained by the fact that arms sales is a measure of integration into global military system as may be peacekeeping.

When a conflict is regarded as a threat to global stability, security concerns will trigger nation-specific responses. Such interest includes the possibility that a conflict may spill

	Supplier[1]	Contributor to PKO[2]		Supplier	Contributor
1	USA*	USA*	16	Poland*	Australia*
2	Russia*	Pakistan	17	Belgium	South Africa*
3	Germany*	United Kingdom*	18	Norway	Spain*
4	France*	Bangladesh	19	South Korea*	Canada*
5	UK*	France*	20	Belarus	Ethiopia
6	China*	India	21	Denmark	Kenya
7	Sweden	Italy*	22	South Africa*	South Korea*
8	Netherlands*	Nigeria	23	Czech Republic	Morocco
9	Italy*	Germany*	24	Slovakia	Rwanda
10	Ukraine*	Russia*	25	Australia*	Turkey*
11	Israel	Ghana	26	Turkey*	Senegal
12	Canada*	Nepal	27	Brazil*	Ukraine*
13	Switzerland	Poland*	28	Austria	Netherlands*
14	Spain*	Jordan	29	Georgia	China*
15	Uzbekistan	Uruguay	30	Finland	Brazil*

Table 1: [1]Top 30 suppliers of major conventional weapons in the period 2001-2006 [2]Top 30 contributors to multilateral peace operations in the period 1999-2009. Arms export ranking is according to SIPRI aggregate exports. Deployment ranking calculated by adding countries' number of billets in any operation (with billet defined as one serviceman for one year). *Seventeen countries appear in both ranking.

over into surrounding areas. A geographic proximity to the country in conflict increases the utility a neighbouring country expects to get from the cessation of the hostilities in three ways. Firstly, sharing a border with a country at war means an increase in the probability of instability in the surrounding area. As a consequence the national security is endangered by the risk of contagion. Existing research relates contemporary civil wars not only to country-specific factors within individual states; it appears that many civil wars display a transnational character, where actors, resources, and events span national boundaries. Gleditsch (2007) distinguishes among transnational linkages that may underlie geographic contagion. Secondly, the ethnic affinities in neighbouring communities are generally very significant. Thirdly, the fear that the local conflict may expand and draw in unwanted external actors leads to some forms of intervention.

For these reasons, benefits from peace are unevenly distributed. The benefits from bringing to an end a civil war in a region are greater for nations in that specific region. Also, trade flow and economic growth are enhanced for neighbours. As a result,the positive externalities generated by an operation are first and foremost consumed by the conflict-ridden country and by the neighbouring countries, that are particularly at risk due to their proximity to the conflict. Nevertheless, peacekeepers do not just deploy within their region of origin or its immediate neighbourhood. There are too many exceptions, among other the European forces under NATO and Asian forces under UN command. Also, deployments are far from short-range even when we look at the same

broadly defined region. East African troops operate in West African operations, and vice versa, and Latin American forces, such as Argentina and Chile, are a long way from Haiti. The EU deployments, for example, are mixed. We have two distant areas of operation: EU missions in Africa (such as Artemis in Congo or EUROFOR in Chad/CAR) and EU mission in the Balkans (Macedonia and Bosnia-Herzegovina). Ad-hoc coalitions are either made up by neighbor states, such as ISF in East Timor, RAMSI in the Solomon Islands and SAPSDI in Burundi, or by former colonial powers (France in Cote d'Ivoire). Certainly, countries operate through their regional organisations; Africans through the AU, Europeans through the EU and NATO and former Soviet Republics (Russia in particular) through the CIS. Actions are driven by a sense of identity towards regional organizations.

A conflict may upset a regional balance or provide opportunities for a rival power to increase its influence by intervening on one side of the conflict. It is also an attempt to establish a precedent that would justify future involvement in the affairs of the region. A military presence in a region can legitimate an heavier deployment if necessary. Russian involvement in the affairs of the neighbouring states, in Abkhazia in particular, is often disguised by its will to participate to CIS operations in the area, apparently with the aim of stemming the violence and the instability through a permanent military presence. Indeed, maintaining a permanent level of tension in the area justifies that "Moscow keeps a military presence and levers" on former Soviet republics (Facon, 2006).

Bringing to an halt the conflict is important to the intervener because of the conflict's effects on its relation with the disputing parties. The intervener can also increase its presence and influence in a region by becoming guarantor of an agreement. With particular reference to the last point, there are many areas in the world that are considered strategically interesting, and are becoming more central in ways that transcend altruistic motivations. In Africa for example we observe a growing engagement of China, India, and Russia, all keen to tap into natural resources. Indeed the continent has taken on increased relevance to the extent that its affairs affect energy security stakes, but also immigration policies and international terrorism. [6] There is also the need to keep energy supplies flowing and international waterways accessible. The US determination to ensure access to overseas supplies of vital resources and the protection of global resources flows is becoming increasingly important in the American security policy (Klare, 2002) Somalia, defined in military strategy as a "choke point", is a prominent issue today in the shipments of goods, particularly oil, between Europe and Asia. Its geo-strategic position in the Horn of Africa could help to explain the presence of 28,000 personnel under UN authority and 1,167 troops under US operational control, stationed on US Navy ships off the coast of Somalia.

In presence of a large population displacement or an imminent humanitarian crisis, the probability of participation should increase. There are benefits to intervening in civil

[6] At the beginning of 2008 there were four times as many UN troops in Africa as there had been in all UN peacekeeping operations around the world ten years previously; furthermore, three of the four biggest UN missions where in Africa (IISS Strategic Survey, 2008).

wars with humanitarian implications and domestic costs of not intervening. Dowty and Loescher (1996) argue that refugee flows can impose costs that affect the national interests and that interventions in conflicts with large refugee flows are justified by international conventions. Germany and Italian involvement in SFOR (Bosnia) and KFOR (Kosovo) averted the risk of a huge refugees pouring into their territories.

Expatriate communities threatened in conflict zones, as well as past colonial links also play a role. Germany's participation in UN Transition Assistance Group (UNTAG) in Namibia was vital for the protection of 20,000 German Namibians. Individually-led military missions in former colonial spheres, such as Britain's in Sierra Leone and France's in Côte d'Ivoire are perhaps the most conceivable forms of intervention.

Sometimes, we imputed for the same country a set of interests that would explain intervention and another conceivable set that would explain non-intervention. This is what Finnemore (2006) defines as "the common problem with the traditional Realpolitik formulation"': interests are simply indeterminate. Many explanations have severe limits, some are exclusive of others and generalization is difficult. In attempting an econometric analysis of the determinants of peacekeeping contribution, we need a theoretical framework to determine the functional form; help select the relevant variables; allow the specification of casualty; and define the hypothesis.

4 Theoretical Model

We use a standard neo-classical model of the state as a rational actor maximizing utility subject to a resource constraint. International peace is a public good (Kindleberger, 1986). As such, the consumption of security is not-excludable and non-rivalrous. No other country can be effectively excluded from its benefits and the consumption of security by one country does not reduce its availability for consumption by others. The provision of security is costly and, as any public good, induces free-riding behaviours. As a result, states have an incentive to free-ride on the troop contributions of the others, consuming more than their fair share of peace but nonetheless receiving the same level of benefits. As the marginal costs incurred by the participants in a mission will outweigh its benefits, this leads to the under-provision of troops. Since any participant ignores the benefits spillover on other countries, and equates its marginal willingness to pay to the marginal costs, a sub-optimal provision of troops follows (Shimizu and Sandler, 2002). However, peacekeeping does not exclusively generate pure public benefits, it also produces some excludable and rival contributor-specific benefits. Peacekeeping is "impurely public" because its benefits are not fully available to some countries and benefits decline with the number of countries deriving gains from such missions. Thus, peacekeeping yields *joint products* that are purely public to the international community, impurely public to a sub-group of countries and country-specific to the participants (Shimizu and Sandler, 2002). In case of such impure public goods free-riding and its sub-optimality still exist, but not to the same extent as predicted by the pure public goods model (Cornes and Sandler, 1996).

We attempt to address two dilemma: one relates to the decision about either intervening or not and the other question is about the optimal number of troops to provide in case of intervention. For the first problem, we need two distinct utility functions, the expected utility for intervening EU_i^I and the expected utility for not intervening EU_i^N. We assume that both functions are strictly concave and increasing in their arguments. Building partly on Regan (1998), EU_i^N can be expressed as:

$$EU_i^N = p[U_i^p] + (1-p)[U_i^c] \tag{1}$$

where p represents the probability that the conflict will be settled without nation's i intervention, U_i^p is the nation's i utility attached to peace without her intervention and U_i^c is the utility of continued conflict. For simplicity, we assume that there are no costs associated with not intervening.

Since peacekeeping generates both pure public benefits and some excludable and rival contributor-specific benefits, a nation's expected utility for intervening EU_i^I is given by:

$$EU_i^I = q[U_i^s] + (1-q)[U_i^f] - \sum C_i^I \tag{2}$$

where q is the probability of a successful intervention with nation's i contribution, U_i^s is the utility associated with a successful outcome and U_i^f reflects the utility to the potential intervener from an unsuccessful intervention. $\sum C_i^I$ are the costs associated with intervention.

The decision to intervene is a process given by

$$EU_i^I - EU_i^N = q[U_i^s] + (1-q)[U_i^f] - \sum C_i^I - p[U_i^p] - (1-p)[U_i^c] \tag{3}$$

When $EU_I - EU_N > 0$ there will be intervention. Therefore the decision is strongly influenced by the expected marginal impact of country i on the global intervention outcome, by the conflict characteristics, captured by p, and by countries' individual preferences over outcomes. Hence, we need to assume *a priori* a sort of utility ordering, which is country-specific. For some countries the utility of continued fighting might be higher than the utility from a failed peacekeeping intervention, because they might value much more the media effect of peacekeeping or the global image. Others might prefer intervention to a self-settlement without their involvement because the country-specific benefits of intervention (e.g. involvement in the affairs of the region, permanent military presence) are higher than the global public characteristics (e.g. global instability, oil flow disruption, peace). Countries derive utility from characteristics of peacekeeping rather than peacekeeping itself. As we said, not all of the benefits of peacekeeping are global public goods; many are either private goods or public goods whose benefits are either specific to the host nation or to neighbouring nations.

Since peacekeeping generates both pure public benefits and some excludable and rival contributor-specific benefits, we need to better specify the utility function. For this purpose, we make some assumptions. We study a simple example, with two military

goods, one s_i is private, and can be thought as the number of troops employed within the national boundaries. The other good, T, is a public good, which is the size of the country i's own peacekeeping contributions and those of the other *n-1* nations. The countries initially have some endowment of the private good, N_i and determine how much to contribute to the public good. Each nation faces a "troops constraint" when choosing among peacekeeping t_i and other military activities s_i. If country i decides to contribute t_i , he will have $s_i = N_i - t_i$ of "private security consumption". The primary function of armed forces personnel N_i is the protection from foreign threats and from internal conflict, but they are also used in public safety roles with police duties among the civilian population and in emergency civil support tasks in post-disaster situations. All these duties are captured by s_i. Each unit of peacekeeping generates two joint products, a private benefit αt_i and a global purely public characteristic βt_i. α and β are positive parameters and account for the inevitable coexistence of altruistic motivations (β) with the egoistic considerations (α) of intervening states.

To simplify the problem, let us assume that in equation 3 the utilities to country's i from continued war, regardless of its intervention, are both small enough to be considered negligible, therefore $U_i^f \approx 0$ and $U_i^c \approx 0$. In the same equation, p and q account for the outcome of the intervention, which is decided by country's i participation and the coalition's relative investment in fighting. We may consider a unique probability σ as a success ratio, given by

$$\sigma(t_i) = \frac{T_{n-i} + t_i}{M + T_{n-i} + t_i} \tag{4}$$

where the intervener fighting effort is measured by the scale of his deployment and M is the belligerents' strength and therefore their resistance against a third party involvement. When $t_i = T_{n-i} = 0$ there are no chances that the conflict will be settled without any third party involvement. Let us define a utility function, that captures both the decision about intervention and the optimal number of troops to dispatch in peace operations. The utility is defined over the space of private and public characteristics, is strictly increasing in consumption of both the private and the public good, quasiconcave, continuous and everywhere twice differentiable. With an adaptation of Khanna et al. (1999) model and following equation 3, country i's expected utility function can be written as follow:

$$EU_i = \sigma(t_i)U[\alpha t_i, \beta(t_i + T_{n-1}), s_i, Q] - C_i(t_i) \tag{5}$$

Q is added to the function to capture any factor that can influence the utility from peacekeeping, such as the proximity to the conflict region, the presence of an expatriate community or the trading with the region. $C_i(t_i)$ are the costs of participation. Accounting for the cost of a peace mission is complicated.[7] Besides the obvious military costs,

[7]SIPRI provides budget costs for UN multilateral peace operations. They refer to core operational costs, which include the cost of deploying personnel and direct non-field support costs. The cost is shared by all UN member states through a specially designed scale of assessed contributions that takes no account of their participation in the operations. The estimated cost for UN peacekeeping in 2009 was

the most important is the loss of life in peacekeepers ranks. In economics, the value of life is calculated through the income, or more precisely the discounted value of earnings foregone by individuals. To make the problem easier, we assume that the cost function can be expressed as

$$C_i(t_i) = w\, t_i\, R(M) \tag{6}$$

where w is the unit cost of a soldier, that is the value of life, and the function R measures the risk of the mission and is increasing in its argument M. A traditional peacekeeping force into the midst of active and heavy hostilities, captured by an high value of the hostile parties' strength M, might not have the capacity to suppress the conflict and may even be limited in its ability to defend itself. On the contrary, low values of M result in higher odds of establishing peace (equation 4) and a lower risk of casualties (6). Defining x as the nation-specific output αt_i and y as the global public characteristics $\beta(t_i)$, the first order condition for t_i can be found by maximizing (4) and can be written as

$$\sigma'(t_i)U_i + \sigma(t_i)\left[\alpha\frac{\partial U_i}{\partial x} + \beta\frac{\partial U_i}{\partial y}\right] = \sigma(t_i)\frac{\partial U_i}{\partial s_i} + wR(M) \tag{7}$$

The condition for efficiency is that the marginal benefit of providing peacekeeping (left-hand side of equation 7) equals the marginal costs (right-hand side). In our case the marginal benefit is the sum of the utility weighted by the marginal impact of a soldier on the probability that intervention will be successful and the marginal utility of the private and purely public activity weighted by the probability of success. The marginal benefit is offset by the sum of the opportunity cost of having less soldiers for national duties times the probability of success and the expected marginal cost of casualties.

The value placed on soldiers life is reflected by the salary.[8] Therefore, we will try to verify the general assumption that valuation of life in wealthier nations envisages a casualties-adverse approach that causes an under provision of optimal peacekeeping troops. As a result, the salaries' level and the risk associated with a mission, which in turn means sensitivity to casualties, is a strong determinant in the decision to intervene. To this end, we will use the military expenditure per soldier to proxy for the military compensations. Also, we will consider the number of deaths among the peacekeepers as a factor influencing the level of risk.

Because of the high relative value of labour, the optimal strategy for western countries is to become more capital or weapon intensive (Seiglie, 2005).On the other side, the typical profile of the intervener country is capital-poor and labour-rich, and this capital-poverty

US$7.75bn (FT 4/8/2009). In the same year, US$157bn have been allocated to the wars in Iraq and Afghanistan by the US (National Priorities Project, 2009).

[8]Indeed, attracting and keeping high-quality personnel is a challenge for the military services in Western countries. As a result of greater private-sector opportunities, the military have to adjust compensations .NATO and EU members compensate soldiers with salaries that are usually more generous than the world average.

means having large, non technologically sophisticated armies. A second prediction is that poor countries exploit their comparative advantage in manpower; consequently, the number in armed forces of a country determines the likelihood and the size of intervention.

In order to describe the Nash equilibrium and to obtain the reaction function of country i , we employ a more useful way . We simplify the model by normalizing the exogenous parameters α, β and Q and the endogenous probability of success σ . The quantity of a country i's provision of the public good is still denoted by t_i. However one unit of t_i denotes also the quantity of the impure public good and its private characteristics. Letting $T = \sum_{i=1}^{n} t_i = T_{n-i} + t_i$, the utility maximization problem can be written as

$$\underset{s_i,t_i}{\text{Max}}[U_i(s_i, t_i, T) \quad s.t. \quad s_i + t_i = N_i, \quad T = T_{n-i} + t_i] \tag{8}$$

where the rescaled utility function U_i keeps the properties of being strictly increasing and quasiconcave. Adding T_{n-i} to both sides of the budget constraint and using the fact that $T = T_{n-i} + t_i$, we can rewrite this country's problem as

$$\underset{T,t_i}{\text{Max}}[U_i(s_i, t_i, T) \quad s.t. \quad s_i + T = N_i + T_{n-i}, \quad T \geq T_{n-i}] \tag{9}$$

Equation 11 says that a country i is choosing the total amount of peacekeeping subject to the constraint that the amount she chooses must be at least as large as the amount provided by the other countries. The "troops constraint" says that the total value of her security consumption must equal the value of her "troop endowment", $N_i + T_{n-i}$. Substituting the constraints into the objective function, we can rewrite this problem as a choice over the aggregate (global) level of peacekeeping

$$\underset{T \geq T_{n-i}}{\text{Max}} \; [U_i(N_i + T_{n-i} - T, \; T - T_{n-i}, \; T)] \tag{10}$$

Problem 12 is like any consumer maximization problem, and a country's optimal choice of peacekeeping T will be a continuous function of the national "endowment"

$$F_i(N_i + T_{n-i}, \; T_{n-i}) \; \geq \; T_{n-i} \tag{11}$$

Each country's level of private provision of peacekeeping can be written as

$$t_i = F_i(N_i + T_{n-i}, \; T_{n-i}) - T_{n-i} \geq 0. \tag{12}$$

This expression is the reaction function for country i and gives her optimal contribution as a function of the other countries' contribution.

Typically, in models of private provision of private goods, a further assumption is the normality condition, satisfied if we suppose that both the private and public goods are normal with respect to "troop endowment" (i.e. $N_i + T_{n-i}$). The assumption is stated as

$$0 \leq \frac{\partial F_i}{\partial T_{n-i}} \leq 1 \tag{13}$$

This implies that reaction functions have slopes greater than -1 and less or equal to zero. Therefore an increase in other countries' contribution T_{n-i} must increase her demand for the public good and not decrease her demand for the private good.

An easier formulation to have a better idea of the best-response function is

$$t_i = Max[F_i(N_i + T_{n-i}) - T_{n-i}, 0] \tag{14}$$

The last expression shows that each country either contributes a positive amount or completely free rides and contributes zero. Finally a Nash equilibrium is a set of contributions $\{t_i\}_{i=1}^{n}$ that satisfies the aggregation rule $T^* = \sum_{i=1}^{n} t_i^*$. Kotchen (2007) provides a proof of existence and uniqueness of this Nash equilibrium in impure public good model.

Although intervention is influenced by a complex and interconnected number of the above factors, very often difficult to distinguish, we derive a set of testable hypotheses from the theoretical arguments surrounding the participation dilemma. To provide an estimable supply function, the economic variables need to be specified, and the political and strategic determinants quantified. The empirical analysis will control for covariates corresponding to the conflict and operation characteristics, to participant country capabilities and for the economic importance of the country in which the conflict takes place, the host country. The econometric specification corresponding to the discussion about the supply equation (decision to participate and number of troops to provide) is then modelled as follows:

$$Y_{it} = \beta_{1t} X_{it} + \beta_{2t} W_{it} + \beta_{3t} Z_{it} + \beta_{4t} H_{it} + \mu_i + \varepsilon_{it} \quad i = 1, ..., N; t = 2, ...T \tag{15}$$

where X_{it} contains a set of covariates corresponding to the operation characteristics, in terms of mission strength, yearly costs and the number of deaths among peacekeepers. W_{it} accounts for the conflict characteristics, and includes the conflict intensity and the number of displaced persons. Z_{it} represents the set of participant's capabilities in terms of military expenditure per capita, number in armed forces and the number of concurrent military operations. H_{it} indicates the host country (where the operation takes place) and captures host country's economic salience in terms of participant-specific interests from peacekeeping, such as the trade openness and the foreign direct investment flows to the conflict region. Finally, μ_i is the individual-specific effects.

5 Econometric Strategy

The aim of the empirical investigation is twofold: understanding which factors, both observed and unobserved, are behind the country's decision to participate in a peacekeeping operation, and which of these factors can explain the number of soldiers deployed by a country in a specific mission. To deal with both questions, the paper uses a range of

models and estimators. In particular, we use static discrete choice models to analyse the probability of participating, fixed effects and first difference panels regression models when we look at the number of soldiers deployed in a particular mission.

If we considered each operation UN Charter, Chapter VI and VII, as "192 UN members intervention potential", the approach would be methodological wrong. Many countries have a long-lasting tradition of non-intervention. Few are considered lawless or failed states, such as the Somali Republic or Iraq, therefore incapable of projecting troops abroad. Others have no military resources; approximately 24 countries (the figures vary from different sources) have either no military forces or no standing army. In addition, according to the Military Balance 2009, 12 countries have less than 1000 armed forces personnel. Therefore we consider as potential intervener any state that participated in at least one peace operation with at least one soldier in the decade. We only consider troops, therefore excluding military observers, civilian police and civilian staff. This choice gives 102 countries and 2889 positive observations. The dependent variable is a dichotomous one that takes on the value of one in the case of participation and zero in the case of non-contribution. The observational unit is country-operation-year; as a result, in the participation model, we end up with 8771 observations.

In the second step the dependent variables are the number of troops provided to any operation and the percentage (%) of the total number of active armed forces deployed. The last variable is an approximate measure of the effort sustained, since in many operations some countries supply a nominal number of personnel compared to the size of their ground forces. The size is a challenging variable, more than the pure decision about participation, because it is deeply influenced by a mixture of unquantifiable factors, some of which are domestic and depend on the political feasibility of such action, while others relate to the demand and expectations of the international community. Both the participation and the troops' contribution model share the same structure, that is, they controls for covariates corresponding to the conflict itself, for country features and characteristics of the host country . The country decision to participate and the country decision about the numbers of troops to provide is modelled as in equation 15.

5.1 Modelling participation

A country decision to participate is modelled according to the following reduced form model for participation:

$$\Pr[y_{it} = 1 | x_{it}, \alpha_i] = \Phi(x'_{it}\beta + \alpha_i) \quad i = 1, ..., N; t = 2, ...T \tag{16}$$

where x is a vector of strictly exogenous observed explanatory variables and β is the associated coefficient vector. The covariates vector x includes information on the conflict, the peace operation, the participating country and the host country. The model also has a random intercept α_i to account for individual-specific unobserved characteristics. Φ is the cumulative distribution function of a standard normal variate.

The standard uncorrelated random effects model assumes α_i uncorrelated with x_{it}. Alternatively, following Mundlak (1978) and Chamberlain et al. (1984), correlation between α_i and the observed characteristics can be allowed by assuming a relationship of the form $\alpha_i = \overline{x}_i' a + \varepsilon_i$ and with ε_i independent of x_i'. Thus the model may be written as:

$$\Pr[y_{it} = 1 | x_{it}, \alpha_i] = \Phi(x_{it}'\beta + \overline{x}_i' a + \varepsilon_i) \quad i = 1, ..., N; t = 2, ...T \tag{17}$$

In order to check the robustness of the random effect probit, we run a random effect complementary log log specification, which considers any asymmetry in the distribution of the dependent variable. Finally, to relax the distributional assumption about the unobserved heterogeneity parameter, we estimate a linear probability model with fixed effects.

5.2 Modelling contributions

In the second empirical part of the paper we try to identify the determinants of the number of soldiers a participant country deploys in a particular mission. The model is specified as:

$$y_{it} = x_{it}'\beta + f_i + \epsilon_{it} \quad i = 1, ..., N; t = 2, ...T \tag{18}$$

where f_i is the time invariant country-specific effects and ϵ_{it} is the error term.

In order to eliminate the fixed effect f_i we apply the two customary transformation of the original model: first differences and the within transformation. The first-differences estimator is obtained by subtraction of the lagged one period model from the original model (equation 18). The following model is then estimated

$$\Delta y_{it} = \Delta x_{it}'\beta + \Delta f_i + \Delta \epsilon_{it} \quad i = 1, ..., N; t = 3, ...T \tag{19}$$

The within model is obtained by subtraction of the time-averaged model from the original model (18). Then:

$$y_{it} - \overline{y}_i = (x_{it} - \overline{x}_i)'\beta + (\epsilon_{it} - \overline{\epsilon}_i) \quad i = 1, ..., N; t = 2, ...T \tag{20}$$

In both procedures the country-specific effects f_i is removed.

As we said, we have two different specifications for troop deployment, one has the number of troops deployed as dependent variable LnY_{iot}:

$$LnY_{iot} = \alpha + \beta LnX_{iot} + \gamma LnZ_{iot} + \epsilon_{iot} \tag{21}$$

where X is the total number of active forces of the country, and the other has the percentage of total active forces deployed $Y/X\%$ as dependent variable:

$$Ln\left(\frac{Y_{iot}}{X_{iot}}\right) = \alpha + \gamma LnZ_{iot} + \epsilon_{iot} \tag{22}$$

Since in the first specification the number of national armed forces is used as covariate, the second model seems a restricted version of the first one with restriction $\beta = 1$. Before proceeding with the estimation, we test such a restriction with the Wald test and the null hypothesis is always rejected.

Modelling contribution clearly poses a sample selection problem. Since the decision to intervene precedes the one about the number of troops to dispatch, the sample is apparently non-randomly selected. Model's estimates based on such non-randomly selected sample might be biased leading to erroneous conclusions (Heckman, 1981). Furthermore the distribution of troops' contribution takes on non-negative values. A censored regression model might solve the problem and take care of the censoring by postulating a latent distribution of troops' contribution for non-participant. However, this last hypothesis is somehow puzzling for two reasons: firstly, as mentioned above, there are countries incapable of projecting troops abroad and/or having no military resources, so troops' contribution for these countries is necessarily zero. Secondly, the assumption of latent negative values of the distribution of troops' contribution cannot be supported. Thirdly, the censored regression model relies on the normality assumption of the latent variable, which is strong parametric assumption. Tobit-type latent variable models make sense if the data we are working with are truly censored. [9]

In addition, the panel structure of our data would be mathematically complex to combine with a censored regression model, a large burden of computer programming and a set of strong distributional assumptions would be necessary for such a combination. (see Hisiao (2001)) Furthermore, the selection equation, which requires by the normality assumption a probit link function, is unidentified for fixed effects, so the probit random effects is the unique choice. The latter model would be reasonable if we had enough covariates to model the participation equation. However, although well specified, we believe our model is far to be saturated, mainly because of unquantifiable factors such as political, strategical and social factors which affect the decision.

Some scholars propose the use of non-parametric estimators for correcting selection bias (amongst others Kyriazidou (1997)), but no method has been widely accepted so far. As a consequence, we decide to rely on the customary linear panel model.

One might argue that the underlying process both for participation and troops' contributions is dynamic, that is, it is likely that the decision in the previous period can explain part of the variance of the dependent variable. If this is true the residuals of the linear panel regression are serially correlated and we need to specify a dynamic model. The GMM estimators of Arellano and Bond (1991), Arellano and Bond (1995) and Blundell and Bond (1998) are well-suited for this case. We do such an exercise by estimating dynamic regressions for the troops' contributions model and for the participation model. Results of the dynamic models (not reported here, but available upon request) do not show any significant difference from those in the linear panel regressions or static random

[9] More cases against the misuse of a censored regression are developed in chapter 3 of Angrist and Pischke (2009).

effect probit, even tough the endogeneity of the lagged dependent variable is unresolved in some regressions. A dynamic specification is not an improvement in the methodology, mainly because of the limits surrounding the GMM estimator; internal instruments, though attractive as a response to endogeneity, have serious limitations Roodman and Floor (2008). A large collection of instruments, even if individually valid, can be collectively invalid in finite samples because they over-fit endogenous variables. They also weaken the Hansen test of overidentifying restrictions, which is commonly relied upon to check instrument validity. Also Bun et al. (2009) highlight the weak instrument problem for the system GMM model and suggest the use of testing procedures that are robust to this issue. Thus, rather than relying on some specific procedure which are far to be universally accepted, we choose to carry out our analysis by using more customary econometric tools. However, this choice might also have its counterpart whether the linear panel model is not the right one. A more extensive investigation is needed and we let it for future research.

6 Empirical Results

In general, many results confirm the arguments presented in the theoretical framework. However, there are some relevant exceptions in which the sign of the coefficient is not in the direction predicted by the theoretical arguments. Table 2 presents the results of the probit analysis and the complementary log-log model over the period 1999-2009. The results apply to UN operations only. We do not consider non-UN missions, mainly because grouping together different categories with few common features results in a non negligible heterogeneity. Taking them individually would result in a small sample size, which makes difficult any kind of inference.

Columns one, two and three report the estimates for the linear probability model, probit and complementary log log model respectively. The conflict risk, captured by the coefficient of the number of deaths among peacekeepers, is not statistically different from zero over different specifications. We leave the question about the way to proxy the risk unresolved for the moment. Other countries' contribution, expressed by the deployment total strength, is positive and significant over alternative model versions, as expected. The financial costs of a mission, referred to core operational costs, and shared by all UN member states, is used as a measure of the political importance of a mission. Costs include all the direct non-field support costs, thus it is not only a function of the number of deployed personnel. Operations regarded as "'highly advisable" are those attracting more funds. Unsurprisingly, the coefficient is positive and significant, suggesting that the higher the overall cost of the operation, the higher the probability of intervention.

An increase in the intensity of the conflict increases the likelihood of intervention in UN missions. This finding is easily understandable as the conflict intensity proxies for the security threat that a conflict poses. The numbers of displaced persons also increases the likelihood of participation, thus confirming the main Regan (1998) finding that a

large social dislocation or humanitarian crisis increase the probability of intervention. We measure the sustainability of deployment by the number of missions supported at the same time. The positive sign of the coefficient and the negative sign of its square predict a negative effect whenever the number of concurrent commitments exceed a certain threshold, resulting in a an inversely U-shaped relationship.

The military capabilities are measured through the troops' quality- the military expenditure per capita- and the troops quantity- the number in armed forces. The military expenditure per soldier is used to estimate personnel costs incurred for the mission. We are aware that using the entire defence budget overestimates the personnel budget. The negative sign of military expenditure confirms the "mercenarization" hypothesis and is consistent with the assumption that poorer countries are more likely to join a UN operation. The number in armed forces is negative and significant, suggesting that those inferior in ground force numbers are more likely to deploy forces. This result runs counter to the hypothesized relation. The last two results together predict that the overall military capabilities decrease the likelihood that an outside actor will intervene in UN operations. Being among the UN security council candidates is not statistically significant. Finally, the economic salience in terms of trade openness affects positively the likelihood of intervention, although trade openness and FDI inflows do not tell a consistent story.

Tables from 3 to 7 provide the first-difference estimates and the within estimates for alternative versions of the troops contribution problem, where the logarithm of the covariates is used where appropriate. Although Difference and System GMM are very popular in short panels, their tendency to generate numerous instruments can have serious limitations (Roodman and Floor, 2008). In our analysis, the choice of internal instruments as a response to endogeneity might produce suspicious results. Generally the results, available on request, does not change with a GMM estimator as in Blundell and Bond (1998) and Arellano and Bond (1991). The dependent variables are the number of troops provided (first and second column) and the percentage of active armed forces deployed to any operation(last two columns). The percentage is an approximate measure of the effort sustained. The number of deaths among peacekeepers and the mission costs are not included as they are endogenous to the problem.

In table 3 we test the factors affecting the size of contribution and countries' effort in UN missions. The conflict intensity and number of displaced people cause an increase in the size of contribution (the number provided) and the country's effort (the percentage of the number in armed forces), although their are not statistically significant when we use the within transformation. The finding confirms the previous results, thus supporting that the media coverage of human rights violations and the global emergency that a conflict poses urge governments to intervene with a large deployment. The sustainability index is negative as expected, although it is not significant. Military expenditure per soldier is positive and significant in the decision about the number of troops to dispatch and when it comes to the effort of participating. Intuitively, a large number of troops or alternatively a large share of national forces deployed to any operation requires military

capabilities and logistic support. The intervention's size decreases in the trade openness, a result apparently counter-intuitive.

In table 4 we present a panel estimates of the drivers of Non-UN troops contribution, following table 3 specifications. While the consequent results are very close to those explaining the deployment effort in UN operations , two exceptions are of interest. The number of displaced people is not affecting the percentage of national troops deployed in the anticipated direction, thus suggesting that humanitarian crisis hamper the size of contribution in ongoing Non-UN peace operations. The FDI is again negative and significant at the 0.01 level, while the trade openness is negative and not significant. These results are puzzling, although they confirm the findings in table 3. We do not attempt any particular explanation, however results emphasize that the motivations linked to economic calculations cannot be accepted as an account of what motivates states to intervene. The negative sign might indicate that conflicts, and then peacekeeping, emerge during economic crisis and the disruption of international trade. Military expenditure per soldier is positive and significant only in the decision about the percentage of national armed forces to commit. The sustainability of multiple missions influence negatively both the number and the share of troops, although it is only significant when the within transformation is applied.

In table 5, a similar picture emerges from the estimates of the NATO-led and EU missions. In addition to FDI, also trade openness is negative and significant at the 0.05 level, stressing the negative influence of economic interests in a conflict region. Conflict intensity is among the main drivers of peacekeeping and the sign is consistent with our priors. The positive sign of military expenditure and the significance at the 0.1 level indicate that in NATO-led and EU missions, countries that are better able to sustain a large proportion of national troops in multilateral peace operations are those whose quality of military is higher.

Table 6 shows the results for NATO-led missions alone and Table 7 for EU missions. Previous results are mostly confirmed, except for the sustainability index, which is positive and significant in NATO missions and negative for EU members. Finally Table 8 reports a panel estimation of contribution to operations conducted by the African Union (AU), the Economic Community of Central African States (CEEAC), Ad-hoc coalitions (e.g French operation in Cote d'Ivoire) and the Commonwealth of Independent States (CIS). Here, it is worth underlining the positive and significant impact of the conflict risk, captured by the coefficients of deaths among peacekeepers, on both the number of troops deployed and the participation's effort. The result is counter-intuitive, and we leave the question about the way to proxy the risk unresolved for the moment. FID and trade openness are both negative and significant, stressing the need to reconsider the motivations linked to economic calculations.

7 Conclusion

This paper is the first contribution in the literature that attempts to address, both theoretically and empirically, the many possible motivations that interact to produce a regular peacekeeping contribution by a diverse pool of participants. After a wide discussion of motivations that have been suggested by a numbers of scholars as explaining peacekeeping contribution, our main argument is that many explanations have severe limits, some are exclusive of others and generalization is difficult. Given that national countries have a variety of aims and the stated goal may be just a rhetoric of intervention, there are difficulties about determining the objectives of the intervening governments. Empirical results suggest that at the domestic level, technical forces such as the sustainability of multiple missions and military capabilities all play a role. At the international level different factors influence the decision, such as the security threat that a conflict poses and the number of displaced people. Quantifiable motivations play a role, especially those linked to military capabilities and Realpolitik calculations, but they cannot be accepted as a full account of what motivates different actors and legitimising authorities to intervene. Unquestionably, a big role is played by a number of immeasurable elements, such as the state's national security culture, and its capacity for action that in turn is given by the domestic public opinion and the political decision making process. Actions are also driven by a sense of identity towards some regional organizations.

Along with the explosive growth in the demand for troops, there is an impressive rise in the numbers and quality of troops required to fulfil new tasks. While the economic crisis is leading to a cutback of peacekeeping expenditure, a new level of engagement is deemed necessary to improve the effectiveness of peace missions. Global costs would be much higher if a scaling back led to a rise in insecurity and destabilization.

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Appendix

The database consists of 2889 observations on national contributions to 46 multilateral peace operations conducted around the world in the period 1999-2009. We also include US military operation in Iraq even though the number of troops deployed equals the average yearly total from all other national deployment for 2003 through 2007. The database provides information for the participating countries with the exact number of troops supplied. This number has been replaced by the letter P when is not available and the country is known to have participated. We use a range of sources to estimate the national numbers of personnel deployed: SIPRI Multilateral Peace Operations Database, IISS Military Balance, UN Department of Peacekeeping Operations monthly summaries and NATO data on troops contribution.

The database includes also information on: the legal basis for the establishment of an operation(UN Security Council resolutions, NATO or other regional organizations); the country in which a mission operates and where available the specific region of the country; the dates of first deployment; the number of fatalities suffered from the beginning of the mission until the last reported date; the financial costs in millions of US dollars; the actual personnel number, including civil police, civil staff and military observers, in order to display the strength of the operation. The number of troops authorized is usually not consistent with the actual number deployed.

Data on the number of armed forces personnel of all the world's armed forces from 1999 to 2009 are based on the IISS Military Balance. Military expenditure as a share of GDP is supplied by SIPRI. Military expenditure per capita at constant (2005) US dollars calculated as ratio of military expenditure (to the number in armed forces.

The conflict intensity is extracted from the Heidelberg Institute Conflict Barometer dataset that identifies five values: latent conflict, manifest conflict, crisis, sever crisis and war. Where applicable the level refers to the specific region of a country (Kosovo, Abkhazia, South Ossetia, Darfur, East-Timor, Eritrea-Ethiopia borders). Where more then one conflict was present, the figure represents the highest intensity reached among all conflicts The number of internally displaced persons is taken from the Internal Displacement Monitoring Centre Database, The Office of the UN High Commissioner for Refugees and US Committee for Refugees and Immigrants. Where applicable the number refers to either the sub-region (e.g. Abkhazia) or the macro region (e.g. Ethiopia-Eritrea) interested. In some cases sources vary significantly.

Real per capita GDP (constant price, base year 2000) is calculated by deflating the GDP per capita in US dollars provided by the IMF, World Economic Outlook Database (April 2009).

Trade openness is the ratio of total trade (exports plus imports) to GDP each year(Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.3, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, August 2009). 2007 data are used to assign missing data in 2008 and 2009.

FDI inflows are obtained from Foreign Direct Investment database, UNCTAD and are

deflated using the US GDP deflator (2000). Data on FDI flows are on a net basis (capital transactions' credits less debits between direct investors and their foreign affiliates). Net decreases in assets or net increases in liabilities are recorded as credits (with a positive sign), while net increases in assets or net decreases in liabilities are recorded as debits (with a negative sign). Hence, FDI flows with a negative sign indicate that at least one of the three components of FDI is negative and not offset by positive amounts of the remaining components. These are called reverse investment or disinvestment.

Table 2: Static random effect probit and complementary log log for participation probability, UN missions

	Linear Prob. Model OLS	RE Probit††	RE Complem. log log††
Strength†	0.031***	0.449***	0.687***
	(0.009)	(0.101)	(0.132)
Deaths†	-0.003	-0.051	-0.057
	(0.012)	(0.169)	(0.204)
Costs†	0.010**	0.208***	0.184*
	(0.005)	(0.079)	(0.101)
Conflict intensity	0.029***	0.475***	0.575***
	(0.006)	(0.074)	(0.096)
Displaced†	-0.000	0.142**	0.167*
	(0.006)	(0.069)	(0.087)
Sustainability	0.068***	1.281***	1.699***
	(0.010)	(0.097)	(0.127)
Sustainability^2	-0.004***	-0.091***	-0.131***
	(0.002)	(0.017)	(0.022)
Mil Exp per capita†	-0.018**	-0.408**	-0.599*
	(0.008)	(0.181)	(0.310)
No in Armed Forces†	-0.015	-0.410**	-0.625**
	(0.009)	(0.190)	(0.317)
Trade openness†	0.166***	2.322***	3.289***
	(0.025)	(0.371)	(0.490)
FDI inflows†	-0.017***	-0.303***	-0.330***
	(0.003)	(0.046)	(0.058)
UNSC candidate	0.013	0.261	0.446
	(0.012)	(0.217)	(0.274)
constant	-0.778***	-14.351***	-18.979***
	(0.149)	(4.745)	(4.194)
$\ln \sigma$		2.923***	3.378***
		(0.102)	(0.095)
N	8771	8771	8771
Log likelihood		-1629.882	-1638.257

Clustered standard errors in parentheses.

† Covariates are expressed in logs

†† Correlation between ε_i and the observed characteristics is allowed by assuming a relationship of the form: $\varepsilon_i = \overline{x}a + \alpha_i$,where $\alpha_i \sim iidN(0, \sigma_\alpha^2)$.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Panel estimation of troops contribution, UN missions

	First Diff	Within	First Diff	Within
Deaths†	0.039	-0.099	0.041	-0.090
	(0.045)	(0.157)	(0.047)	(0.157)
Conflict intensity	0.122*	0.117	0.123*	0.124
	(0.068)	(0.087)	(0.067)	(0.087)
Displaced†	0.139**	0.055	0.140**	0.095
	(0.061)	(0.088)	(0.061)	(0.087)
Sustainability	-0.040	-0.032	-0.038	-0.048
	(0.036)	(0.049)	(0.037)	(0.051)
Mil Exp per capita†	0.262*	0.359	1.017***	0.964***
	(0.137)	(0.252)	(0.054)	(0.067)
No in Armed Forces†	0.203	0.371		
	(0.142)	(0.261)		
FDI inflows†	-0.012	0.061	-0.012	0.052
	(0.033)	(0.041)	(0.033)	(0.043)
Trade openness†	-0.462**	-1.412***	-0.432**	-1.341***
	(0.205)	(0.407)	(0.207)	(0.410)
UNSCpoten	-0.090	0.055	-0.085	0.050
	(0.099)	(0.182)	(0.100)	(0.181)
constant	-0.037	5.329*	-0.058**	0.154
	(0.027)	(2.873)	(0.028)	(2.225)
N	1165	1623	1165	1623

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Panel estimation of troops contribution, NON-UN missions

	First Diff	Within	First Diff	Within
Deaths†	-0.005	-0.010	-0.000	-0.005
	(0.013)	(0.033)	(0.014)	(0.035)
Conflict intensity	0.346***	0.705***	0.361***	0.663***
	(0.090)	(0.119)	(0.088)	(0.132)
Displaced†	-0.129***	-0.423***	-0.153***	-0.444***
	(0.041)	(0.083)	(0.042)	(0.087)
Sustainability	-0.012	-0.044*	-0.019	-0.052*
	(0.019)	(0.026)	(0.019)	(0.027)
Mil Exp per capita†	0.072	0.020	0.999***	0.854***
	(0.181)	(0.133)	(0.028)	(0.052)
No in Armed Forces†	0.049	0.055		
	(0.179)	(0.138)		
FDI inflows†	-0.135***	-0.188***	-0.144***	-0.240***
	(0.030)	(0.038)	(0.031)	(0.042)
Trade openness†	-0.035	0.068	0.030	0.159
	(0.104)	(0.203)	(0.107)	(0.224)
constant	0.029	8.036***	-0.007	1.343
	(0.018)	(1.627)	(0.017)	(1.298)
N	1105	1469	1105	1469

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Panel estimation of troops contribution, NATO-led and EU missions

	First Diff	Within	First Diff	Within
Deaths†	0.017	0.034	0.022	0.043
	(0.019)	(0.053)	(0.019)	(0.053)
Conflict intensity	0.519***	1.036***	0.508***	1.018***
	(0.117)	(0.143)	(0.118)	(0.143)
Displaced†	-0.050	-0.411***	-0.055	-0.394***
	(0.051)	(0.087)	(0.052)	(0.092)
Sustainability	0.024	0.046	0.025	0.047
	(0.018)	(0.042)	(0.018)	(0.043)
Mil Exp per capita†	-0.007	0.135	1.000***	0.887***
	(0.146)	(0.153)	(0.025)	(0.051)
No in Armed Forces†	-0.025	0.176		
	(0.147)	(0.157)		
FDI inflows†	-0.195***	-0.339***	-0.204***	-0.376***
	(0.038)	(0.053)	(0.039)	(0.053)
Trade openness†	-0.125	-1.033***	-0.137	-1.041***
	(0.189)	(0.233)	(0.195)	(0.239)
constant	0.057***	11.370***	0.028	5.141***
	(0.019)	(1.916)	(0.019)	(1.608)
N	817	1089	817	1089

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Panel estimation of troops contribution, NATO-led missions

	First Diff	Within	First Diff	Within
Deaths†	0.016	0.042	0.021	0.051
	(0.020)	(0.052)	(0.020)	(0.051)
Conflict intensity	0.461***	0.943***	0.452***	0.923***
	(0.118)	(0.142)	(0.119)	(0.141)
Displaced†	0.004	-0.537***	-0.006	-0.534***
	(0.039)	(0.085)	(0.039)	(0.093)
Sustainability	0.004	0.114***	0.005	0.116**
	(0.014)	(0.043)	(0.015)	(0.045)
Mil Exp per capita†	-0.041	0.119	0.984***	0.881***
	(0.118)	(0.148)	(0.023)	(0.055)
No in Armed Forces†	-0.045	0.154		
	(0.119)	(0.154)		
FDI inflows†	-0.118***	-0.331***	-0.127***	-0.371***
	(0.028)	(0.055)	(0.029)	(0.055)
Trade openness†	-0.047	-0.953***	-0.052	-0.941***
	(0.179)	(0.211)	(0.184)	(0.218)
constant	0.097***	12.958***	0.064***	6.665***
	(0.020)	(1.882)	(0.020)	(1.606)
N	637	811	637	811

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Panel estimation of troops contribution, EU missions

	First Diff	Within	First Diff	Within
Deaths†	0.032	0.069	0.031	0.070
	(0.059)	(0.109)	(0.074)	(0.107)
Conflict intensity	-	-	-	-
	(-)	(-)	(-)	(-)
Displaced†	-0.179	-0.053	-0.107	-0.062
	(0.290)	(0.247)	(0.259)	(0.230)
Sustainability	-0.003	-0.197**	-0.008	-0.197**
	(0.064)	(0.091)	(0.067)	(0.091)
Mil Exp per capita†	-0.053	0.894	1.091***	0.773***
	(0.909)	(0.939)	(0.100)	(0.154)
No in Armed Forces†	-0.149	1.126		
	(0.890)	(0.977)		
FDI inflows†	-0.687***	-0.713***	-0.725***	-0.707***
	(0.199)	(0.195)	(0.184)	(0.177)
Trade openness†	-2.849	-3.442*	-2.815	-3.439*
	(1.829)	(1.812)	(1.862)	(1.801)
constant	-0.019	16.271*	-0.024	17.336**
	(0.023)	(9.532)	(0.027)	(7.480)
N	180	278	180	278

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Panel estimation of troops contribution, AU, CEEAC, Ad-hoc, CIS missions

	First Diff	Within	First Diff	Within
Deaths†	0.026**	0.036*	0.030**	0.042
	(0.012)	(0.021)	(0.013)	(0.026)
Conflict intensity	0.073	0.035	0.101	-0.088
	(0.095)	(0.063)	(0.098)	(0.104)
Displaced†	-0.186**	-0.204**	-0.197**	-0.151
	(0.093)	(0.097)	(0.095)	(0.111)
Sustainability	-0.004	0.000	-0.018	-0.048
	(0.030)	(0.035)	(0.031)	(0.037)
Mil Exp per capita†	0.210	0.162	1.029***	0.910***
	(0.360)	(0.169)	(0.072)	(0.083)
No in Armed Forces†	0.144	0.086		
	(0.354)	(0.183)		
FDI inflows†	0.006	-0.144***	0.001	-0.268***
	(0.041)	(0.048)	(0.042)	(0.059)
Trade openness†	-0.135	0.664**	-0.046	1.081***
	(0.177)	(0.271)	(0.185)	(0.303)
constant	-0.056	4.625**	-0.103***	-2.754**
	(0.038)	(1.896)	(0.034)	(1.380)
N	296	390	296	390

Clustered standard errors in parentheses

† Covariates are expressed in logs

The dependent variable in columns 1 and 2 is the number of troops deployed

The dependent variable in columns 3 and 4 is the number of troops deployed as a percentage of number in armed forces

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$