

Military spending and regional integration in southern Africa

Zachary Tambudzai¹

**This paper was presented at
'Business and Management Conference'
At the University of KwaZulu Natal, Durban, South Africa.**

28-30 September 2011.

¹ Dr Zachary Tambudzai lectures economics in the Department of Economics and Peace economics in the Peace Studies degree programme. Correspondence: [ztambudzai@yahoo.com/](mailto:ztambudzai@yahoo.com)
tambudzaiz@msu.ac.zw

Title: Military spending and regional integration in Southern Africa

Abstract

Military expenditure in developing countries and Africa in particular has over the years produced a varying mix of positive and negative economic development effects across countries. In Africa military and conflict had an overall negative impact on economic growth and development. Conflict also negatively affects efforts at consolidating regional integration in general. The negative effects are most pronounced in countries facing legitimacy and security crises like Zimbabwe and the DRC. Countries afflicted by conflict and poverty pay higher economic costs for their national security. The paper explores the effect of regional integration on military expenditure in Southern Africa. The basic premise of the research is that economic integration reduces conflict and eventually military expenditure. In addition regional security integration (via a peace dividend) may have positive economic externalities through uninterrupted trade between member states in regional groupings. There is dearth of studies that focused on the relationship between conflict or military expenditure and regional integration in southern Africa. Most of the studies focus on the benefits and strategies that enhance regional integration, without analyzing the importance of regional integration to security sector developments. Security sector studies have in general ignored the importance of economic and regional integration in ensuring reduction in military spending while consolidating peace. The results of this study show that regional integration has a negative impact on military expenditure in southern Africa.

Key words:

Military expenditure, SADC, regional integration, panel data, conflict

Introduction

Military expenditure in developing countries and Africa in particular has over the years produced a varying mix of positive and negative economic development effects across countries. In Africa empirical evidence shows that military expenditure (milex) and conflict had an overall negative impact on economic growth and development. Conflict also negatively affects efforts at consolidating regional economic integration in general. The negative effects are most pronounced in countries facing legitimacy and security crises. Countries afflicted by conflict and poverty pay higher economic costs for their national security.

The end of armed struggles in the 1970s and 80s, and the demise of Apartheid in South Africa were expected to reduce conflict in Africa and usher in a new era of peace, cooperation as well as economic integration in the sub-region. Indeed, despite perceptions to the contrary, the Human Security Centre (2005) has convincingly demonstrated that the number of and intensity of wars in Africa has fallen since 1990. However events have taken a drastic turn in 2011, with the normally peaceful North Africa engulfed in internal uprisings. Tunisia, Egypt and Lybia being at the forefront, as their nationals are demanding reform and the dismantling of autocratic rule. Southern Africa has enjoyed an extended period of peace in most of the countries except for skirmishes in Swaziland and the DRC.

Military expenditure in Africa fell significantly during the 1990s but this was largely explained by a 57% cut in real terms in South Africa's milex 1990-99 (SIPRI, 2000: 271). Subsequently, the region's milex has increased by about 45% in real terms from 2000 to 2003 (Harris, 2005). Irrespective of the trends, the economists' concern with a more optimal resource allocation suggests a reduction of budget allocations away from the military towards welfare-improving and growth-enhancing activities.

Military spending in Africa between 1996 and 2005 rose by a staggering '48% in real terms' (SIPRI, 2006: 312). According to SIPRI (2006: 313) the main drivers of milex in Africa are 'military reforms' being pursued by different countries and conflicts between and within the countries. The recent years

were characterized by ‘professionalisation of military forces’ and the replenishment of obsolete military machinery and equipment. The conflict factor is evident in the increase of military expenditure in Eritrea, Ethiopia, Burundi and the DRC.

The military expenditure trends for the southern Africa region show that countries are committing a lot of resources to defence. In comparison to other African regions, military expenditures in southern Africa were second highest in 2003. North Africa is the highest spender at US \$8 400 million, followed by southern Africa with military expenditure of US\$ 4 000 million. Table 1 shows the military expenditures for African regions for the period 1993 to 2003, in index form, with 2003 as the base year. The data shows that after 2000 there was some decline in militarization in southern Africa. The initial decline can be attributed to demilitarisation in South Africa (the continent’s chief military spender) and the end of the civil wars in some countries, poor economic circumstances and resource constraints (Tambudzai, 2005a, 2005b; SIPRI, 2000).

Year	1993	1995	1997	1999	2001	2002	2003	US\$m
Central	108	66	81	101	101	101	100	800
East	79	67	66	126	113	110	100	1,800
North	85	82	85	87	95	97	100	8,400
Southern	110	111	114	116	106	99	100	4,000
West	88	80	71	117	99	92	100	1,200
Africa	92	87	89	101	100	99	100	16,200

(Index 2003=100)

SOURCE: Bonn International Center for Conversion, 2005

The rise in military expenditure from 1993 to 2003 could have been heavily influenced by South Africa’s arms deal and the war in DRC, which sucked in a number of southern African countries (Tambudzai, 2005a, 2005b; Harris, 2005).

The economic performance of the greater part of Africa has been disappointing. According to Kamau (2010: 1) the poor performance is a result of “the inability of most African countries to secure access to larger markets,

inherent high trade costs among neighbours, lack of effective framework for regional cooperation and resource pooling, and the pressure from development partners pursuing their own foreign policy objectives in the continent". One solution to the economic woes of Africa has been a drive to boost economic growth through regional economic integration.

There are many initiatives aimed at fulfilling the dream of economic integration in Africa. The desire for integration was spearheaded by the formation of the Organisation of African Unity (OAU) in 1963. Then the main objective was to liberate Africa from colonial oppression and racial discrimination. The other major objective was to promote economic cooperation and integration. The economic integration desire by African leaders remained elusive until 1973 when the leaders agreed to form the Africa Common Market. In 1994 the Africa Economic Community (AEC) was established. The AEC's mandate was to rally the other Regional Economic Communities (RECs) into achieving its goals. The main RECs included the Economic Community of West Africa (ECOWAS), the Economic Community of Central African States and the Southern Africa Development Community (SADC). In 2002 the OAU was transformed in to the Africa Union (AU).

This paper provides an examination of the relationship between military expenditures and regional integration in southern Africa². The paper will particularly look at the impact of regional integration on the level of military spending in the SADC region. The article will also highlight the likely impact of military expenditure and conflict on economic integration. There has been a dearth of empirical work with regard to military expenditure and economic integration in southern Africa as a region. Most of the studies undertaken so far do not explore the importance of security issues but focus on the economic effects of regional integration like trade creation and trade diversion using gravity models. The ultimate aim of this paper is to increase the rationality of the regional integration process in southern Africa through identifying the main links and relationships between military expenditure and economic integration.

² The countries included in the research are Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Tanzania, Seychelles, South Africa, Swaziland, Zambia and Zimbabwe

The next section outlines and analyses the trends of regional integration and the movements of milex in southern Africa. We then review the related empirical literature and present a simple empirical model on the effects regional integration on milex. The fourth section presents the preliminary empirical findings. Finally, the fifth section provides some conclusions and policy proposals.

Southern Africa's military expenditure trends

The official information and figures about southern Africa's milex is scarce and seldom give the true story of the governments' military outlays. In most African countries the data is sometimes intentionally masked, since the governments are under pressure from within and externally (mainly donors) to reduce their milex in favour of other economic and social activities. Resources meant for the military can be hidden in budgets for other departments (Omitoogun, 2003; Henk and Rupiya, 2001).

The nature of the political situation in Africa makes internal security of paramount importance as opposed to external security. This makes the distinction between the role of the army, police and intelligence organizations very thin. The lack of adequate financial resources makes it even harder for the governments to compromise on resources allocated to the security forces. Some governments in the region have resorted to the use of force as a means of achieving security. The defence forces in southern Africa get a lion's share of the national budget (Henk and Rupiya, 2001). In general most of the military budgets in Africa go to salaries and personnel allowances (Ball, 1988). This in some cases is designed to maintain the loyalty of the armed forces, for the security of regimes in power. The inadequacy of funding has led to rampant corruption in the military at all levels. The defence sector is a reliable source of employment making it difficult for policy makers to take arbitrary decisions such as downsizing the army without an exit strategy.

Funding of the security forces also comes from lines of credit from international suppliers. Mineral and other natural resources have been used to provide foreign currency for purchase of weaponry in countries like Angola, DRC and more recently Zimbabwe (BICC, 2005; Henk and Rupiya, 2001). For instance, Zimbabwe to some extent funded its operations in the DRC with Congolese resources. Currently proceeds from the sale of diamonds from Chiadzwa, partly finances the army budget.

Table 2. Southern Africa Military Burden, 1996-2004

(Military expenditure as a percentage of GDP)

YEAR	ANGOLA*	BOTSWANA	DR CONGO	LESOTHO	MALAWI	MADAGASCAR	MAURITIUS	MOZAMBIQUE	NAMIBIA	SEYCHELLES	SOUTH AFRICAA	SWAZILAND	TANZANIA	ZAMBIA	ZIMBABWE
1996	9.0	3.3	1.5	3.0	0.9	1.2	0.3	1.2	1.9	2.1	1.8	2.3	1.4	1.4	3.1
1997	10.3	3.3	1.4	2.8	1.0	1.5	0.2	1.2	2.3	2.0	1.6	2.1	1.3	1.8	3.2
1998	5.2	4.0	0.4	3.1	0.8	1.3	0.2	1.2	3.2	1.7	1.4	2.2	..	1.9	2.5
1999	9.9	4.0	1.2	3.7	0.8	1.2	0.2	1.4	3.4	1.8	1.3	2.1	..	1.0	4.5
2000	2.2	3.9	1.0	3.6	0.7	1.2	0.2	1.4	2.8	1.7	1.4	1.9	1.3	0.6	4.9
2001	1.4	3.7	..	3.0	0.7	1.4	0.2	1.4	2.9	1.8	1.5	1.7	1.4	..	2.6
2002	1.6	4.2	..	2.7	0.8	..	0.2	1.3	2.9	1.7	1.6	..	1.5	..	2.3
2003	2.2	4.1	..	2.6	0.7	..	0.2	1.2	3.1	1.7	1.6	..	1.3	..	2.6
2004	4.2	3.8	..	2.3	..	..	0.2	1.3	..	2.3	1.4	..	1.1	..	..
Average	5.1	3.8	1.1	3.0	0.8	1.3	0.2	1.3	2.8	1.9	1.5	2.1	1.3	1.7	3.2

Source: SIPRI YEARBOOK, 2006

* Angolan figures are estimates not actual.

Table 2 shows the trends of military burden in southern African countries. Angola, Botswana, Lesotho, Namibia and Zimbabwe exhibit very high military burdens (miles as percentages of GDP) between 1996 and 2004. The high usage of national resources for military purposes could have been aggravated by the civil wars in these countries in the 1980s and early 1990s. Angola had the highest burden reaching a peak of 10.3% in 1997. As from 1996 to 2004

the average estimate for the Angolan military burden was 5.1%, which is very high by world, and African standards and is the consequence of the protracted civil war between the government and UNITA rebels, which ended in 1999.

Between 2000 and 2004, Angola's military expenditure increased by 283% from US\$297 million to US\$1137 million constant at 2003 prices and exchange rates (see Table 3). Angola's military expenditure level in US dollar terms is second to South Africa and it had the largest military expenditure in the SADC before 1994. The Angolan military expenditure declined from US\$ 1054 million in 1999 to a very low figure of US\$ 153 million in 2001 before increasing sharply to US\$1137 million in 2004. The low expenditure is attributed to the end of the bloody civil war, which was the largest contributor to the higher military expenditure levels. Angola, together with Botswana, Lesotho, Namibia and Zimbabwe, were classified under countries with the highest defence burdens (military expenditure as % of GDP) in Africa between 1996 and 2004 (SIPRI, 2006 pp314). The surge in Angola's military expenditure can also be attributed to military reforms, including demobilisation and integration of former rebel soldiers, and the repayment of substantial military debts.

Botswana has a relatively high military burden of 3.8%, on average. The increase in Botswana's military burden is partly a result of the border skirmishes with Namibia on the Chobe River Island and good economic performance that enhances its ability to purchase modern military equipment. SIPRI (2006) attributes the high burden to military reforms, and modernisation programme and possibly the political instability in Zimbabwe.

Between 1999 and 2000, the region experienced an upsurge in military burden because of the DRC war and internal political instability in some southern African countries (Tambudzai, 2005 p159). Zimbabwe, which was mainly affected by political and economic upheavals, had the third largest military burden in the region, a worrying phenomenon given the high levels of poverty, unemployment and economic decline. The sanctions slapped on the Mugabe regime have been given as justification for the recent weapons purchases from China and the Far East.

Table 3. Southern Africa Military Expenditures															
<i>(Measured in US \$m, at constant 2003 prices, and exchange rates)</i>															
YEAR	ANGOLA	BOTSWANA	DR CONGO	LESOTHO	MALAWI	MADAGASCAR	MAURITIUS	MOZAMBIQUE	NAMIBIA	SEYCHELLES	SOUTH AFRICA	SWAZILAND	TANZANIA	ZAMBIA	ZIMBABWE
1996	1076	161	68.7	27.9	54.3	13.0	12.4	31.2	67.6	12.4	2314	30.2	83.6	53.6	300
1997	809	186	56.6	27.9	69.2	16.7	10.3	34.7	83.3	13.5	2128	29.6	83.5	68.7	317
1998	288	240	17.0	30.1	66.9	13.4	9.4	41.2	89.0	12.7	1917	32.6	..	69.2	259
1999	1054	236	62.0	37.5	62.7	13.0	9.9	49.4	124	12.8	1816	34.0	..	35.3	444
2000	297	247	46.1	36.0	63.2	11.1	10.3	51.2	136	12.0	2120	31.3	103	22.1	435
2001	153	251	..	32.0	79.2	11.8	10.4	58.4	116	12.4	2371	29.2	119	..	259
2002	195	292	..	29.3	..	12.8	10.6	60.4	125	12.3	2538	..	138	..	229
2003	298	299	118	29.2	..	13.1	10.9	59.8	118	12.2	2588	..	132	..	177
2004	668	284	185	27.4	..	..	10.9	67.4	132	15.6	2544	..	128	..	260
2005	1137	230	136	26.2	..	..	11.8	68.1	143	12.3	2741	..	130	..	..

Source: SIPRI Yearbook 2006

On the other hand, South Africa's burden was consistently declining overtime as compared to its neighbours. In 1996, South Africa's military burden was at 1.8% and thereafter declined significantly to 1.3% in 1999, before increasing again to 1.6% by 2003. The peace prevailing in that country after the demise of Apartheid, the end of the Cold war, withdrawal of South African troops from Angola and Namibia, disarmament in Southern Africa in general and SA in particular and economic decline after 1989 contributed to the fall in milex in South Africa (Batchelor et al., 2002). However, SIPRI (2006) argues that the low military burden is explained by the large size of its economy, which can contain its milex.

In terms of military expenditure, South Africa dominates the region (see Table 3). Increases in South Africa's milex for the period 2000 to 2005 was a result

of a major arms deal for ships and aircraft signed in late 1999 and the ongoing 1999-2010 Strategic Defence Procurement programme.

Lesotho's military burden reached a peak of 3.7% in 1999 and thereafter declined to 2.3% in 2004. The rise in military expenditure in Lesotho in the 1990s can be a function of political instability and the active involvement of the military in political matters. Lesotho was under military rule between 1986 and 1991. Even after majority elections in 1992, the BCP government struggled to control the army and police (EIU, 1998). In September 1998 there was civil unrest which came to an end when SADC forces intervened. Namibia had an increase though fluctuating military burden after 1996, which reached a peak of 3.4% before a decline to 3.1% in 2003. The high military burden could be a function of the border problems with Botswana on the Okavango and Chobe rivers, the intervention in the DRC conflict and the rejuvenation of its army. The rest of the SADC countries have on average military burdens less than 2.1%, a sign of demilitarisation in the region.

The period after 2000 is generally characterised by low military burden as expected given the peaceful conditions obtaining in southern Africa after the end of most civil wars. Officially the war in Mozambique, Angola and the DRC are over, and political and economic turmoil in Zimbabwe has not deteriorated into an internal war.

Regional integration trends and conflict in southern Africa

The military expenditure in the region has been affected by internal and external factors, particularly wars and internal instability. Periods of war in most cases were characterised by high military burden. The security situation in the region had both positive and negative effects on regional integration in southern Africa. It was a catalyst in the formation of the Frontline States and the Southern Africa Development Co-ordination Conference (SADCC). These laid the foundation to the formation of the Southern Africa Development Community (SADC).

The end of the Cold War between the superpowers, which was a major source of conflict in Africa, should have resulted in major reductions in millex. The current situation on the ground is different, as conflict on the continent has persisted. Most of the conflicts are intra-country rather than between countries, and most of the wars are resource driven rather than based on ideological differences. The ray of hope for a demilitarized region, with resources being redirected away from the military to welfare improving and growth enhancing activities seem to be fading.

Table 4. Wars and armed conflicts

Country	Period	Description/Type of war
Angola	1961-1975	War of independence
	1975-2002	Civil war, power struggle for resources
	1998- 2003	Second Congo
DRC	1960-1965	Political and ethnic violence
	1998-2003	Civil war (Second Congo war)
Madagascar	1947-1948	War of independence
Mozambique	1965-1975	War of independence
	1981-1992	Famine and civil war
Namibia	1998- 2003	Second Congo war
Lesotho	1998	Political unrest
South Africa	1976	Civilian rising
	1983-1994	Political violence
Zambia	1964	Political and ethnic conflict
Zimbabwe	1972-1979	War of independence
	1983-1984	Political and ethnic violence
	1998- 2003	Second Congo war

Sources: Peace Pledge Union (2006), Eiseman (nd),

Military expenditure growth in Africa has been linked to wars, especially civil wars. “Where civil wars are ongoing military expenditure is greatly elevated” (Collier, 2006: 9). If there is no war, high millex is used as a deterrent to rebellion. Collier in the same article argues that from empirical evidence a country facing international war will increase spending by 2.5% of GDP on defence, whereas a country engaged in a civil war will use up 1.8% more of its

GDP. “In 1999, a fifth of all Africans lived in countries battered by wars, mostly civil ones” (The Economist, 2004: 8). Table 4 shows the countries that were affected by wars and armed conflict in southern Africa since 1945. Most of the wars and violent conflicts in the region occurred after 1965. The period between 1965 and 1980 was mostly characterized by armed struggles for independence. After 1980 civil wars, insurgents and political unrest ravaged the region. Countries like Zimbabwe, SA, DRC, Mozambique and Lesotho have experienced serious political violence after 1990. Some civil wars sucked in regional allies and became regional wars like the DRC war between 1998 and 2003.

Regional and economic integration in southern Africa goes back to the colonial era. Colonial governments attempted economic integration through free trade, common currencies and services (NISER, nd: 4). In southern Africa there were three sub-regional groupings. The first was the Union of South Africa and the British protectorates of Botswana, Swaziland and Lesotho. The other grouping brought together Zimbabwe, Zambia and Malawi. Mozambique and Angola were part of a Portuguese grouping together with Cape Verde and Guinea-Bissau.

The colonial economic integration attempts in Africa were ruined by the liberation wars of the 1950s, 60s and 70s. Armed conflict over the years has affected the socio-economic development of the region. In southern Africa regional integration was affected by the armed struggles in Zimbabwe, Mozambique and Angola. In addition to that the colonial governments had no elaborate plans about Africa’s economic integration but only wanted to fulfill their self-interest. The paranoia about recolonisation is also affecting total commitment to the regional groupings. It is difficult for “African countries to surrender their hard won sovereignty to regional integration” (NISER, nd: 9).

SADC is the main regional scheme driving integration in southern Africa. SADC is a regional bloc working for southern Africa. The transformation of SADCC into SADC brought about new objectives. SADC emphasized development integration rather than development cooperation, the

preoccupation of SADCC. Unlike SADCC which dealt more with political and ideological issues, SADC aims to advance full economic integration and trade liberalization of its member countries (Negasi, 2009: 3). The medium term objectives of the bloc are to ensure macroeconomic stability and convergence, before establishing a common market in 2012 and a monetary union by 2016.

SADC was supposed to pass through different economic integration stages using various instruments agreed among the member states. The Southern African Development Community (SADC) Trade Protocol signed in August 1996 only came into effect on September 1, 2000. The main objective was the liberalisation of trade between member states and ultimately achieving deeper economic integration in the region (Kalaba and Tsedu, 2008: 1).

The first steps of the implementation of the Trade Protocol started with the trade liberalization process, which was to be completed over eight years. The tariff phase down process came into effect as from September 2000. A free trade area (FTA) was to be reached in 2008, where up to 85% of trade flows within SADC will be duty free (SADC Secretariat, 2003). The remaining 15% consisting of sensitive products would be liberalized by 2012. Subsequent to the FTA, SADC foresaw the formation of a Customs Union in 2010 and of a Common Market in 2015. Additional liberalization of trade in services was to be undertaken, but there is very little progress reported in that area.

Trade liberalization was to be achieved through the elimination of customs tariffs and non tariff barriers on intra-SADC trade. More energy had to be devoted to protracted negotiations on the liberalization of trade in goods, especially on rules of origin for sensitive products (Kalenga, 2004: 30-31). The reduction of tariffs is being carried out based on four categories. The Trade Protocol provides for the elimination of all existing non-tariff barriers (NTBs) and refraining from introducing new ones. However, in practice it does appear that non-tariff measures are widespread, increasing and are a real obstacle to intra-regional trade expansion. This behaviour damages the integrity of the

Trade Protocol and makes it immaterial to traders, investors and consumers at large (Kalenga, 2004: 29).

Maringwa (2009) highlights that member states of SADC have engaged in a number of bilateral trade liberalisation agreements and schemes since the 1950s. The main objective was to increase bilateral trade flows through deeper access of regional markets. The implementation of these various bilateral 'country to country' trade agreements coupled with the adoption the Trade Protocol in 1996 is seen as a useful tool to promote regional economic growth and reduce poverty. As member states are preparing to enter another layer of integration in the form of a free trade area, it is also an appropriate moment to evaluate the performance of the implementation of the trade protocol (Kalaba and Tsedu, 2008).

Notwithstanding the notable growth in total exports between 2000 and 2007, intra-SADC trade remains weaker. Most of the trade between member states (more than two thirds of total trade) is with South Africa. SADC's extra-regional trade was more than intra-SADC trade between 2000 and 2007. A comparison of SADC with other regional trade blocs shows that intra-regional trade provides the necessary impetus for deeper integration and regional progress. European countries are the major trading partners of the SADC members, followed by Asia and USA. This means that SADC lost market share of its own export growth, and therefore it is missing out on opportunities to take advantage of its own integration initiative (Kalaba and Tsedu, 2008: 10).

In 2007, South Africa contributed the highest share in total intra-SADC trade, followed by Zimbabwe and Namibia. South Africa accounted for 70% of the total exports of SADC, trailed by Botswana and Zambia, in second and third position in the region consecutively for the year 2007. However, intra-trade among SADC members has declined in agricultural and light manufacturing sectors in 2007 as compared to the year 2000. Intra-trade increased in fuel and minerals, and heavy manufacturing sectors for the same period.

Regional integration empirical literature

Regionalism in Africa had strong political and Pan-Africanist rather than economic objectives since the liberation struggle era (McCathy, 1995). The need for regional integration is underpinned by the need for “collective self-reliance and self-sustenance”. Economic integration refers to a process of economic development which involves the elimination of discriminatory barriers among economic units of national state (NISER, nd: 3). “Regional integration in Africa follows the traditional concept based on geographical proximity and contiguity of countries and political cooperation through economic cooperation” (ECA, 2006: 1). Nwabuzor (1982) sees economic integration as pure economic and political association, eco-political collaboration and free trade areas.

Economic integration normally culminates in the formation of an economic community through the blending of the many national markets as unfair barriers are removed and inclusion of cooperative arrangements among economic units of a region. The formation of a Free Trade Area (FTA) is by and large the starting point. This is trailed by the formation of a Customs Union, Common Market area, then Economic Union and lastly an Economic Community (NISER, nd: 3). The theory of regional integration focuses on the benefits that follow a change from the isolationist approach in development to the collective and cooperative system.

A number of studies were carried out on the effects of regional integration in southern Africa. Maasdorp (1999) concluded that trade in the region can contribute considerably to food security. The study finds considerable scope for increased intra-regional trade in grain and other foodstuffs. More openings are in cross-border investment in the agricultural sector and the agriculture related manufacturing sector.

Negasi (2009) analysed trade diversion and trade creation using disaggregated trade data from southern Africa. The article reveals that there is growth in intra-SADC trade in fuel, minerals, and heavy, while there was a downward trend in light manufacturing and agricultural sectors. The SADC group helped to increase trade among its members at the expense of the rest of the world. However there has been a negative trade diversion effect meaning that the SADC members preserved their openness to the rest of the international community.

To assess the potential of increasing intra SADC trade, Chauvin and Gaulier (2002) use three complementary approaches. Given SADC countries' concentrated and identical trade indices, their static analysis show that the chance for more trade within SADC is restricted. However, some findings and ongoing research show that development of intra-industry trade might have trade creation effects in the region.

Cheng and Wall (2005) used a gravity model to estimate international trade flows allowing for country-pair heterogeneity. Their results suggest that standard gravity estimates of the effects of integration can differ a great deal from what is obtained when heterogeneity is accounted for. Maringwa (2009) uses the same technique on trade intensity and product complementarity indices to analyse bilateral trade flows (on sensitive products textiles and apparels, cereals and vehicles) between SADC countries that have signed bilateral trade agreements between themselves and also implemented the SADC TP which led to the adoption of a SADC Free Trade Area in 2008. Analysis focused on sensitive products because preferential bilateral trade agreements seem to be more generous on these products as compared to commitments member states undertook at the wider regional level under the SADC TP. Trade creation on wheat and sugar products is greater than trade diversion marginally. No conclusive evidence was found to show that bilateral trade agreements have increased bilateral trade flows compared to the market access opportunities provided by the SADC TP.

Kamau (2010) examines the impact of economic integration on growth by constructing an economic integration index based on average Most Favoured Nations (MFN) tariffs and the level of regional cooperation for COMESA, EAC and SADC. Applying the system GMM estimation technique, the paper corroborates a direct relationship between economic integration and economic growth. Economic integration and trade, independently and mutually, have a direct and significant effect on growth.

Kisu (2010) attempted to estimate the trade potential expected from the SADC FTA. The study investigates impact of intra-regional trade in the absence of all trade barriers. Using a gravity model the results show that the observed intra-regional trade is lower than its potential. An FTA will boost the chances for increasing intra-regional trade. Other studies found that the SADC trade potentials are rather small, especially for South African exports (Chauvin and Gaulier, 2002; Cassim, 2001; Elbadawi, 1997).

Empirical literature on millex determinants

In recent years there has been a surge of studies on developing countries' militarization. These studies have focused on five broad areas: the effect of millex on economic growth and development, development of indigenous arms industries, arms transfers to the developing world, budgetary trade-offs between defence and other socio-economic sectors, and the main factors affecting the level of military expenditure.

There are a number of theories in the defence economics literature that try to explain the determinants of military expenditure in the developing world. Ball (1988) discusses various factors that influence millex in developing countries under five main categories; the influence of external conflicts, requirements of regime security (internal), domestic bureaucratic and budgetary factors, the influence of armed forces and, the role of super powers. West (1992) has an almost similar classification. More generally these factors are grouped into two broad categories, external and internal influences. In this section the research

findings in developing countries will be reviewed giving more attention to cross-country studies. Before looking at cross-section results from regions in developing countries we look at two country-specific studies on the determinants of millex in southern Africa.

Batchelor et al., (2002) estimated the relationship between military burden and economic and strategic factors in South Africa. Their model was based on the standard neoclassical model outlined by Smith (1995: 71-74) and Hewitt (1991: 7-10). The results were based on OLS estimations of two equations, with dependant variables being military expenditure in real terms and the share of millex in output. The results of the regression analysis suggest that the trends in South Africa's military spending could be explained as an autoregressive process in military burden conditioned by some country-specific strategic factors. The study revealed that the demand for millex was significantly influenced by external war (the Angolan War), sanctions (the UN arms embargo in 1977), and change in regime in 1994 and the lagged share of millex in real output.

Tambudzai (2006) investigated the determinants of millex in Zimbabwe. The study analysed the effects of economic factors, external factors, and geopolitical factors on Zimbabwe's military expenditure. The research uses a log-linear model specification based on the standard neoclassical theory and OLS estimations on co-integrated variables and ECM models. The article suggests that Zimbabwe's millex has been influenced by the regional wars, the military expenditure of neighbouring countries, income, the government's domestic borrowing ability and the trade balance. The model using millex as a share of GDP data performed better than the one using real millex, both in the short run and long run. Tambudzai (2011) and Tambudzai and Harris (2011) using a qualitative approach, underlines the importance of the beliefs and attitudes of the ruling elite regarding regime change threats and security, as well as the influence of the military in political decision-making.

Cross-country studies in the 1980s include researches by Maizels and Nissanke (1986) Dommen and Maizels (1988), Rosh (1988) and Looney

(1989). Based on cross-country regressions they found domestic factors such as the need to repress internal opposition groups, external factors like relations with the superpower blocs and the foreign exchange stocks for armament purchases, to be major factors affecting defence spending. Also inter-state or civil wars, FDI, and arms suppliers significantly influenced military burden. The African continent mix was strongly affected by military or violent regimes, population size and the share of central government expenditure in GDP. The security web militarization, and a measure of dependence on the world economy were significant factors. Democratic countries allocate fewer resources to mix. The trade balance per capita and partnership concentration (a measure of dependence on the world economy) were important determinants. The larger the degree to which countries are integrated into the world economy, the lesser the military burdens they have. Studies by Rosh and Looney, point to the importance of regional integration as a mix reducing variable. The non-arms producing countries' mix is heavily influenced by openness (the trade balance) since they rely on arms imports.

More sophisticated studies were those by Hewitt (1991), Dunne and Mohammed (1995), Dunne and Perlo-Freeman (2003a; 2003b). Estimations using cross-sectional analysis revealed that economic factors play a major role in determining mix in sub-Saharan Africa. Pooled data analysis showed that military burden is significantly affected by wars, size of the armed forces and previous year's military burden. Dunne and Perlo-Freeman (2003a) findings seem to agree with some of the findings of Maizels and Nissanke (1986) and Dunne and Mohammed (1995). Their study revealed that the population size, security web militarisation, external threats, and internal threats affected the mix of developing countries. Dunne and Perlo-Freeman (2003b) using panel data analysis in the fixed effects model military burden was significantly influenced by potential enemies, other countries' mix, external and civil wars, the level of democracy, population size and the trade balance. In the dynamic effects model the military burden depended on potential enemies, previous year's burden, civil and external wars, democracy, population, trade, security web countries, GNP and the great power enemies.

The cross-sectional analysis reviewed above seems to show that the trade variable which can be taken as a proxy for openness and integration was a significant determinant in most of the studies. Although the empirical studies have produced varying results, there seems to be a consensus that economic factors are less important in developing countries.

Empirical Model

In economics panel data analysis has been used to study the behaviour of a particular group of variables over a given time period. With recurring observations of adequate cross-sections, panel analysis allows a researcher to investigate the dynamics of adjustment with short-time series. The combination of time series with cross-sections can improve the quality and quantity of data for analysis. Panel data provides regression analysis with both a spatial (a cross-section of units) and sequential (periodic observations) dimension. There are many types of panel data analytical models. These comprise constant coefficients, fixed effects and random effects models.

Our model will be based on the standard neoclassical model as outlined in Smith (1995)³, and Dunne and Mohammed (1995). It assumes that there is a rational state, which maximizes a welfare function subject to some resource constraint. The model employed by Hewitt (1991), Smith (1990; 1995) and Batchelor, *et al.* (2002) assume a state, which maximizes welfare (W) as a function of security (S), economic variables such as consumption (C), population (N), and other variables [e.g. the politics of the ruling party, and strategic issues] (Z). Thus, the welfare function is,

$$W = W (S, C, N, Z) \dots\dots\dots (1)$$

The welfare function is optimised subject to the budget constraint and a security function. The budget function is given by,

³ In the Handbook for defence economics, volume 1, edited by K Hartley and T Sandler (1995)

$$Y = P_c C + P_m M \dots\dots\dots (2)$$

The security function is,

$$S = S (M, M_1 \dots M_n, T) \dots\dots\dots (3)$$

For allies there is a spill-in from their expenditure, which raises security while military by enemies cause insecurity. The maximisation problem is then solved to find a derived demand for the level of military spending.

$$M = M (P_m/P_c, Y, N, M_1 \dots M_n, Z, T) \dots\dots\dots(4)$$

For estimation purposes, equation (4) is often written as shares of output or income Y instead of levels. The demand equation had to be modified to suit the country's characteristics and data availability.

The following specification will be used;

$$MB_t = a_0 + a_1 GDPC + a_2 CGE + a_3 MB_{t-1} + a_4 TRA + a_5 AP + a_6 DEM + a_7 WAR \dots\dots\dots(5)$$

Where MB_t is the share of military in GDP, GDPC is the GDP per capita, CGE is the share of total government spending in GDP, TRA is the share of trade in GDP- is the economic integration proxy, AP is the proportion of armed forces in the population, DEM is the democracy variable, and WAR is a dummy taking the value of 1 if a country was at war, 0 otherwise. The dummy variable WAR is a composite variable which captures years when there were political disputes, civil conflicts or civil war and war between countries.

We estimate the determinants of military across the SADC countries and overtime. Panel data analysis will be utilized, after pooling the data over time and across the countries. This approach takes all of the data available for 12 SADC countries. Country and time-specific effects can be accounted for by using dummy variables. The limited time series sample does not allow the estimation of a dynamic model.

To estimate this model a sample of time series data from 1995 to 2005 for each of the countries (Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Tanzania, Seychelles, South Africa, Swaziland,

Zambia and Zimbabwe) is used. Data for macroeconomic variables is from the IMF database, while military spending was obtained from the SIPRI Year Book 2006, and the data on democracy, disputes and war was obtained from the Dyadic database (Maoz, 2005). The time series after 1996 are chosen because most of the countries were stable and statistical data is reasonably reflective of the situation on the ground. This is valid for countries like the DRC and Angola that were war zones prior to this period. SIPRI statistics on milex has been changing by large margins for these and other countries prior to 2000. The estimates for milex and milex as a percentage of GDP are very different if one compares the 2004 and 2006 yearbooks. This will definitely have implications on the estimations results. The SIPRI figures change as new information becomes available.

The milex data used is very approximate because of the deficiencies in the defence expenditure data especially in developing countries. Most governments are secretive or misleading about their military budgets (Omitoogun, 2003). Information supplied by governments to international reporting institutions may not correspond to the true economic costs. Such data when used for inter-country comparisons raises exchange rate difficulties (Smith, 1995). The proxy for economic integration does not in our case truly reflect the changes in intra-regional trade. The available data was an aggregate of exports and imports without factoring out extra-regional trade.

Empirical Results

Determinants of milex across countries and overtime

- **The Fixed Effects Models**

Two variables determine military burden in southern Africa according to Table 5. Previous military burden and the level of democracy has positive and negative effect on milex. The two variables are both significant at 5% level. The GDP per capita and central government expenditure as a share of GDP positively influence milex, as expected but they are not significant. The proportion of population in the army and the war variables in addition to being

insignificant in explaining milex in southern Africa they have a negative sign contrary to theoretical expectations. The democracy variable is significant at the 5% level and carries an expected negative sign. The increase in democratic structures and governments in the region have dampened the need for high milex to maintain autocratic rule.

Economic integration proxied by the trade levels as share of GDP is not significant as a determinant of milex. The negative sign is in line with previous research. With economic integration we expect less external threats and no need for high milex. With the drive towards full integration led by the SADC, we expect an increase in demilitarisation of the region and transfer of resources to social and economic sectors of the economy.

- **Random effects model**

Four variables are significant at 5% level. These variables include the GDP per capita, the previous year military burden, the central government expenditure as a share of GDP and the democracy levels. The share of central government expenditure in GDP has a positive and significant impact on military burden as expected. These results agree with the findings of Dunne and Mohammed (1995) who found a positive and significant impact of

Table 5. Panel data models: Fixed and Random effects

<i>Sample size:</i> <i>1997-2004</i> <i>Method: GLS</i>	Fixed Effects Model		Random Effects Model	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic
GDP	1.648394	1.605592 [0.18]	0.005140*	2.812606[0.01]
MLX(-1)	0.650736*	9.885570[0.001]	1.032955*	140.9485[0.00]
TRA	-0.257427	-0.135216[0.89]	-0.002469	-0.965089[0.35]
CGE	1.461154	1.137763[0.32]	0.011550*	3.548670[0.004]
AP	-0.334269	-1.087468[0.34]	0.003618	0.160054[0.88]
DEM	-55.13438*	-2.914235[0.04]	-0.165338*	-4.268709[0.001]
WAR	-0.038952	-0.699496[0.52]	-5.19E-06	-0.293685[0.77]
Weighted Statistics			GLS Transformed Regression	
Adjusted R-squared	0.99		0.99	
S.E. of regression	16.16		26.811	

F-statistic	26085.39		2516.11	
Prob(F-statistic)	0.00		0.00	

Probabilities are in square brackets []; * significant at 5%; ** significant at 10% level.

inertia and the GDP per capita. The inertia variable has the most significant coefficient as well. The democracy variable has the desired sign, and is very significant in influencing the level of milex in the SADC region.

The random effects model confirms the importance of GDP per capita and democracy as determinants of military expenditure in Southern Africa. Economic integration proxied by the trade levels as share of GDP is not significant in this model but still carries a negative sign and is in line with previous research. This reaffirms the importance of regional integration in promoting peace and possibly creating a peace dividend for the region which has been affected by civil wars and conflict. With economic integration we expect less external threats and more regional cooperation between SADC member states in resolving conflicts in southern Africa. There is evidence in support of the importance of regional integration, if we look at SADC's efforts to resolve conflicts in the DRC, Zimbabwe, Lesotho and Madagascar.

Conclusion

The main objective of this paper was to investigate the impact of regional integration on milex in southern Africa. The study commenced by reviewing the milex and economic integration trends in southern Africa. These trends were analysed relative to various socio-economic and political events in the various countries. The importance of economic integration was emphasized.

The econometric section of the paper tested the effect of economic integration on milex and improved the approach used by Dunne and Mohammed (1995) for sub-Saharan Africa so that comparisons could be made. The period of study was 1996 to 2005, mainly because of trade and milex data availability limitations. The main shortcoming of the study was the small sample size, which reduced the degrees of freedom and at the same time made it difficult to employ more dynamic panel estimations. The trade data used to capture

the impact of integration is not the best, SADC and intra regional trade data should have been used instead.

The findings of this study confirm the importance of both economic and strategic variables in the determination of the level of milex in developing countries. The strategic variables however have more influence on military burden. The increase in milex in Southern African countries like South Africa and Botswana really confirms the importance of high levels of GDP or economic growth. As SIPRI (2006) argues, the modernisation of equipment in the region was partly driven by economic capability. The prevalence of civil and external wars surprisingly does not positively affect regional milex.

The estimation results can be summarized as follows: the different models have shown that SADC's military expenditure since 1996 was negatively affected by the regional integration process to a lesser extent. Good economic performance and large government budgets increase milex levels in the region. Democratic elections and institutions promote a reduction in milex. The negative impact of economic integration on milex should act as a stimulus to renewed efforts to consolidate economic integration in southern Africa and the rest of the continent.

This paper emphasizes the importance of regional integration to encouraging peace and security. However, we are mindful that security issues also pose the most important challenge to regional integration. The stability of members of regional groupings, affect both the implementation of agreed policies as well as the development of the regional economies. On the technical expertise side, conflict will cause brain drain from the countries within the SADC region (not only the war-torn or conflict ravaged countries such as the DRC and Zimbabwe). The general loss of skills, will slow-down the integration process. The non-conflict countries will experience both skills flight and capital flight because of security threats posed by their unstable neighbours.

Regional trade is driven by the productive efficiency and capacity of the members – skills diversity will enhance the efficiency and competitiveness of

products. For instance FTAs may not succeed where other members are not competitive since they can trigger political and social instability. Imports are generally driven by foreign incomes of member countries. Regional conflicts and or wars may lead to economic melt-downs that adversely reduce real GDP and eventually lower the aggregate trade levels. Exports will likely be affected in all member countries through the demand side and supply side effects. A good example is the complete melt-down of the Zimbabwean economy in the past decade. The country's woes affected most of the SADC countries (some positively and others negatively).

Large member states like South Africa benefited from the brain-drain as millions of skilled and unskilled workers sought economic refuge. However, these benefits were neutralized by the excessive need for humanitarian assistance to legal and illegal immigrants alike. The immigrants caused internal instability due to a strain on economic resources especially from the employment front. This may have triggered xenophobic attacks as witnessed in South Africa in 2009, a recipe for capital flight and disinvestment. Tourism was adversely affected by the violent response to the conflict-created situation.

The economic recession that accompanied the political instability in Zimbabwe affected intra SADC trade patterns. Zimbabwe, traditionally an important exporter in the region, became an importer of goods previously exported goods. Instead Zimbabwe became a net-importer of food from its neighbours a likely source of further instability in the region. This affected aggregate demand in the SADC bloc. The major aim of regional integration is to expand markets for goods produced in member countries of the groupings. A conflict situation will actually distort trade and eventually reduce the regional community's aggregate demand through excessive loss in output generated by security threats spillovers. The desired economies of large-scale production will not be realized.

References

Africa Development Bank (ADB) (2011) "Southern Africa Regional Integration Strategy Paper 2011-2015" [Online]. Available from

<http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Southern%20Africa%20Regional%20Integration%20Strategy%20Paper%202011%202015%20-%20REV%201.pdf> [Accessed: 10/5/2014].

Ball, C. (1988). *Security and Economy in the Third World*, London: Adamantine Press Ltd.

Batchelor, P., Dunne, J. P., & Lamb, G. (2002). "The Demand for Military Spending in South Africa", *Journal of Peace Research*. 39(3), p.339-354.

Bonn International Center for Conversion [BICC] (2005). *Conversion Survey 2004 – Global Disarmament, Demilitarisation and Demobilisation*, Baden-Baden: Nomos Verlagsgesellschaft.

Cassim R. (2001). 'The Determinants of Intra regional Trade in Southern Africa with specific reference to South Africa and the Rest of the Region,' *DPRU Working Paper 01/51*, University of Cape Town.

Chanda, D.(2010). "Regional integration in southern Africa focusing on the future of SADC and SACU". Stellenbosch: tralac .

Chauvin, S. and Gaulier, G. (2002). "Regional trade integration in Southern Africa". *CEPII Working Paper No 2002-12* October.

Cheng, I. and Wall, H.J. (2005). "Controlling for Heterogeneity in Gravity Models of Trade and Integration", *Federal Reserve Bank of St Louis Review*, 87 (1).

Cleary, S. (1999). "Regional integration and the Southern African Development Community" [Online]. Available from

<http://www.princeton.edu/jpia/past-issues-1/1999/1.pdf> [Accessed.18/4/ 2011]

Collier, P. (2006). War and military expenditure in developing countries and their consequences for development. *The Economics of Peace and Security Journal*. [Online] 1(1) p.10-13. Available from: <http://www.epsjournal.org.uk> [Accessed: 2/12/2014].

Davies, R. (1996). Promoting regional integration in Southern Africa: An analysis of prospects and problems from a South African Perspective¹", *African Security Review*. 5 (5).

Dommen, E. & Maizels, A. (1988). "The military burden in developing countries", *The Journal of Modern African Studies*, 26(3) p.377- 401.

Dunne, J. P. & Mohammed N. A. L. (1995). "Military Spending in Sub-Saharan Africa". *Journal of Peace Research*. 32(3) p.331-343.

Dunne, J.P. & Perlo Freeman, S. (2003a). "The demand for military spending in developing countries". *International Review of Applied Economics*. 17(1) p. 23-48.

Dunne, J.P. & Perlo Freeman, S. (2003b). "The demand for military spending in developing countries: A dynamic panel analysis". *Defence and Peace Economics*.14(6) p.461- 474.

Economic Commission for Africa [ECA] (2006). "Assessing Regional

Integration in Africa II: Rationalizing Regional Economic Communities” . [Online] Available from <http://www.uneca.org/aria2/chap1.pdf> [Accessed: 10/4/2014].

Eiseman, M. (nd), “Conflicts and elections”. [Online] Available from <http://www.eisa.org.za/PDF/SADC%20INSIGHT%202.pdf> [Accessed: 15/5/2014].

Elbadawi, I. (1997). ‘The Impact of Regional Trade/Monetary Schemes on Intra-Sub-Saharan African Trade, Unpublished Mimeo, AERC, Kenya.

Harris, G. T. (2005). “Towards more rational military budget formation in sub-Saharan Africa: The relevance of security sector reform” *Strategic Review for Southern Africa*. xxvii (1) May 2005.

Hartley, K. & Sandler, T. (ed.) (1995). *Handbook of Defence Economics*. 1, Amsterdam: Elsevier Science B.V.

Henk, D. W. & Rupiya, M.R. (2001). “Funding defense: challenges of buying military capability in sub-Saharan Africa”, *Monograph*, [Online] Available from, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB198.pdf> [Accessed: 13/5/ 2014].

Hewitt, D. (1991). “Military Expenditure: Econometric Testing of Economic and Political influences”. *IMF Working Papers WP/91/53*, Washington DC.

Human Security Centre, (2005). *Human Security Report*. New York: Oxford University Press.

International Monetary Fund, (2006). *International Financial Statistics*.

Washington, DC: IMF. [Online] Available from www.imf.org. [Accessed: 3/12/2006].

Kalaba, M. & Tsedu, M. (2008). Implementation of the SADC Trade Protocol and the Intra-SADC Trade Performance”. Trade and Industrial Policies Strategies. [Online] Available from

<http://www.tips.org.za/publication/implementation-sadc-trade-protocol-and-intra-sadc-trade-performance> [Accessed: 10/4/2011]

Kalenga, P. (2004). “Implementation of the SADC Trade Protocol: A Preliminary Review in Monitoring Regional Integration in Southern Africa”. Yearbook, 4 (2004) Namibian Economic Policy Research Unit (NEPRU).

Kamau, N. L. (2010). “The impact of regional integration on economic growth: empirical evidence from COMESA, EAC and SADC Trade blocs”. *American Journal of Social and Management Sciences*. 1(2):150-163.

Kisu, S. (2010). “An empirical evaluation of trade potential in Southern Africa Development Community”, African Economic Research Consortium (AERC), [Online] Available from http://mpr.aub.uni-muenchen.de/15894/1/MPR_paper_15894.pdf [Accessed: 20/4/2011].

Looney, R. E. (1989). “Internal and External Factors affecting Third World Military Expenditures”, *Journal of Peace Research*. 26(1) p. 33 -46.

Maasdorp, G. (1999). Regional trade and food security in SADC1

Food Policy. 23(6) p. 505–518.

Maizels, A. & Nissanke, M. (1986). "The determinants of military expenditure in developing countries". *World Development*. 14(9) p.1125-1140.

Maoz, Z. (2005). Dyadic Militarized Interstate Dispute Dataset (version 2.0), [Online] Available from <http://psfaculty.ucdavis.edu/zmaoz/dyadmid.html>. [Accessed: 2/9/2006].

Maringwa, J. (2009). "SADC regional integration: What role has bilateral trade agreements played in promoting intra-regional trade?" *Trade and Industrial Policy Strategies (TIPS/AusAID)* [Online] Available from <http://www.sadctrade.org/node/285> [Accessed: 10/4/2014].

McCarthy, C. (1999). Regional Integration in Sub-Saharan Africa: Past, Present and Future, in Oyejide, A., Ndulu, B & Greenaway, D (eds). *Regional Integration and Trade Liberalization in Sub-Saharan Africa*. Basingstoke: Macmillan Press.

Negasi, M.Y. (2009). "Trade effects of regional economic integration in Africa: the case of SADC", *Trade and Industrial Policy Strategies*. [Online] Available from <http://www.tips.org.za/publication/trade-effects-regional-economic-integration-africa-case-sadc> [Accessed: 27/4/2014].

Nigerian Institute of Social and Economic Research (NISER), (nd). "Reflection on African's historic and current initiatives for political and economic unity" [Online] Available from <http://www.uneca.org/adfiii/docs/niser.pdf> [Accessed: 10/3/2011].

Nwabuzor, E. J. O. (1982). "Theory of Economic Integration: A Political Approach, in Edozien & Osagie (Ed) *Economic Integration of West Africa*. Ibadan University Press.

Omitoogun, W. (2003). *Military expenditure data in Africa: a survey of Cameroon, Ethiopia, Ghana, Kenya, Nigeria and Uganda*. SIPRI Research Report No.17. Oxford: Oxford University Press.

Peace Pledge Union,(2006). "Wars and armed conflicts since 1945-Africa", [Online] Available from www.ppu.org.uk/war/countries/africa/africa_index.html [Accessed: 8/9/2013]

Reserve Bank of Zimbabwe (RBZ) (Various Issues). *Monthly and Quarterly Reviews*, Harare.

Rosh, R. M. (1988). "Third World Militarisation: Security webs and the states they ensnare", *The Journal of Conflict Resolution*. 32(4) p. 671-698.

SADC Secretariat (2003). The Regional Indicative Strategic Development Plan (RISDP). Southern African Development Community (SADC). Gaborone, Botswana.

Smith, R. (1990). "Models of military expenditure", *Journal of Applied Econometrics*. 4(4) p. 345-359.

Smith, R. (1995). "The demand for military expenditure", in Hartley, K. and Sandler, T. (ed.), *Handbook of Defense Economics*. (1) p.69-87 (Chapter 4), Amsterdam: Elsevier Science.

Stockholm International Peace Research Institute, (various years), *SIPRI Yearbook*. Oxford: Oxford University Press.

Tambudzai, Z. (2005a). "Zimbabwe's military sector and military expenditure, 1980-2003", University of KwaZulu-Natal, School of Economics & Finance, *Southern Africa Military Expenditure Project, Discussion Paper* (5).

Tambudzai, Z. (2005b). "Zimbabwe's military expenditures: A study from the comparative SADC perspective, 1980-2003", *Africana Bulletin*. 53 p.135 -167.

Tambudzai, Z. (2006). "Determinants of Zimbabwe's military expenditure, 1980 – 2003", *Journal of Development Perspectives*. 2 (1) p.103-120.

Tambudzai, Z. (2011). "Determinants of military expenditure in Zimbabwe", *The Economics of Peace and Security Journal*. 6(2) p.41-49. [Online]. Available from: <http://www.epsjournal.org.uk> [Accessed: 20/07/11]

Tambudzai, Z. and Harris, G (2011) *What drives military expenditure? Evidence from Zimbabwe and the SADC region*. Saarbrücken, Germany, Lambert Academic Publishing GmbH & Co. ISBN: 978-3-8465-3675-9

The Economist Intelligence Unit (EIU), "Country Report, Zimbabwe" (Various issues, 1999 - 2004).

The Economist, (2004). "Coping with Conflict: Wars have crippled Africa, but peace is possible". January 17, 2004, p.8-9.

West, R. L. (1992). "Determinants of military expenditure in developing countries: Review of Academic Research", in Lamb, G. and Kallab, V (ed.), 'Military Expenditure and Economic Growth', *World Bank Discussion Papers* (185) p.113-145, World Bank, Washington, DC.