Offset agreements in the defence arena

International practices and South African legislation and policies

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ABSTRACT

Offset agreements have become a common practice in the international arms trade, and are a reality in today's defence market. Globally, military expenditure has grown, and offset strategies and policies for defence acquisitions are increasingly used. Currently, most countries insist on offsets for defence sector purchases.

South Africa, a country with vast and urgent social needs, regards using offset agreements in military procurements as a strategy to enhance national development through foreign investment, job creation and growth of the national economy in general, and of the local defence-related industry in particular. This article focuses on South Africa's experience in concluding offset agreements, with the aim of gaining a deeper understanding of the policies and legislation that allow South Africa to conclude such agreements in the global context of offset agreements.

The discussion concludes that South Africa is in line with the rest of the world in creating its own offset policy. However, South African policy and legislation on offset agreements could be improved to contribute to the country's actual economic and national development. South Africa's offset policy goals are too broad – goals should be narrower, better defined, and more specific for the country to benefit fully from offset projects.

INTRODUCTION

In recent years, several countries have implemented offset policies in international acquisitions with a high monetary value as a way to enhance these countries' economic and industrial development. Offset agreements as a practice has been accepted and is used worldwide, especially for purchases in the defence area, and is considered a possible solution to the scarcity of resources available for importing arms. Countries with different kinds of

economy (both developed and developing) employ offset practices with multiple objectives. In many recipient countries, offset agreements are used as a means to acquire the latest technological know-how, reducing the political and financial impact of military spending, increasing domestic employment and the national economy, and expanding the capacity of the local defence industry. Offset agreements are characterised by their compensatory nature, the use of high value items in military or civil trade, and the long-term execution of the obligation.

CONTEXTUALISATION OF OFFSET AGREEMENTS

Scholars are not unanimous regarding the terminology and concepts related to offset agreements. Many authors see offset agreements as a form of countertrade (Leister 2004:95; Shanson 2004:190; Van Dyk 2004:253). Others, such as Khan (2010:139), see countertrade as part of the offset practice.

Due to the relevance of and the controversy on the topic, Nassimbeni and Sartor (2009:n.p.) undertook an extensive review of the literature on countertrade based on 44 journals and 76 articles over the period from 1977 to 2006. They found that most of the articles regard offset agreements as a form of countertrade. *Countertrade* is defined as a mode of unconventional trade based on a wide range of reciprocal arrangements. It involves agreements in which an exporter agrees to buy products and services from the importer, or to assist the importer to reduce the cost of the acquisition through some form of compensation. Egan and Shipley (1996:103) describe countertrade as "a widely prevalent and feasible trading mechanism which replaces conventional modes of payment with full or partial payment in goods". By 2009, the volume of countertrade activity was estimated at between 5% and 30% of all international transactions, which demonstrates the relevance of countertrade to world trade (Nassimbeni and Sartor 2009:n.p.). The main countertrade forms described in the literature, according with the US Department of Commerce (2012b:n.p.), are the following:

- Barter – a one-time transaction, bound under a single contract that specifies the exchange of selected goods or services for another of equivalent value, without the use of money.
- Counterpurchase – an agreement by the initial exporter to buy (or find a buyer for) a specific value of goods (often stated as a percentage of the value of the original export) from the original importer during a specified period.
- Buyback – an agreement by the original exporter to accept products derived from the original exported product as full or partial repayment.
- Offset – a range of industrial compensation arrangements required by foreign governments as a condition for the purchase of defence articles and services from non-domestic suppliers.

In general, an offset agreement is defined as a compensatory policy, with wide objectives, but primarily aimed at maximising the results of government expenditure, military or civil, in foreign markets. Many authors adopt definitions of offset agreements such as the following:

- Offsets are industrial compensation practices that are required as a condition of purchase. The seller is required to compensate the buyer for perceived losses to the local economy (Khan 2010:138).
- Offsets represent industrial compensation agreements that arms importing governments impose on their foreign suppliers. Once a contract on the import of defence equipment is concluded, it is made conditional on the acceptance of offset obligations by the foreign contractor (Ianakiev & Mladenov n.d.:185–194).
- Offsets are contracts that require the seller to transfer extra economic benefits to the buyer as a condition for the sale of goods and services. Often, governments prefer to realise these benefits in the form of in-kind transfers instead of bargaining for price discounts (Taylor 2003:338).
- An offset agreement is a contract between a purchasing government and a foreign supplier. As a condition for the sale of goods or services (the "basegood"), the foreign firm is encouraged or even required to provide additional economic benefits – beyond the base transaction – to the purchasing government's economy (Taylor 2011:16).

Offset agreements can be directly related to the purchased defence article or service, or can involve activities or goods unrelated to the defence sale. According to Taylor (2003:338 2011:16), Verzariu (2004:329) and Yang and Wang (2006:101), *direct offsets* involve goods and services related to the equipment or service purchased. The benefits of the agreements are related to the procurement: for example, the Australian purchase of 22 helicopters from the French company Eurocopter included an offset agreement that required local Australian production of components, local assembly of 18 of the 22 helicopters, and local production of the Eurocopter EC-120 for the Asian market (Khan 2010:138). Direct offsets are more suitable for developed countries that already have a diversified economy and an established domestic defence industry which allow them to absorb completely the benefits arising from offset agreements (Taylor 2003:338).

Indirect offsets involve goods and services not related to the equipment or service purchased. The benefits of the agreement are not related to the export contract. An example of an indirect offset not related to the main contract was the transport by Russia of a Malaysian astronaut to the international space station in return for the Malaysian purchase of a Sukhoi Su-30 Russian fighter (Khan 2010:138). Developing countries often use the benefits of indirect offsets as a strategy to boost their economic and social development goals (Khan 2010:338; Taylor 2003:344).

Most offset agreements have specific and well-defined characteristics. One of the main aspects of an offset policy is the consideration of whether the purchasing country has a mandatory or a flexible offset policy. A *mandatory offset policy* requires offsets from a foreign seller above a threshold value established by the purchasing country. Mandatory offsets are easier to administer and do not require highly qualified and experienced staff to deal with the offset agreements (Taylor 2003:348). However, mandatory offsets do not have the flexibility necessary to deal with some complexities arising from these agreements (Khan 2010:140). Procurements associated with high technology purchases, such as aerospace or information technology and telecommunications equipment, work better with mandatory offsets (Taylor 2003:350).

Flexible policies allow procurement officials to choose whether they wish to attach an offset to government procurement or would prefer to negotiate discounts in the purchase (Taylor 2003:348). According to Taylor (2003:348), flexible policies require greater responsibility from the procurement officers, who must evaluate the costs and benefits of engaging in the agreement and must decide whether or not to include offsets in the purchase process. Hence, a flexible policy is a better option for countries that have professionals who are highly skilled in offset practices, for example, countries such as Germany and Japan use flexible offset policies successfully (Khan 2010:148). Another aspect important to evaluating offset agreements is the instruments used by purchasing countries to compel the seller to fulfil the offset obligation, such as the following:

Best effort clause – a best effort clause is a contractual provision requiring the exporter to do its utmost to perform its offset obligations to fulfil the contract. There is no legal impact on the seller in the event of non-performance, and fulfilment of the obligations relies on the morals and goodwill of the seller. Best effort clauses have proven to be a trap and, today, few countries adopt this strategy (Van Dyk 2008:56).

Liquidate damages – in this case, a sum of money is agreed to and written into a contract to equal the extent of a loss that may occur if the contract is breached. These damages are determined when the contract is drawn up. The agreement is only valid if the actual damages cannot be determined and the amount estipulated to cover the damage is reasonable, considering the circumstances. In addition, liquidate damages occur when there is an obligation that, if it is not met, would cause a loss to one of the parties (Letric Law Library:n.d.; Legal Dictionary:n.d.).

Penalty – a sum of money stipulated in a contract must be paid by the seller if the contract is breached, usually as a punishment for non-fulfilment of obligations. Penalties are widely used for any kind of breach in a contract (Letric Law Library:n.d.). Their value can be pre-defined in a contract or may be determined on a case-by-case basis.

Blacklisting – some countries blacklist non-performing sellers considered non-credible suppliers. According to Van Dyk (2008:56), the negative impact of a blacklisting on a supplier is incalculable. Blacklisting can be used in addition to penalties and liquidate damages clauses.

Shanson (2004:194) argues that there are other instruments that could be used instead of monetary penalties, such as extending the fulfilment time of the obligation (the deadlines), defining in advance some alternative projects to be fulfilled in replacement of any original projects not fulfilled, or increasing the offset obligation in order to compensate the buyer for the lack of fulfilment.

Two issues are strongly related to and have a significant impact on the concluding of offset agreements, namely costs and multipliers. The costs involved in offset practices have long been debated among scholars and experts. One certainty has emerged: offset agreements always involve additional costs to the final price of the goods procured, for both the supplier and the buyer. Khan (2010:139) warns that the use of offsets as a way to achieve economic development, local industry improvement and job creation comes at a price. He emphasises that costs associated with offsets are frequently transferred to buyers, especially in countries with a mandatory offset policy.

In 2002, Price Waterhouse Consulting prepared a report to the government of the Netherlands about the country's offset policy. The analysis indicated that the cost of engaging

in offset agreements averages 2,9% of the value of the acquisition, which increases the price paid by about 2,6% (Shanson 2004:192). It was also reported that the cost of direct offsets is less than the cost of indirect offsets. Similarly, Nassimbeni and Sartor (2009:n.p.) believe that compensatory practices can increase the price for an exporter by about 30%, and that this increase is usually transferred to the final price of the contract paid by the importer.

One particular factor that increases the cost of an agreement is the search for offset partners in the purchasing country. Ianakiev and Mladanov (n.d.:193) argue that issues such as cultural and linguistic barriers, the complexity of technological transfer to the purchasing country and uncertainty about the quality and security of goods provided by the local supplier are particularly critical in the defence industry, and can affect the cost of offset programmes significantly. One way to address these issues is to implement a supply chain where all possible suppliers and recipients of offset agreements can be registered. Such measures would decrease the cost of searching for partners that could fulfil the offset obligations, and of the agreement in total (Shanson 2004:196).

Another issue is the use of multipliers, a factor allowed by the purchasing country and applied to the actual value of offset transactions to calculate the credit value earned by a seller in fulfilling an offset obligation (US Department of Commerce 2012a:4). Multipliers have been widely used by several countries as part of their offset policies. An offset contract has two offset monetary values associated with it. The first is called the actual value, and is related to the value of the offset transaction without taking into account multipliers. The second is called the credit value. This is the value credited for the offset transaction by applying a multiplier (US Department of Commerce 2012a:27). Thus, if a multiplier is applied, the export firm receives a higher credit value by fulfilling an offset obligation than that it would have received without the application of a multiplier. The credit value may sometimes "be greater than, equal to, or less than the actual value of the offset" (US Department of Commerce 2012a:27). Multipliers are mostly used in offset transactions involving technology transfer, training, research and the development of new products.

Nowadays, offsets are a key issue in the international defence market. Nevertheless, the practice of offsets is not unanimously accepted. Many are in favour of offset practices, but others oppose them (Khan 2010:138). In general, negative or positive perceptions of offset practices are closely related to the reasons for a country or company to engage in such compensatory agreements. The rationale for concluding offset agreements varies among suppliers and buyers, and among developed and developing countries. In summary, the main reason for developed countries to engage in offset agreements is to expand their share of the market. Conversely, the main reason for developing countries to engage in offset agreements is to acquire knowledge and technology in order to foster and develop local industries.

According to Taylor (2003:342), most purchasing countries enter into offset arrangements with one or more of the following objectives: job creation and employment, technology transfer, growth of the local industry, the development of new export markets, training and skills development, the promotion of joint ventures, the reduction of the adverse impact on the balance of payments due to the procurement, an increase in foreign investment, and justifying spending on the military goods. However, he emphasises that it has not been proven that the benefits arising from such compensatory agreements are better and bigger than those arising from other policy tools, such as, price discount bargaining.

INTERNATIONAL OVERVIEW OF OFFSETS

There are many and varied reasons for a country to engage in defence offset agreements, and such decisions are usually intrinsically related to governments' national and political objectives. For instance, Singapore and Taiwan aim "to learn to master for themselves" specific arms niches. Sweden and the Netherlands want to maintain international competitiveness in arms niches already well developed in their countries. Brazil and India focus their offset policies specifically on arms technology transfers with the objective of developing the indigenous defence industry. By contrast, South Korea wants to be able to produce a wide range of arms systems. Other countries, such as the United Kingdom, seek to boost their local industries in order to remain part of the top of the arms supply chain and to retain access to the world defence market. Some countries, such as South Africa, have broad objectives with their offset policies, ranging from economic growth, job creation and development of historically disadvantaged communities, to technology transfer and increased exports, to name but a few (Brauer & Dunne 2009:n.p.).

In the last twenty years, most countries' offset policies have changed from general economic goals to more narrow objectives. The Nordic countries are among these countries. In the 1990s, they changed their offset policies in order to get better offset results. According to Skons (2011:153–158), in 1999, an offset audit in Finland concluded that, aside from technology transfer, most offset goals, especially those relating to economic growth and employment, had not been satisfactorily achieved. The same happened in Sweden. The Swedish policy abandoned the civil offset requirements to focus more on military offsets, both direct and indirect. Brauer and Dunne (2009:n.p.) state that "offset audits in Finland and Sweden found mostly negative experiences that led both countries to shift offset objectives from vague, general economic development objectives to narrowly defined military-industry related offsets".

According to Brauer and Dunne (2009:n.p.), countries demand offsets formally or informally in their defence acquisitions. Germany, India, Japan and Singapore, for example, have no official offset policy, although these countries have widely used such practices in the last few decades. The minimum offset required, varies greatly from country to country. In general, most countries demand an offset obligation of 100% of the contract value. However, some countries have made offset deals worth more than 100% of the contract value, for example, South Africa, with the 1999 Strategic Defence Package (Dunne & Lamb 2011:284), and Poland, with the purchase of 48 F-16C/D aircraft from the United States and 690 armoured vehicles from Finland in 2002 (Markowski & Hall 2011a:172).

Other countries ask for less than 100% of offset, usually because such countries agree that they do not have an industrial structure capable of supporting and absorbing large offset deals. For example, Denmark's offset policy establishes that for contracts above US$ 13 million, only 30% of offset is required (Brauer & Dunne 2009:n.p.).

Worldwide, there is unanimity that offsets always involve administration costs. For this reason, most countries stipulate a minimum contract value at which an offset in defence procurement is required. For example, Taiwan demands offset for arms sales above US$ 50 million, and South Korea requires it above US$ 10 million. The minimum contract value to require offsets is set at US$ 5 million in Poland, Brazil and Chile. In South Africa, all defence acquisitions above US$ 2 million must include an offset proposal. The UK always demands

an offset when the export country is the USA, regardless of the amount involved. With other countries, the UK requires a minimum contract value of £10 million, except from France and Germany, where the minimum value is set at £50 million, due to a reciprocal waiver agreement (Brauer & Dunne 2009:n.p.).

Internationally, the use of multipliers to offset fulfilment has declined, according to Brauer and Dunne (2009:n.p.), who indicate that, for example, in Sweden, the maximum multiplier accepted is 3, but this is restricted to only a few cases. In Denmark and the UK, multipliers are not normally considered, but they are available for high technology transfers. Poland uses multipliers ranging from 0,5 to 2,0, and in exceptional cases of up to 5. In Norway, the maximum value is 5, but it can be as low as to 0,1; New Zealand uses multipliers between 1 and 3; and in Brazil there is no specific policy regarding multipliers (Brauer & Dunne 2009:n.p.).

The penalties for the non-fulfilment of offset obligations vary greatly from country to country. Some countries, such as Austria, Brazil, Chile and Finland, have no specific policy for penalties. Usually, they decide the penalties on a case-by-case basis (US Department of Commerce 2007: Appendix F). However, other countries have penalties that are well defined in their offset policies. In particular, Denmark and South Korea blacklist the supplier in case of offset default; Australia, New Zealand and Poland use liquidated damages; Malaysia imposes a penalty of 8% of the contract value and Norway imposes a penalty not less than 10% (Brauer & Dunne 2009:n.p.).

SOUTH AFRICAN EXPERIENCE REGARDING OFFSET AGREEMENTS

The recent history of defence trade in South Africa is closely linked to the political situation in the country under the apartheid regime and under the current democratic system. In 1977, a mandatory United Nations arms embargo was imposed against South Africa, which led the country to increase domestic arms production and to develop a national arms industry. At that time, the Armaments Corporation of South Africa Ltd (Armscor) was created as a State-owned arms producer, responsible for arms acquisition, and for military research and development (R&D). Private firms began to act as government subcontractors (Dunne & Lamb 2011:285). Defence production became one of the most important industrial activities in South Africa, employing more than 130 000 people (Van Dyk 2004:254).

South Africa's transition to democracy and the demise of apartheid saw a dramatic reduction in armaments production and defence expenditure, which compelled the domestic defence industry into a process of downsizing and restructuring. Between 1989 and 1997, South Africa's defence expenditure was reduced by more than half (Dunne & Lamb 2011:285). According to Batchelor and Dunne (1999:8), during this period, the South African National Defence Force (SANDF) had to cancel or postpone most of its major procurement projects.

National Industrial Participation Programme

The National Industrial Participation Programme (NIPP) was formally adopted and became obligatory in South Africa on 1 September 1996. The mission of the NIPP is "to leverage

economic benefits and support the development of South African industry by effectively utilising the instrument of government procurement" (DTI, n.d.a). This mission is guided by the NIPP policy, which is the responsibility of the Industrial Participation Secretariat of the Department of Trade and Industry (DTI).

The DTI states that Industrial Participation (IP), as offset is called in South Africa, is seen as a means to building partnerships with international companies and to positioning South Africa within the global supply chain. The focus is on strengthening the economy, driven by the private sector, but directed by decisive government-coordinated interventions (DTI, n.d.a). IP is a precondition to all contracts, but should not be a decisive factor in the final choice of the supplier, unless all bids are significantly similar. One of the main aspects of the NIPP has been to find a sustainable portfolio of opportunities for foreign suppliers/investors, searching in the local market for enterprises/industries able to receive and execute the IP obligations derived from government contracts.

The NIPP is directed at achieving key national economic objectives, such as to ensure sustainable economic growth; facilitate access to new markets, and establish new trading partners; encourage foreign direct investment into South Africa; increase exports of South African *value-added* goods and services; encourage R&D collaboration in South Africa; contribute to job creation in South Africa; develop human resources in the country; ensure technology transfers to South Africa; and support the economic development of historically disadvantaged communities (DTI, n.d.b).

The South African offset policy has general and broad economic goals, which have been severely criticised by authors such as Brauer and Dunne (2009:n.p), who argue that most countries have shifted away from general economic development goals toward narrowly defined objectives with a focus on the own military equipment production of the countries concerned. According to these authors, South Africa is one of the few countries that persistently "still pursue this dream" of general development goals.

In 1997, Cabinet approved the NIPP policy and guidelines to be applied to all governmental and parastatal procurements in South Africa. The NIPP policy also established that other government departments besides the DTI could impose their own requirements of IP, in accordance with the NIPP principles and guidelines. Due to that provision, the Department of Defence decided to establish its own IP policy, referred to as Defence Industrial Participation (DIP) (Van Dyk 2004:257). Currently, South Africa has a NIPP policy for the non-military portions of IP projects that are managed and administered by the DTI, and a DIP policy to govern all IP proposals and projects/activities directly linked to a defence purchase managed and administered by Armscor on behalf of the Ministry of Defence.

The Armscor (n.d.) defines DIP as "the process where purchases of the Department of Defence are used as a leverage to oblige a foreign seller of defence commodities/services to do defence-related business in South Africa on a reciprocal basis in order to advance military strategic and defence-related industrial imperatives". Another significant difference between the NIPP and DIP is that DIP requires the total IP contract to involve at least 20% in activities directly connected to the defence purchase and 70% on indirect activities that may be unrelated, but are relevant to the defence industry as a whole (Batchelor & Dunne 1999:11; Botha 2003:n.p.).

The DIP objectives apply the NIPP objectives, but are also focused on specific defence-related industry aims, such as the retention and creation of jobs, abilities and capabilities; the

establishment of a sustainable defence industry with strategic logistic support capabilities; the promotion of defence exports of value-added goods; the promotion of like-for-like technology transfer and joint ventures; the maintenance of skilled indigenous manufacturing capabilities; and making provision for a sustainable local defence-related industrial capability.

CONCLUSION

Offset agreements have become a common practice in international arms trade and are a reality in the defence market today, despite the global debate about the actual benefits achieved with such agreements. The world's military expenditure has grown and the use of offset strategies and policies for defence acquisitions is increasing, not only in volume, but also in complexity, which requires a highly-skilled workforce and appropriate infrastructure from countries engaged in such practices.

Although academics generally argue that there is no evidence that offset agreements bring economic development to a country and believe that the practice distorts trade, such practices are on the increase in the international arms trade. Internationally, most countries adopt offset policies with narrow and well-defined goals. In recent years, some countries, such as Sweden and Finland, have even changed and narrowed the goals of their offset policies, mainly because of the poor results achieved using overly broad, general goals. The international experience shows that countries with focused and well-defined offset policy goals, for example, Brazil and India, stand a better chance of achieving good results with such a policy.

South African policy and legislation regarding the concluding of offset agreements in the defence area are in line with international practice in the following respects: a percentage of offset is required over the contract value, penalties are applied for non-compliance, and there is a minimum contract value for which offsets are required. In comparison with the international experience, South African offset policy goals are too broad and unfocused. Countries with wide and varied goals have less chance of achieving good results with their offset policies than countries with narrowly defined goals. In South Africa, the results achieved with offset agreements are not clear, hence, a detailed evaluation of the success of the policy, especially regarding goals such as economic growth, is not possible.

REFERENCES

Armscor. n.d. [Online] Available at: **www.armscor.co.za** [Accessed: 29 March 2011].

Batchelor, P. and Dunne, P. 1999. Industrial participation, investment and growth: The case of South Africa's defence related industry. Paper presented at TIPS 1999 Annual Forum – Glenburn Lodge, Muldersdrift, 19–22 September. [Online] Available at: **http://www.tips.org.za/files/306.pdf** [Accessed: 22 March 2011].

Botha, D. 2003. Offsetting the costs of SA's strategic defence package. Paper 75. Institute for Security Studies, Pretoria, July.

Brauer, J. and Dunne, J.P. 2009. Arms trade offsets: what do we know? Paper prepared for the forthcoming *Handbook on the political economy of war*, edited by Chris Coyne and published by Edward Elgar. July. [Online] Available at: **http://carecon.org.uk/DPs/0910.pdf** [Accessed: 15 April 2011].

Department of Trade and Industry (DTI). n.d.a. *The National Industrial Participation Programme in review 2002*. [Online] Available at: **www.dti.gov.za** [Accessed 30 March 2011].

Department of Trade and Industry (DTI). n.d.b. *The National Industrial Participation Programme Revised Guidelines 2008*. [Online] Available at: **www.dti.gov.za** [Accessed 30 March 2011].

Dunne, J.P. and Lamb, G. 2011. Defence industrial participation: The South African experience. In Brauer, J. and Dunne, J. P. (eds). *Arms trade and economic development: Theory, policy and cases in arms trade offsets* (pp. 284–298). London: Routledge.

Egan, C. and Shipley, D. 1996. Strategic orientations towards countertrade opportunities in emerging markets. *International Marketing Review*, 13(4):102–120.

Ianakiev, G. and Mladenov, N. n.d. *Offset policies in defence procurement: Lessons for the European defence equipment market.* [Online] Available at: **http://aspheramedia.com/v2/wp-content/uploads/2011/02/ianakiev.pdf** [Accessed: 10 March 2012].

Khan, A.M. 2010. Market trends and analysis of defense offsets. *DISAM Journal*, July:138–153.

Legal Dictionary. n.d. *Liquidate damage definition*. [Online] Available at: **http://legal-dictionary.thefreedictionary.com/Liquidate+damages** [Accessed: 30 March 2012].

Leister, M.A. 2004. Obrigacoes conexas, grupos de contratos e operacoes de offset. In Brasil. Ministério das Relações Exteriores. *Panorama da prática de offset no Brasil: uma visão da negociação internacional de acordos de compensação comercial, industrial e tecnológica* (pp. 95–114). Brasília: Projeto Editorial/Livraria Suspensa.

Letric Law Library (LLL). n.d. Liquidate damages. [Online] Available at: **http://www.lectlaw.com/def/1045.htm** [Accessed: 30 March 2012].

Markowski, S. and Hall, P. 2011. The defense industry in Poland: an offsets-based revival? In Brauer, J. and Dunne, J.P. (eds). *Arms trade and economic development: theory, policy and cases in arms trade offsets* (pp. 172–186). London: Routledge.

Nassimbeni, G. and Sartor, M. 2009. Countertrade: Literature review and directions for research. Paper presented at POMS 20th Annual Conference – Orlando, FL, 1–4 May. [Online] Available at: **http://www.pomsmeetings.org/ConfPapers/011/ 011-0369.pdf** [Accessed: 30 March 2012].

Shanson, L. 2004. Reflections of the evolution of offset. In Brasil. Ministério das Relações Exteriores. *Panorama da prática de offset no Brasil: uma visão da negociação internacional de acordos de compensação comercial, industrial e tecnológica* (pp. 189–196). Brasília: Projecto Editorial/Livraria Suspensa.

Skons, E. 2011. Evaluating defense offsets: The experience in Finland and Sweden. In Brauer, J. and Dunne, J.P. (eds). *Arms trade and economic development: Theory, policy and cases in arms trade offsets* (pp. 149–163). London: Routledge.

Taylor, K.T. 2003. The proper uses of offset in international procurement. *Journal of Public Procurement*, 3(3):338–356.

Taylor, K.T. 2011. Countertrade offsets in international procurement: Theory and evidence. In Thai, K. (ed). *New horizons in public procurement* (pp.15–34). Boca Raton, FL: PrAcademics Press. [Online] Available at: **www.springer.com/.../ 9781461414414-c1.pdf?** [Accessed: 5 March 2012].

United States. Department of Commerce (US Department of Commerce). 2007. *Offsets in defense trade: Eleventh report to Congress. January.* [Online]. Available at: **http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/offsets/final_offsets_eleven_report.pdf** [Accessed: 11 March 2012].

United States. Department of Commerce (US Department of Commerce). 2012a. *Offsets in defense trade: Sixteenth study.* [Online]. Available at: **www.bis.doc.gov/news/2012/16th__offsets_defense_trade_report.pdf** [Accessed: 10 March 2012].

United States. Department of Commerce (US Department of Commerce). 2012b. *Offsets in defense trade: Sixteenth study.* [Online]. Available at: **http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/offsets/offsetsdefinitions.html** [Accessed: 10 March 2012].

Van Dyk, J.J. 2004. O programa de participação industrial da África do Sul em perspectiva. In Brasil. Ministério das Relações Exteriores. *Panorama da prática de* offset *no Brasil: uma visão da negociação internacional de acordos de compensação comercial, industrial e tecnológica* (pp. 387–425). Brasília: Projecto Editorial/ Livraria Suspensa.

Van Dyk, J.J. 2008. An evaluation of the South African Department of Defence's policy on Defence Industrial Participation (DIP), as a defence industrial development mechanism. Unpublished Master's thesis. Port Elizabeth: Nelson Mandela Metropolitan University.

Verzariu, P. 2004. O cenário global dos offset no Novo Milênio. In Brasil. Ministério das Relações Exteriores. *Panorama da prática de offset no Brasil: uma visão da negociação internacional de acordos de compensação comercial, industrial e tecnológica* (pp. 329–348). Brasília: Projecto Editorial/Livraria Suspensa.

Yang, C. and Wang, T. 2006. Interactive decision-making for the international arms trade: The offset life cycle model. *DISAM Journal*, 28(3):101–109.