Iranian Economic Review, Vol.9, No.11, Fall 2004

Offset Policy: An Advanced Countertrade Practice

Mohamad Ali Babaie Zakliki*

Abstract

This paper explains offset and develops a strategic approach for the implementation of offset-policy for a buyer country. Offset emerges when a country cannot afford to pay cash for non-essential imports, and cannot get cash for many of its products. Offset arrangements are most frequently found in the defense-related sector. However, recently, it refers to a range of industrial and commercial compensation practices as well. The Australian experience showed that such policy contributes significantly to industry development and economic growth.

Review of twenty-three offset cases showed that they had several features in common, including; maximized prospects of both seller and buyers, greater flexibility, complexity, creativity, and timely arrangements. These features require adopting a strategic approach for implementation. The process covers policy development, appointment of an executive committee, analysis of the country's needs and priorities, call for proposals and bids, appraisal of offers, negotiation, publicity, agreement, and operation of offset arrangements.

The article concludes that if Iran continues to spend its cash for financing large defense and civil projects it will only satisfy the vendors' needs, not its own needs. Offset is common for such deals and is a superb trade vehicle. If properly is applied; it may solve both current needs and future goals.

Keyword: Offset, Countertrade, International Trade, Industrial Development.

1- Introduction

Countertrade is emerging as a prominent issue in international trade. Estimated figures for size of countertrade vary, ranging from 10 to 30% as of total world trade [1, 2]. Recently, Czinkota and Ronkainen (1995) claim that an

*- School of Social Science & economics Alzahra University.

Email: mabzak@yahoo.com

estimate of 20 to 25 % could be desirable [3]. In a survey, the respondents confirmed that offset arrangements were 27.5% of total countertrade agreements [1]. However, very little has been written about the offset policy. Further, most papers in countertrade literature have considered only Multi National Companies (MNCs) and written about sellers, paying no attention to the interest of buyers [e.g., 12]. This article tries to fill these gaps, explains offset, and gives direct recommendations to the buyer's country; such as how Iran should execute the offset policy.

Following this introduction, definition of offset policy, historical background, different types of offset and future trends are presented. Next, Australian experience is discussed which is followed by a description of the unique characteristics of offset arrangements. On the basis of these features, then critical success factors and strategic offset process is developed. The last section explains implications of offset policy for Iran's economy.

Definition

Although *offset* has a specific definition, the term has been used interchangeably with *countertrade.* Some have defined countertrade as a broad topic, which includes a number of forms such as buyback and offset [e.g., 3]. From the buyer's point of view, countertrade practice is merely a financial tool to pay off the purchase, while offset is both a financial and commercial tool. Some have classified offset the same as counterpurchase trade [e.g., 4], while counterpurchase refers to a kind of trade in which there are two agreements, to sell and to buy. The seller receives the cash first and then buys some products; also, s/he has time to investigate and choices to select.

The term *offset* was generally used to define compensatory practices in military trade. Nowadays it refers to a range of industrial and commercial compensation practices required as a condition of purchase, whether military or civil [5]. Offset usually involves any sales of large-scale, high technology, and high priced items such as aircrafts. More importantly, offset implies a particular regulatory executed policy by a government. The government imposes an obligation on the seller to minimize any trade imbalance or other adverse economic impact caused by the outflow of currency required to pay for such a purchase.

Arrangements under offset may be in various forms of industrial and business activities. Industrial activities include coproduction, licensed production, subcontractor production, and investment. Business activities refer to assistance in the marketing of products produced by firms located in the buyer country. Offset percentages range from 25% to several times the value of the primary sale [6]. Most buyers attempt to get at least 100% offset.

Historical background

Military offset consisted mostly of coproduction during the first twenty years after World War II. In 1945, the size of U.S. economy was fully one-half of the world economy. It also took a commanding lead in high technology. During the Cold war, with the assistance of the United States, Western countries shared the production of defence items for mutual security reasons. The military offsets were done for political reasons to prevent a sudden shift in a country's financial condition due to the size of the deals [1].

However, in the mid 1960s, Western Europe and Japan began to compete with the United States. During the 1970s the market in developed countries became saturated. In 1973, OPEC began to receive massive payments for their oil. These trends are the major responsible forces, which increased the use of countertrade practice in general and offset in specific. Other factors which have contributed to the growth of practices relate to increased international competition, production over capacity in the developed world, problem of hard currency and high debts of developing countries [2]. These factors have influenced both needs and objectives of the beneficiary countries for offset arrangements. In general, the importance of civilian related goals (public welfare and industrial benefits) exceeds military goals. Offset is not only requested by developing countries but also by developed countries. Some developed countries have seriously employed such a policy in most of their governmental trade for a long time, such as; Canada, Australia, New Zealand, and Greece [1].

The goals of the countries adopting such a policy vary. Following are the most cited economic objectives rather than defence capability goals [1, 2; 6]. Countries consider offset as a superb vehicle for one or few of these goals.

1- To improve the balance of payment e.g., increased net export and capital flow to the country
2- To gain access to new markets, e.g., export development and market diversification
3- To stabilise foreign trade e.g., maintain the price of export goods
4- To develop industry e.g., technology transfer and new investments
5- To increase the living standard, e.g., economic benefits such as tourism and increased employment
6- To preserve hard currency
7- To encourage import substitution
8- To establish infrastructure

Classification

Offset can take many forms, either government-to-government or private-to-government. In practical terms, offset can be classified as direct or indirect [3, 9]. Direct offsets include only the original product sold or coproduced. For example, Spanish companies produced components for the F/A-18s designated for the Spanish air force. Some offsets have buyback provisions; the seller is obligated to purchase output from the facility it has set up. In practice, direct offsets result in technology transfer and training of local employees. Indirect offsets are deals that involve products, which are not to be used in the original sales contract. Purchase of raw materials and equipment by the seller pertain to indirect offset. Indirect offsets may be labeled *offset credits*, which include purchase, marketing assistance, finance assistance and investment.

Offsets can also be classified as voluntary or mandatory [5]. Voluntary offsets might be considered as a corporate devise undertaken by firms, without any external requirement. There is little practices have been reported by the result of this policy. Mandatory exists in the event of an external imposed requirement. A government commits domestic organizations not to purchase from a foreign trading partner unless there are reciprocal offsets. Out of total volume of offsets, around half of them are mandatory [7]. Carter and Gagne (1988) reported that in 1984, countertrade was mandatory in some form by 88 countries, and the current number probably runs into three figures [8]. Some developed nations such as Australia and Sweden require offset for certain public sectors such as defence and public projects.

The Trend of Offset

Military offset is still the major way of doing business for sales of weapons. The U.S. defence industry believes that about 65% of its total international business involves offset in some form [4]. U.S. military export sales for 1980-1987 were 34,816.9 million of which 19929.1 (57.2%) were offset obligations [10]. In some countries, it has economic benefits as well. For instance, about 50% of Canadian employment in the aircraft industry is due to offsets [1]. Military offsets will also remain a major element in the future. The reason is that the industry is facing increased competition, as some new nations also make arms for export, such as: Western Europe, Eastern Block countries, Brazil, South Korea and China.

Offset is the principal for the aerospace industry [9]. Bonker (1987) has estimated such offset arrangements at around $6 billion a year [13]. As the life style of many countries changes, the need for travel and aeroplanes will increase. However, countries cannot afford cash to obtain them. Given the increased level of world traveling, in the next several years the amount in this sector may well rise.

In addition, many governments are demanding offset arrangements. In other words, not only sellers are competing but also buyers are competing with each other. Buyers may benefit from offset, as it meets so many of their needs such as using foreign exchange for 'non-essential' items, capital flow to the country and industrial development. Moreover, of all forms of foreigner entry to a country, offsets allow for little foreign control and the highest levels of local ownership [2].

To conclude, offsets not only help stabilize an economic situation but also are a catalytic effect on a country's economic growth. Thus, it can be inferred that offset arrangements by nature are a permanent practice in the world market place and the expected volume of such obligations can mushroom quickly [11].

Australian Experience

In Australia, government-mandated countertarde has been practiced as offset policy since 1970 [5]. The program seems to have been established partly as a response to the economic problems resulting from the 1973 oil crises. Earlier formulations of offset policy sought increased workload for local industry. In recent reviews (1986 and 1991), government buying power has been used to gain access for technology transfer and new international markets [14]. Australia needed to diversify and develop exports to keep up with other industrialized countries.

Today, it is practiced as the Australian Civil Offsets Program and Australian Defense Offsets Program. The Act places obligations on foreign firms supplying capital equipment funded by the government for some offsets. The minimum offset requirement is 30% for any purchase, which exceeds Aus. $2.5 million [15]. Australia, in fact, doesn't offer traditional exports e.g. food in countertrade, rather manufactured with high-value-added products.

The recent refinement seeks the following aims:

- To improve Australian macroeconomic performance
- To increase competitiveness in international business
- To develop exports of high technology and high-value-added manufactured products
- To create jobs through development of new export industries
- To upgrade industrial and technological capability
- To enhance self-reliance in supply of the defense force

Four offset acquitted variants have existed [5]. Individual offsets are disbursed on a case-by-case basis by obligated firms. Offset credit refers to additional activities which can be transferred to other suppliers. Prequalified offsets are an award granted obligated firms for long-term purpose. Partnership for development is operated in the information industries.

Total offset deals in 1981 for the period of 10 years was Aus. $400 million [15]. In 1986, it exceeded Aus. $700 million. At present, offset is worth Aus. $50 million per year, which provides 2000 to 2500 jobs annually [1]. Twenty-one firms from the United States, United Kingdom, Japan and Europe have partnership in development status with an annual aggregate export commitment from Australia of Aus. $1.169 billion and an annual aggregate commitment to R&D Aus. $233 million [5]. For the period 1970-1984, offset orders placed by foreigners were 8.5% of total defense sector and 15.2% of civil sector [16]. For the period 1986-1989, total defense offsets were Aus. $501.561 million (offset equals 21%). In total, aerospace industry traced some 36% of total, offsets whereas weapons related industry has attracted 18% [5].

Characteristics of Offset Arrangements

Offset policy, which is also called creative countertrade [2], focuses on the capability of the host country's productive sector to create future goods or services for a new market. It is stronger than both business practice and normal counterpurchase or any bilateral agreements. It looks to the export and future productive industry of the country first and the current country needs second. It allows the sellers to sell more and allows the buyers to export more. This is the essence of offset; it gives the sellers greater commercial leverage with the host government and the buyers greater commercial leverage with a foreign investor or marketer.

Review of the twenty three cases of published offset arrangements showed that they have several features in common [1, 3, 4, 6]. The summary of these cases are provided in the Appendix. These features explain the unique characteristics of offset in comparison to other forms of countertrades or bilateral agreements.

1- It is designed to maximize the prospects of both sellers and buyers. If it succeeds as envisioned, it should overcome the impasse between the sellers over capacity and the lack of purchasing power of the buyers.

2- Traditional countertrade focuses on existing goods to be brought out of the host country and sold in existing world markets. Hence, it deals with limitations of fitting what already exists into often unresponsive markets. However, offset focuses on future goods for new markets, thus has greater flexibility and wider possibilities.

3- Offset is broad and innovative. It is a process of providing solution to ongoing trade problems. It examines the needs of the major parties, and applies existing business to answer these needs. Besides, no uniform principle practise or no acceptable standards seem to exist. Any single offset is a unique creative solution for a particular case.

4- Other forms of countertrade are simple and tie with one party. Offset is complex and includes various business activities such as purchasing, manufacturing and assembling. It also requires a considerable degree of involvement from a number of parties.

5- Conventional countertrade provides quick-fix solutions, but it lacks the depth and longer time horizons of offset arrangements. Offset is timely and its implementation usually takes several years longer than sales.

6- An offset agreement naturally involves a large amount of money. The prices of the purchased products seem more expensive than market price. On the other hand, the offset side of a contract seems to be efficient for the beneficiary. Besides, some special accounting and tax procedures need to be considered. Thus, the analysis of offset agreements which is an aggregate process demands careful and expert alertness.

Critical Success Factors

These features demand issues to be considered by the buyer countries in order to adopt and operate such a creative policy:

- Careful preparation of the bidding process
- Sophisticated negotiations and communications
- Adopt a team work approach
- Attention to cultural differences
- Quality execution of the obligations
- Long-term approach in planning

These issues signal a holistic approach for such a complex task. To facilitate implementation of offset a model is presented which can be named *Strategic Process*. When operation of a policy in a country is intended, this approach would be desirable. The strategic process includes a number of steps illustrated in Figure 1.

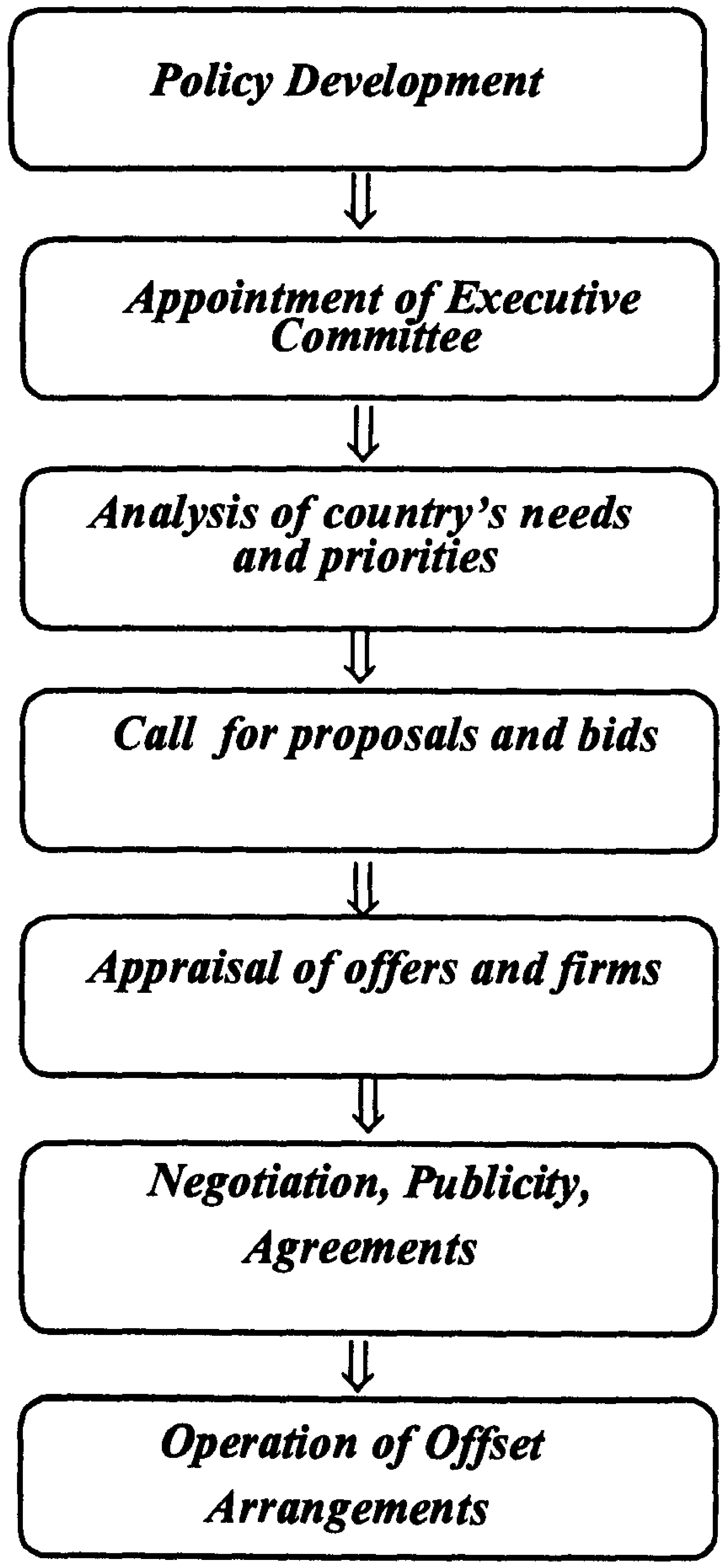

Figure (1): Schematic of Strategic Process for Offset Policy

Policy Development

Many buyers do not have clear strategic goals for offset. In the early stage, it is necessary to decide which type of offsets should be adopted; direct, indirect, voluntary, or mandated. The country might decide to use a mix of these approaches. In that case, the detail of decisions should be clearly defined, e.g, which sector should be considered as mandated offset, the amount of purchases over which offset should be mandated, and the minimum amount or percentage of offset required. In addition, at this stage it is vital to identify objectives of the policy. Further consistency in the policy among organizations is necessary. Thus, the first step is to prepare a formal countertrade policy, explicitly written with clear objectives.

Another aspect of policy development is to create a situation that attracts, motivates, and brings in the most companies to engage in the offset program. The most important attribute of a government that MNCs consider is political risk. The rates for insurance range from 0.125% to 12.0% of the total amount of a contract which some how is reimbursed by a buyer. This fee reflects the political and commercial risks analysis of the country. The political risks refer to government actions (e.g., confiscation, nationalization, expropriation, deprivation, war), pressure groups' actions (e.g, strikes, riots, terrorism); other international reactions (e.g, boycott, embargo), and foreign policy. Other factors include GNP, currency inconvertibility, import/export law, inflation, external debt, unemployment, balance of payment, level of reserves, etc. Commercial risks refer to the buyer's future position and actions such as bankruptcy.

Executive Committee

This committee is an authorization committee from different organizations for the communication of the objectives, coordination among the organizations, evaluation of the proposals, validation of the agreements and following up the projects. The selected officials should be well-intentioned expert in international trade, with a tolerance for risk taking and be efficient in carrying out their responsibilities. Stabilizing job security (long tenure) among the executives involved in the arrangements is necessary, since offset is a long-term trade.

The Analysis of the Country's Needs and Priorities

Different sectors may submit various needs to purchase. It is the responsibility of the committee to authorise these needs and then according to the country's overall strategic offset goals, classify them based on their priorities. At this stage, clarification of the needs and offset suggestions, and time of the required projects are accomplished. Clarity of this information facilitates the preparation of proposals.

Ask for Proposals and Bids

The deal must be both profitable and large enough to attract MNCs. The Committee must reduce their expectations and avoid demands for the moon e.g., secret product formulas. Clarifying the needs and simplifying the requests are helpful to prepare efficient proposals. The committee can also suggest some worthwhile and suitable alternatives to the suppliers.

Appraisal of Offers and Firms

Evaluation of proposals concerns the feasibility of offers, strategic appraisal and cost-benefit feasibility analysis. The beneficiary country should also assess the appropriateness of the selling corporation. There are a number of considerations in this regard: corporate policy, business strategy, strength and capability of the firm.

Corporate policy refers to company attitude towards offset deals. Some may have a *company advantage* policy in which the company intention is merely to make a sale with its own benefit. However, others may have a *mutual advantage* policy, in which the company considers the buyer's needs of equal importance with its own. More likely, these firms have a more successful track record in offset arrangements than the firms who consider only their own benefit [4].

There are different possible business strategies or approaches that a company might peruse in regard to offset deals [1]. Firms pursuing a *defensive* strategy insist that they do not countertrade, such as Bell Helicopter co. Firms adopting a *passive* strategy regard it as a necessary evil and participate in a minimum level. These firms consider the deals as a source for export financing, such as Dupont or Texas Instruments co. Firms following *reactive* strategy, the most common, see it as a competitive tool and commit to the arrangements. These firms often have an in-house countertrade unit such as LTV Aerospace, Emerson Electric, Kodak, Xerox, and IBM.

Firms seeking a *proactive* strategy view the deal as an expansion opportunity and make every effort to satisfy the buyer in order to establish a long-term relationship. These firms have a mutual advantage policy. They use countertrade and offset arrangements aggressively and may have in-house world trading companies and global sourcing such as General Electric, General Motors, Coca-Cola, and Ford. For instance, McDonnell Douglas by 1992 had a total of 100 offset programs in 25 countries with a value of $8 billion [1].

Corporate capability refers to overall company past records in offset arrangements. The different variables include *stability* in the corporate leadership, since any change in leadership might influence the policy against the agreement. *Consistent strategy* is another important attribute, which refers to a unique strategy both over time and across the organization. For example, Boeing in the sale of 747 aircraft accepts only minimal countertrade obligations and then liquidates them through outside trading companies. In defense divisions, it operates under the mutual advantage policy. This is best illustrated by the offset with Saudi Arabia in which they develop a number of high-technology projects. Other variables that impact the strength of a MNC in offset settlements involve: past track records in countertrade, corporate citizenship behavior in other countries and credibility of the firm in commitment to the offset and top management support.

Negotiation, Publicity and Agreement

Since offset deals are usually complex and expensive, patient negotiation is critical. The aim of timely negotiation is to arrive at a mutual agreement upon the conditions and develop solutions for the problems; hence, strong communication skills are required. At this stage, the host government must agree to all essential points in the transactions in advance. The aim of publicity is to attract considerable support from the communities, which might facilitate acceptance of the arrangements. Obviously, the contract should sound, no loopholes in it, with adequate details and insurance coverage. The executive committee should pay careful attention to contract terms. The buyer should be certain that he can fulfill all obligations required in the contract to avoid paying penalties.

Operation of Offset Arrangements

Most of the problems associated with offset are management problems. The following are some suggestions for the buyer's policy makers and top management teams to pursue a successful offset program.

- Get politicians involved which puts significant light on the importance of the project
- Keep close to consultants, vendors, subcontractors, marketers, sellers, etc.
- Continue communications with the sellers and quick resolution of any ongoing conflict.
- Prepare accurate plans with sufficient details and attainable schedule
- Maintain the quality and deliver on time
- Be cooperative and treat the seller as a partner with mutual trust

Following execution of an offset arrangement, each case should be evaluated to the extent that objectives may be achieved. Also, the critical auditing of the total process may generate new knowledge and useable experience. The result can be used as a guidance for improving future transactions.

Implications

Offset is a multi-tool if properly is applied it might solve both current needs and future goals. Its place in economic history is determined not by its size but by its ultimate benefit to both parties. The theme of this paper is to convey these messages that: 1) Iran needs offset, 2) offset is a common practice.

Iran suffers from an economy based on a sole income source, oil. It needs to diversify and develop industrial export. Although considerable attempts have been in place in recent years to promote exports, there are few achievements of such aims. In most developing countries such as Iran, there are several factors obstacles to the growth of the exports [1] including:

- Poor quality of manufactured products
- Outdated technology
- Lack of international marketing skills
- Low technical expertise

These factors are in practice keeping Iran from competing with others in the international market, especially in the industrial sector. Hence, if Iran continues to spend its cash for financing large defense and civil projects, it will only satisfy the vendors needs, not its own needs. To accomplish its current needs, development of industry is crucial, but it lacks enough foreign exchange to advance its industrial technology. Offset can help Iran to overcome these obstacles by various forms as discussed earlier.

Secondly, MNCs are willing to offset these projects provided that international business practices are committed. Sample cases show such deals as offsets are common. In addition, Iran has a significant national competitive advantage that might attract MNCs. Among them are: low labour wage rates, rapidly increasing labour skill levels, proximity to the third world market especially new Eastern Block countries, cheap energy, close to some sources of raw material and a relatively smart, educated, and hard working labor force. Furthermore, Iran has potential economic growth and a barrier to entry, where foreigners have little discretion in doing business. Most companies consider offset as a competitive advantage to enter such markets. For example, Korea realized that establishing a long-term relationship with Eastern Block counties may result from the use of countertrade [17].

Consequently, if Iran intends to obtain high technology, weapons and aircrafts, instead of spending cash on these needs they may commit to obligations, which potentially fulfill their economic objectives such as export development and technology transfer. Hence, it is strongly recommended that Iran must insist on offset for such deals, nothing to be ashamed of.

Another implication of this paper is to convey an interesting topic in international marketing. Policy makers may realize that in some circumstances international trade can also generate welfare to the economy. Practitioners who are engaged in international purchase, especially those who seek to buy capital goods, need to be familiar with this issue. This knowledge will enable them to identify and take advantage of emerging opportunities in world trade and the market place.

APPENDIX: SAMPLE OFFSET CASES

No	*Date*	*Seller*	*Goods*	*Buyer*	*Value*	*Offset*	*Dur.*
1	1974	U.S.	650 units F-16 Aircraft	European Participating Governments	$2.8 Billion	Coproduction by (ATO)	UN
2	1980	U.S., McDonnell Douglas	CF-18 Fighter Aircraft	Canada	C$5 Billion	58% coproduction, technology transfer, tourism development	UN
3	1980	U.S., Boeing	Six 737-300 Aircraft	Pakistan	-	Building a spare-parts factor for Boeing	UN
4	1983	Canada, Spar Aerospace	Two satellites	Brazil	C$160 Million	C$60 Million foods for Canada & other markets	4 years
5	1984	U.S., McDonnell Douglas	MD-82 Jetliners	China	-	Manufacturing the components, & technical training	UN
6	1984	U.K., British Aerospace	A-320 Airbus	Australia	Aus. $121 Million	Gear components for A-320 Airbus	UN
7	1984	U.S., Sikorsky	16 helicopters, S-70 Seahawk	Australia	Aus.$ 135 Million	Aircraft components	UN
8	1984	Canada,	2500 Iltis Military Vehicles	Belgium	C$200 Million	300% offset spending	UN
9	1985	U.S.	F-16 Aircraft	Greece	$1.0 Billion	Coproduction	UN
10	1985	U. S., Boeing Co.	Ten 747 Aircraft, and Airborne warning system,	Saudi Arabia,	$1.2 Billion	Oil payment & 35%, investment in high technology	10 years
11	1985	Romania	Mining equipment for iron ore	Australia	Aus.$ 350 Million	50% , 48 million tones iron ore	15 years
12	1985	Korea, Hyundi	Manufacturing and assembly plant	Canada	C$600 Million	Automobiles, steel, electronic products	UN
13	1985	France, Dassault Co.	40 Mirage-2000 Jet Fighters	Greece	$900 Million	100-200% Coproduction and agricultural products	15 years
14	1985	U.S., General Dynamics	40 F-16 Jet Fighters	Greece	$900 Million	60% direct offset , 40% other products, investment, tourism, ship repair	15 years
15	1985	Germany, Daimler-Benz	10,000 Military Jeep	Greece	$400 Million	80% Coproduction of vehicles	10 years
16	1985	Yugoslavia, Energo	Construction of a highway	Malaysia	M$86 Million	45% rubber, coffee, textile, etc.	UN
17	1985	Germany, Standard Elektrik	Microwave transmission system	Malaysia	M$130 Million	80% cocoa, rubber, other products	UN
18	1985	Sweden, SIAB	Two hospitals	Malaysia	M$300 Million	100% consumer products	UN
19	1986	U.S., General Electric	GE engines, Boeing 737 and Airbus	Australia	Aus.$ 101 Million	Power generation plant and Engine parts	UN
20	1986	U.S., McDonnell Douglas	Plant for MD-82 Aircraft & training Chinees	China	$ 1.00 Billion	30% offset, aircraft	12 years
21	1986	U.S., General Motors	Car manufacturing plant	Egypt	$ 1.00 Billion	50-90% components of cars	5 years
22	1986	U.S., McDonnell Douglas	DC-9s Fighter	Yugoslavia	$100 Million	25% Coproduction, both direct and indirect offset	UN
23	1992	U.S., McDonnell Douglas	57 F/A-18 Cs and 7 F/A-18 Ds Fighter	Finland	$2 Billion	100% Coproduction, both direct and indirect offset	10 years

Reference

1- Alexandrides, C. G., and Bowers, B. L. Countertrade: Practices, Strategies, and Tactics. New York: John Wiley & Sons, 1987.

2- Australian Civil Offsets Program: Annual Report 1990-91, Canberra: Australian Government Publishing Service, 1992.

3- Australian Civil Offsets Program: Guidelines for Participants, Canberra: Australian Government Publishing Service, 1988.

4- Bonker, D. Countertrade: A view from the U.S. Congress. In Korth, C. M. (Ed) International Countertrade, 149-161.. New York Quorum Books, 1987.

5- Caeter, J., and Gagne, J. The dos and don'ts of international Countertrade. Sloan Management Review, 29, 31-37 (1988).

6- Cateore, P. R. International Marketing, 8th Edition. Boston: Irwin, 1994.

7- Countertrade's growth continues. Barter News, 27, 54-55, (1993).

8- Czinkota, M. R., and Ronkainen, I. A. International Marketing, 4th Edition. New York: The Druden Press, 1995.

9- Elderkin, K, W., and Norquist, W. E. Creative Countertrade: A guide to doing business worldwide. Cambridge: Ballinger Publishing co., 1987.

10- Ellingsen, T., and Stole, L. A. Mandated Countertrade as a strategic commitment. Journal of International Economics, 40, 67-84, (1996).

11- Golden, L. D. The international offset phenomenon in the aerospace industry. In Korth, C. M. (Ed) International Countertrade, 61-68. NewYork Quorum Books, 1987.

12- Korth, C. M. (Ed) International Countertrade. New York Quorum Books, 1987.

13- Liesch, P. W. Government - Mandated Countertrade in Australia. Industrial Marketing Management, 23, 299-305 (1994).

14- Liesch, P. W. The Australian Government Offsets Program, Prometheus, 4, 306-323, (1986).

15- Offsets in the Aerospace industry. Barter News, 27, 56-57, (1993).

16- Okoroafo S. C. Implementing international countertrade: A dyadic approach. Industrial Marketing Management, 23, 229-234, (1994).

17- Palia A. P. and Yoon, H. D. Countertrade Practices in Korea. Industrial Marketing Management, 23, 205-213 (1994).