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Evaluation of barter system in the defence industry

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Abstract: This study attempts to explore whether barter can be employed in the defence industry as a viable and alternative system of exchange. This study argues that bartering involves difficulties and inconveniences that may make it a less desirable payment option. However, various developing countries experiencing a shortage of hard currency and cash may want to consider bartering as an option to buy military equipment. This study further suggests that although extra human resources would be needed to assign a monetary value to the goods or services to be purchased in exchange, which may cause more complex bureaucratic processes, a barter system may be employed by the defence industries in various developing economies as a means to continue the trading of goods and services in times of economic instability, monetary crisis or currency devaluation.

Keywords: barter system; defence industries; counter trade; barter between countries.

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1 Introduction

Long before money was invented, people traded by barter to meet their needs. With the invention of money, the purchase of goods and services for money has become the basic parameter of trade between individuals, companies, and countries. However, countries and companies that suffered a shortage of cash or did not have an effective financial system continued to implement systems in which goods and services are sold or purchased in exchange for goods and services in the so-called a countertrade system. Within the scope of this system, which has developed and diversified over time, barter or bartering has emerged as an alternative method of payment as a response to market imperfections. Given the turmoil the global economy is going through, one could argue that it may still be a practical solution for countries and companies experiencing a shortage of cash.

While in his landmark, 1776 book *Wealth of Nations*, the 18th-century Scottish economist Adam Smith claimed that barter was a precursor to money (Strauss, 2016), and is considered the oldest form of commerce (Britannica, 2021), today bartering is still seen as a practical solution, particularly during an economic crisis (Naughton, 2013). Factors such as a shortage of cash or a volatile currency can drive alternative local economies through bartering in which people exchange units of their own time instead of money (Naughton, 2013). Barter exchange has been growing in importance in various developing economies as it allows businesses to easily exchange their excessive inventory (Zhang et al., 2021), and is a practical and rational solution in unstable economies (Aggarwal, 1989).

The use of barter trade has also grown in the defence industry in many developing countries with limited funds, and non-convertible currencies. Arifin et al. (2020) argue that countries with high-tech weapons production capabilities have a competitive advantage compared to their buying partners. Additionally, purchaser countries usually require substantial funding from the state budget to finance their military needs. Consequently, such constraints for defence spending would require barter trade as one form of financing (Willett and Anthony, 1998). Further, Parachini et al. (2021) hold that barter as an alternative form of payment allows developing economies to buy military equipment with commodities.

This study focuses on whether the barter system can be utilised as a viable payment system in the defence industry. First, a definition of a barter system is provided, followed by discussions on the international barter system. Particular attention is paid to the barter trade between countries, which may involve the defence industry. Finally, arguments are provided as to why barter may be a practical solution as a payment system in the defence industry. It should be pointed out that one of the most important challenges encountered while conducting this study is that the figures related to the trade made within the barter system are based on estimates. Therefore, since the possibility of accessing data through open sources is limited, an evaluation was made with limited data.

2 Relevant literature

Barter or bartering may be defined as "the direct exchange of goods or services without an intervening medium of exchange or money either according to established rates of exchange or by bargaining" (Britannica, 2021). Similarly, Cakmaz et al. (2017) define barter as "an alternative commerce approach where customers meet at a marketplace to exchange their goods or services without currency". Hence, lack of a competitive monetary system is cited as the major reason for barter (Yakovlev, 2000). Hernes (2001) argues that in a pure barter exchange, each party is presumed to have a preference for certain goods. The parties or actors will exchange goods they prefer less for goods they need more. Therefore, it may be inferred that the driving force is the initial gap between what they possess and what they prefer. As a result, as pointed out by Saka (2017), barter has become a promising financing instrument. Essentially, for various developing economies bartering has become one of the most important payment mechanisms, and may be the only way to do business under some circumstances.

Clark (n.d) argues that, until about 600 BCE, the only way for people to acquire goods that they could not produce themselves was through bartering. Clark (n.d) further argues that over time society evolved from a simple barter economy to today's a lot more complex world of financial systems. Paulin (2018) suggests that a primitive barter economy without an intervening medium of exchange has evolved into financial systems of exchange based on currency, checks, and certificates, and finally resulting in fully informatised credit transfer introduced in the 20th century. Clark (n.d) cites "the desire for increased simplicity, reliability, and security in transactions" as the three main factors that influenced the way trade has evolved throughout the decades. Barter seems to continue to play an important role in even the highly developed economies (Harrison, 2005). Although criticised by Adam Smith as a 'primitive, crude, and unrefined' system of exchange, both international and domestic marketing firms has begun to view it as an important marketing tool (Kaikati, (1976). For instance, Australia and Russia institutionalised domestic business-to-business barter as an alternative marketing exchange system (Birch and Liesch, 1998; Aukutsionek, 1998). Similarly, Marvasti and Smyth (1998) state that both large corporations and individuals show a growing interest in barter trade. Aukutsionek (1998) claims that as a rule the larger the enterprise, the more widely it makes use of barter. In addition, since the 2008 global financial crisis, various countries that are hampered by insufficient foreign reserves, experiencing economic problems due to sanctions imposed by the USA, trying to avoid using US dollars in international trade, and struggling to reduce their trade deficits, have been resorting to bartering (Taskinsoy, 2019).

Uyan (2017) argues that barter is viewed as a practical solution by some companies as it allows them to utilise their idle capacity, reconfigure their debt, make use of interest-free credit, and facilitate foreign trade. Additionally, barter can help companies gain economic advantage, reconfigure their debts, save cash, and achieve better lines of credit (Malitz, 1998). Plishner (1997) argues that for companies struggling to reduce operating costs and maximise working capital, bartering is a great way to dispose of excess inventory or other assets that would otherwise have to be written down, liquidated at a deep discount, or written off entirely. Therefore, barter maximises the economic value of an illiquid asset by transforming it into a cash equivalent.

Despite its benefits, bartering has several disadvantages. Aggarwal (1989) argues that bartering may not be sufficient because it lacks flexibility, offers limited range of products available for countertrade, goods offered in exchange may not satisfy the needs of a company that is not used to operating in a barter economy, dealing with foreign trade organisations requires special skills and knowledge, trade agreements are not governed by free market principles, and goods and services offered in exchanged may be difficult to appraise in terms of the usual economic measures. In addition, Yakovlev (2000) suggests that the low transparency of the barter economy is viewed as a major hurdle. Noguera (2000) maintains that the lack of regulations by accredited trade agencies is a major problem with bartering. The author further states that in an unregulated and unstructured barter economy, the transaction costs may become prohibitive, which eventually can render bartering a less desirable system of exchange.

To overcome these limitations, Noguera (2000) argues that a better and more advanced system of exchange may be devised based on centralised brokers. Similarly, Alderman (2015) points out that the modern online systems make bartering more efficient. For instance, a multi-agent e-barter system where business transactions do not necessarily involve currency and where brokers carry out exchanges of goods and services on behalf of their clients may be a better solution (Bravetti et al., 2006).

3 Research method

The research approach we took in this study draws on a review of the relevant literature and publicly available data and information. We first conducted a review of the relevant literature on bartering, bartering types, and their advantages and disadvantages. The literature cites various studies speaking of how barter or bartering has emerged as an alternative method of payment as a response to market imperfections. In addition, while the literature mentions of how certain developing economies employ bartering to buy defence equipment, to the best of our knowledge, no systematic evaluation has been provided as to why bartering may or may not be a viable alternative payment method in the defence industry.

In addition to relying on a survey of published works, since the co-author of this study works in the defence industry, we heavily relied on his domain knowledge to offer perspective into why bartering may or may not work as a payment option in the defence industry

4 Barter system

Bartering, which was revived during the Cold War period, gained popularity, and grew in importance in some areas of the world, particularly among the Eastern Bloc countries, where the market mechanism did not work properly. As pointed out by Aukutsionek (1998), since the Eastern Bloc countries did not have sufficient foreign currency reserves, their money could not be converted into foreign currencies and since they did not have the necessary compatible banking system for money transfer, these countries have adopted the barter system in their trade with each other and with western countries. In general, companies resort to the barter mechanism in cases where the market mechanism is disrupted, and the prices of related goods and services cannot be determined according to supply and demand in the market (Harrison, 2005). Aggarwal (1989) cites several reasons for the growth of barter including a shortage of hard currency, protectionism, through countertrade a country can carve out new markets for its products, excessive inventory can be liquidated more rapidly, and through bartering political and economic ties between countries can be established and strengthened. As indicated by Malitz (1998), barter may mean more than just a simple exchange of goods and services between two parties. Financial as well as marketing benefits may be achieved through bartering.

Barter exchange has become a frequently used trading method among companies with the advent of the Internet based bartering mechanisms (Harrison, 2005). The International Reciprocal Trade Association (IRTA) states that back in 2011 over 400,000 companies worldwide utilised bartering to make an approximately $12 billion on surplus goods (Keys and Malnight, 2012). According to the IRTA, countries such as France, China, and Ireland are planning on establishing state-sponsored barter systems (Naughton, 2013). The IRTA further states that barter trade accounts for 30% of trade worldwide (Naughton, 2013). As of 2017, bartering constituted 30% of the world trade (Uyan, 2017). Finally, as of 2021, the IRTA estimates that the annual barter-based trade volume will be between 12 and 14 billion dollars (IRTA, 2021).

The IRTA, which was established in 1979, is one of the most important organisations in terms of the maintenance of the barter system. As of 2016, companies from 100 countries are the IRTA members. As a non-profit organisation, the IRTA has an 11-member Global Board of Directors. This committee, which meets regularly, carries out the activities deemed necessary for the maintenance of the barter system in the presence of its members (IRTA, 2021).

Broadly speaking, barter can be broken down into two main categories that businesses routinely employ: barter between companies and barter between countries.

4.1 Barter between companies

Barter between companies, also known as corporate bartering differs from barter between countries. This type of bartering is often carried out by large corporations and can either be direct barter or bartering with credits. Corporate bartering involves large transactions carried out on a regular basis amongst several corporations with a barter broker (Moxey, 2020). While bartering between companies began as an industry in the 1950s, it thrived during the USA economic recession of the early 1970s as numerous businesses had surplus inventories and experienced a shortage of cash (Muneer, 2021).

Trade between companies is managed by a barter exchange company or a professional barter organisation. Working as an independent third-party agent, it facilitates barter transactions between companies by using trade dollars as its monetary unit of currency (Strabley, 2021). In other words, companies wishing to barter join and register with an established barter exchange company which works as a broker to help its clients exchange their goods and services through a trusted bartering mechanism (Malitz, 1998). In this system, corporate barter brokers working as the intermediaries in barter transactions, monitor and record all transactions, and introduce traders to each other

(Cravatts, 2021). Such brokers therefore help companies generate monetary value from goods and services which may no longer be needed (Keys and Malnight, 2012).

The execution and supervision of the relevant system is the responsibility of the brokers. However, the inspection of the quality of the products exchanged is not the responsibility of the brokers. In this system, which often may involve a multi-agent trade model, if a company buys the goods or services of another company, the company from which the goods and services are purchased does not have to buy the goods and services of the purchasing company. Instead, it can purchase goods and services from another company in an amount in the system and in return for its own goods and services (Cravatts, 2021). Corporate barter usually offers a corporation at least its cost of goods and in some cases the full wholesale value of its surplus goods and services, thus providing it with a reasonable profit (Muneer, 2021).

With respect to the defence industry, since a government approval is a must, private enterprises planning on engaging in bartering may have to be required to seek permission from the government. A functional or physical business unit within the government may be tasked with conducting bartering.

4.2 Barter between countries

It is not just individuals or companies that continue to engage in bartering, it is also used by governments and countries across the globe. Bartering between countries is common among countries experiencing a shortage of foreign reserve or where other types of trade may not be possible (Flynn, 2020; Frachtbox, 2021). Therefore, barter between countries has become a preferred method of exchange especially by countries with developing economies (Kenton, 2021) as it provides a mechanism for countries to exchange goods and services such as raw materials, agricultural products, and various industrial products with other nations. Additionally, Yavas and Freed (2001) maintain that market imperfections such as a shortage of foreign reserve and information asymmetry may provide motivations for this type of bartering.

In this form of bartering, the seller of goods agrees to execute certain commitments and obligations that benefit the buyer. In general, seller may be required to agree to receive in payment something other than money, which may be goods from the buyer or from another company in the buyer's home country (Ramaseshan and Kudrich, 2015).

The most important advantage of barter between countries is that it does not cause a foreign trade deficit (Frachtbox, 2021). Additionally, barter between companies can help corporations expand into a foreign market, increase sales, establish and strengthen customer and supplier relationships, and manage liquidity problems more easily (Delaney, 2021).

Although it offers certain benefits, bartering between countries has several inconveniences including quality variations of the goods taken in exchange, and increases in transaction costs (Yavas and Reed, 2001). Flynn (2020) argues that the most important inconvenience of bartering between countries is that the value proposition offered by the seller may not be clear. In addition, prolonged and complicated negotiations, potentially higher than expected transaction costs, and logistical challenges may outweigh the benefits of bartering between countries.

5 Bartering in the defence industry

Countries with stronger defence industries such as England, France, China, and Russia utilise bartering as an alternative payment method (Chan, 2019; CRS Report, 2021). While the information obtained using open sources may not be reliable in terms of revealing the volume and nature of the trade carried out in the defence industry, the involvement of such countries as China in the defence sector of various African nations is a good example of how bartering is utilised as alternative payment mechanism in the defence industry.

One of the best examples of bartering in the defence industry is the one that was performed by the UK and Saudi Arabia. In 1986, a contract worth 5 billion British pounds was signed between Saudi Arabia and the UK under the name Al Yamamah. Saudi Arabia agreed to buy military equipment such as fighter jets, tanks, helicopters, and ammunitions. In return, the British would be supplied by the Saudis with hundreds of thousands of barrels of oil a day to finance the barter deal (Schubert, 2009). This signed agreement is considered as a barter agreement because it was agreed that the UK would receive a substantial portion of its payment as oil. However, because of the fluctuations in oil prices in the ensuing months, a renegotiation obligation arose between the two countries regarding the payment to be made with oil. The British Government has therefore been subjected to serious criticism. At the same time, the two countries incurred extra costs due to the updating of the contracts, and during these updates, both Saudi Arabia and the UK faced serious problems with determining the oil value of the sale.

Russia's defence industry, which was especially short of cash after the Cold War, has also frequently resorted to bartering as a payment method (Aukutsionek, 1998). For instance, the sale of 7 II-76M Candid-B transport aircraft with a value of 200 million USD to China is the most concrete example of barter trade between the two countries (Sergounin and Subbotin, 1998). A significant part of the trade was realised in exchange for goods and services as toys, tea, leather, shoes, and electronics, not cash.

A similar bartering was carried out between Russia and Indonesia. In 2017, Russia and Indonesia announced a $1.1 billion deal for 11 advanced Su-35 fighter jets. Instead of using hard currencies, Russia agreed to a barter system for coffee, palm oil, and other commodities in exchange for 11 Su-35 fighter jets (Bodner, 2017; DW, nd.).

6 Challenges of bartering in the defence industry and strategies for addressing them

As the foregoing discussions illustrate, bartering involves difficulties and inconveniences that make it a less desirable payment option. However, various developing countries experiencing a shortage of hard currency and cash consider bartering as an option to buy military equipment. Some of the challenges associated with bartering in the defence industry and possible solutions to the challenges are discussed in the following section.

6.1 Price volatility and fluctuations

Natural disasters, geopolitical tensions, and government actions may drive and affect prices in various industries including the defence industry, which may pose significant business challenges. A monetary economy makes the exchange of goods and services more easily manageable. In a barter economy, however, determining the value of the goods or services sold presents some challenges. Therefore, it is highly possible for the seller to incur a loss because of the exchange of platform-based, high-tech military equipment. The difficulty in determining the price is that the goods to be exchanged and repaid may increase or decrease in value over the period of contract. As the trade between the UK and Saudi Arabia shows, if the process is prolonged, price fluctuations make the process complicated and costlier. According to the original barter deal, Saudi Arabia had agreed to pay £16.3 million for each fighter jet. However, after both parties held further talks in Saudi Arabia, the price of each fighter jet rose to £21.5 million per aircraft, raising the value of the whole barter deal by £600 million (Schubert, 2009).

The impact of price fluctuations can be managed effectively through taking deliberate actions. For instance, several near and long-term price fluctuations scenarios may be devised, assessed, and included in the contract. In addition, to effectively manage price volatility, Agarwal (2013) recommends establishing well-defined buying rules that clearly outline initial buying levels, establishing clear selling rules that allow decision makers to make quick decisions in rapidly fluctuations market conditions, and assessing price fluctuations in connection with the overall supply/demand equation for the target goods and services. And finally, to manage price fluctuations, the bartering process should not be prolonged. Bartering contracts must be drawn up taking into account the current state of affairs in the world.

6.2 Extra human resources

A potential problem with bartering in the defence industry is that military product manufacturers may need extra human resources or a third party in their own country to be able to trade within the scope of barter. Because the goods and services purchased in exchange for goods and services sold by a defence company will not necessarily be goods or services that the seller will immediately use. To profit from this trade, either extra human resources that will be assigned by the relevant company must be found, or there must be a third party that will evaluate the goods or services received and provide money to the seller of the military products. The process will become much more complex and challenging as it will require evaluation of the profit expectation and capacity of the third party in the process.

To address this challenge, a business unit tasked with managing bartering on behalf of the defence company should be staffed with employees trained particularly in this field. They would be well-versed in international trade with a specific focus on a barter economy. Alternatively, the defence company may want to consider working with an established barter exchange company providing professional services in bartering. By working with a professional barter broker, the defence company would not have to worry about dedicating its resources to training its staff in bartering.

6.3 Quality variations

As pointed out by Yavas and Freed (2001), a barter economy may be an inefficient way of doing business in the defence industry as quality of goods exchanged may vary significantly across different product categories. In other words, quality of the goods taken in exchange by the defence company may be obsolete, or of poor quality. Strong

(2017) argues that a number of factors could account for quality variations. For instance, a poor description of the item to be exchanged, bad communication between the buyer and the seller, information asymmetry between the company that places the order and the business unit that receives the order, and finally buyers who do not keep track of their purchases properly could contribute to quality variations.

Verdun (1985) argues that the quality problem arises when the products bargained for are not in line with products received. Returning poor quality and substandard products may be difficult because of the ongoing nature of the relationship between the traders. If a defence company overestimates the quality of the products offered in bartering, or if the company cannot sell the products purchased under bartering due to weak demand for the product, the defence company may suffer significant losses.

Strong (2017) holds that the risk of quality variation might be mitigated by ensuring that both parties understand what expectations are to be met and how the items to be exchanged meet those expectations. Moreover, facilitating proper and referable communication between both parties, evaluating supplier performance, and using real-time data to monitor exchange activities as they are taking place might help mitigate the risk of quality variation.

6.4 Increases in transaction costs

Transaction costs may involve finding a business partner, collecting information, holding negotiations, reaching a deal, and post exchange communications (Suematsu, 2021). In other words, transaction costs refer to "the costs of sourcing information, bargaining and purchasing, as well as monitoring and enforcing the rules" (Dahlman, 1979). Consequently, in a barter economy, transaction costs may be comparatively higher. Woerdman (2004) argues that these higher transactions costs may in the long run negatively affect trading volume. Suematsu (2021) holds that in managing transaction costs, where and how they accrue must be understood.

Bartering military equipment may involve higher transaction costs which can quickly add up (Delaney, 2021). Yavas and Freed (2001) view increases in transaction costs as one of the major problems with a barter economy. In general, military equipment is among the most expensive equipment, and the sale of the equipment through barter often involves a broker. Commissions paid to the barter exchange companies or barter brokers and finding a fair exchange rate may be primary drivers of increases in transaction costs. This might be resolved by a business unit within the government.

Cordella (2001) suggests that two different strategies can be employed to lower transaction costs: Provide decision makers with significantly more information so that they can manage the uncertainty surrounding their decisions or provide decision makers with less information to lessen the complexity faced by them.

Costa (2004) offers a different strategy to lower transaction costs. The author argues that while it has been paid less attention by the traditional transaction costs theory, trust can help companies reduce transaction costs. Trust on the other hand can be attained through company reputation. It may be argued that most companies would want to engage in bartering with other companies with a trustworthy reputation as it can be of great economic value for both parties.

6.5 Value proposition may be uncertain

Value proposition may be defined as the ability of an organisation "to provide a product or service at a viable market price along with the supporting cost structure" (Irvine et al., 2018). Barter systems may create disagreement between the parties concerning the value proposition. While there must be a clear value proposition by each side of the trade, it may be difficult to agree on the value proposition. The parties involved in barter would need to become aware of what each has to offer.

Mardak (2002) suggests that value proposition in barter economy is particularly important as it can affect both parties of the trade. In other words, the goods and services taken in exchange must be part of a superior value proposition. A value proposition acceptable by both parties should be spelled out in the contract. Melo (2018) suggests that both parties should make sure that each side's value proposition is fully aligned with their needs and should be evaluated to keep it relevant to customers. According to Kapoor and Klueter (2020), uncertainty surrounding a value proposition may be mitigated by offering what is called an 'innovative and disruptive value proposition'. Gradual improvements in a new, innovative value proposition are introduced by a company. While initially the offering may not be attractive to the parties, eventually it may become acceptable by both parties. Finally, Meuffels and Ouden (2012) suggest that a value proposition that integrates as much knowledge and experience as possible to address the needs of both parties should be designed.

6.6 Complex negotiations

Malhotra (2015) points out that business negotiators often wrongly assume that if they come to the negotiation table with a significantly better value and hold enough leverage, they'll achieve a satisfactory deal. However, as stated by Weiss (2014), there may be a lot of issues that may need to be addressed when holding a business negotiation.

While both parties engage in negotiations when trying to come to an equitable agreement for the price of goods or services, as suggested by Gunia (2019), because of the economic difficulties associated with bartering, barterers often must engage in more sophisticated forms of negotiations. Grabow (1984) claims that since the interests of the two parties often sharply conflict, drafting of a bartering or a countertrade agreement usually requires more complex and extensive negotiations.

To address the challenges of bartering negotiations, each party must establish the best alternative to a negotiated agreement (BATNA) and the worst alternative to a negotiated agreement (WATNA) given the circumstances surrounding the negotiation (Shonk, 2021). In addition, as argued by Malhotra (2015), bartering negotiations may be managed more professionally if both parties tell each other what to expect, each party understands what is acceptable and standard in a given context, evaluates the concerns, constraints, options, and viewpoints of all the parties involved, and focuses on the value they bring to the table.

For a bartering negotiation to result in a satisfactory outcome for all, it should be better than either party's walk-away alternatives, should feel fair and legitimate, include clear, operational, and realistic commitments, and be the best of all possible options (Shapiro, 2017). To achieve an equitable agreement through negotiations, parties involved in bartering should continue to work with one another going forward while keeping the negotiations short.

Table 1 summarises some of the challenges of bartering and possible solutions and strategies that may be employed by developing economies considering bartering in their defence industries.

Table 1 Challenges of bartering and possible solutions

Challenges	*Possible solutions and strategies*
Price volatility and fluctuations	• Establish several near and long-term price fluctuations scenarios • Establishing well-defined purchasing rules that clearly outline purchase levels. • Establishing well-defined selling rules that allow decision makers to make quick decisions in rapidly changing market conditions. • Evaluate price fluctuations with in connection with the overall supply/demand equation • Keep the bartering process short • Bartering contracts must be drawn up taking into account the current state of affairs in the world.
Extra human resources	• Establish a business unit tasked with managing bartering on behalf of the defence company • Train staffed in bartering • Work with an established barter exchange company.
Quality variations	• Ensure both parties understand what expectations are • Ensure how the items to be exchanged meet those expectations • Facilitate proper and referable communication between parties • Evaluate supplier performance • Use real-time data to monitor exchange activities.
Increases in transaction costs	• Understand where and how they accrue • Provide more information to decision makers thus to manage the uncertainty better hence transaction costs • Provide less information to decision makers to decrease the complexity faced and thus coordination and transaction costs • Build trust and reputation.
Unclear value proposition	• Value proposition fully aligned with user needs • Value proposition relevant to customers • Offer an innovative and disruptive value proposition • Value proposition that integrates as much knowledge and experience as possible to address the needs of both parties.
Complex negotiations	• Establish the best alternative to a negotiated agreement • Establish the worst alternative to a negotiated agreement • Tell each other what to expect • Understand what is acceptable and standard in a given context • Evaluate interests, constraints, and alternatives • Focus on the value.

7 Discussion and conclusions

Although it is been characterised as primitive and is often associated with underdeveloped economies, bartering still has its place in the modern business world as it offers numerous opportunities for developing economies to grow and expand in times of monetary crisis. Similarly, while it has been supplanted by more efficient and sophisticated monetary economies, which eventually simplified transactions significantly, bartering in developing economies experiencing economic instability can provide practical solutions for both business-to-business exchanges and third-party facilitated business transactions.

This study discusses bartering and its forms. Particular attention has been paid to its viability as an alternative payment method in the defence industry. The discussions suggest that despite its challenges, a barter system may be employed by the defence industries in various developing economies as a means to continue the trading of goods and services in times of economic instability, monetary crisis or currency devaluation.

In an effort to cope with economic challenges, developing economies can substitute various forms of barter for monetary transactions, which we argue that, can be a significant trade tool for developing economies hampered by public debt, and for firms of all sizes operating in the defence industry. To advance their economic and strategic objectives and to satisfy their demand for military equipment developing economies' defence industries can facilitate their trade with arms exporting nations through a barter system.

This study acknowledges that because of its projected growth due to market imperfections in various developing countries, bartering may be taken into consideration as an important part of the overall business strategy of any given business. In addition, despite the fact that it poses several major challenges and inconveniences such as the bureaucratic efforts required by the process, quality variations, and valuation of sales, bartering may be an important driver for growth in various industries including the defence industry in developing economies.

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